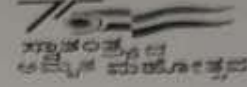




KARNATAK UNIVERSITY, DHARWAD  
ACADEMIC (S&T) SECTION

ಕರ್ನಾಟಕ ವಿಶ್ವವಿದ್ಯಾಲಯ, ಧಾರವಾಡ  
ಅಕಾಡೆಮಿಕ್ (ಎಸ್&ಟಿ) ವಿಭಾಗ



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UAC 2025  
15.09.2024

website: kud.ac.in

No.KU/Aca(S&T)/B.Ed(Itep)-255/2025-26/ 220

Date: 18/11/2025

### NOTIFICATION

Sub: Regarding the Guideline and Syllabus of the BA B.Ed and B.Sc B.Ed (Itep)-  
1 & 2<sup>nd</sup> Semester w.e.f. 2025-26 & onwards.

- Ref: 1. BoS Res. No. 03, dt: 23.08.2025.  
2. Faculty Res. No. 03, dt: 11.09.2025.  
3. Academic Council Res. No. 45, dt: 28.10.2025.  
4. Vice-Chancellor 's order dated: 14/11/2025

With reference to the above subject cited, a notification has been issued for BA B.Ed and B.Sc B.Ed (Itep) Guidelines and Syllabus-1st and 2nd Semesters with effect from the academic year 2025-26 & onwards.

Hence, the contents of this notification may please be brought to the notice of the students and all the concerned teachers. The prescribed may also be obtained through K.U.website ([www.kud.ac.in](http://www.kud.ac.in))

  
REGISTRAR  
18.11.25

To,

1. The Principal, Gokhale Centenary College, Ankola.
2. Dean, Faculty of Education, Karnatak University, Dharwad.
3. Registrar (Evaluation), Karnatak University, Dharwad.
4. Directors, College Development Board, Karnatak University, Dharwad.
5. Nodal Officer, UUCMS Cell, K.U.Dharwad.

#### Copy for information:

1. P.S. to Vice-Chancellor, K.U.Dharwad.
2. S.A. to Registrar, K.U.Dharwad.
3. P.A. to the Registrar(Evaluation), K.U.Dharwad
4. O.S. Exam Confl. / QP / GAD / UG / PG Section, K.U.Dharwad.
5. O.S. CDC Section, K.U.Dharwad.
6. O.S. Academic (PG) Section, K.U.Dharwad.



## **KARNATAK UNIVERSITY, DHARWAD**

### **Draft Regulations for the Integrated Teacher Education Programme (ITEP) – Middle Stage (Grades 6–8)**

**BA.B.Ed./B.Sc.B.Ed.**

with effect from the **academic year 2025–26 onwards.**

# **Draft Regulations for the Integrated Teacher Education Programme (ITEP) – Middle Stage (Grades 6–8)**

*(Effective from Academic Session 2025–26 onwards)*

## **Preamble**

The **Integrated Teacher Education Programme (ITEP)** is a flagship initiative under the **National Education Policy (NEP) 2020**, designed to restructure and strengthen teacher preparation in India. This programme combines **disciplinary knowledge, education theory, pedagogy, school-based practice, and value education** into a unified four-year degree, replacing fragmented models of teacher education.

The Integrated Teacher Education Programme (ITEP) is a **four-year dual-major undergraduate degree** (BA.B.Ed./B.Sc.B.Ed.) designed to prepare professional and competent teachers for the **Middle Stage (Grades 6–8)**, as envisaged by **NEP 2020**. The programme integrates disciplinary knowledge with pedagogical training and extensive school-based experience.

The present regulations define the framework for the **ITEP with Middle Stage Specialization (Grades 6–8)**. They aim to ensure uniformity in programme structure across universities, while allowing contextual flexibility. These regulations are issued in line with the directions of the **National Council for Teacher Education (NCTE)**, with the approval of the Academic Council/Statutory Body of the University.

## **Short Title, Commencement, and Applicability**

### **1.0 Short title**

These regulations shall be called the “**Regulations for the Integrated Teacher Education Programme (ITEP) – Middle Stage (Grades 6–8), 2025–26**”.

They shall come into force with effect from the **academic year 2025–26 and onwards**.

They shall apply to all University College of Education (B.Ed), Institutions/Colleges of Education (B.Ed) affiliated Colleges offering the **ITEP (Middle Stage)** under the jurisdiction of this University.

### **1.1 Objectives**

The objectives of these Regulations are to:

- ✎ Provide a **dual-major four-year undergraduate programme** preparing teachers for Grades 6–8.
- ✎ Integrate **disciplinary knowledge with education and pedagogy**.
- ✎ Align teacher preparation with **NEP 2020 curricular structure (5+3+3+4)**.
- ✎ Develop **professional, inclusive, reflective, and socially responsive teachers**.
- ✎ Promote **multiple entry-exit options** in accordance with the National Higher Education Qualifications Framework (NHEQF).

### **1.2 Definitions**

For the purpose of these Regulations:

- **ITEP** means the Integrated Teacher Education Programme leading to B.A. B.Ed., B.Sc. B.Ed. degrees.
- **Middle Stage** refers to **Grades 6–8 (ages 11–14)** in the school system as per NEP 2020.
- **Disciplinary Course** means a subject chosen from Humanities, Sciences, Commerce, or Interdisciplinary domains.
- **Pedagogy Course** refers to content-cum-methodology training specific to school subjects at the Middle Stage.
- **School Experience** refers to observation, practicum, peer-teaching, and internship components carried out in schools.
- **University** means the affiliating University/Institution empowered to award the degree that's Karnatak University, Dharwad.

### **1.3 Intake**

The intake criteria shall be as per the NCTE Regulations governing the Integrated Teacher Education Programme (ITEP) and as per the intake granted to the institutions offering the Integrated Teacher Education Programme (ITEP).

### **1.4 Admission and Eligibility**

- ✎ Admission shall be open to candidates who have completed **10+2 or equivalent examination** with at least **50% marks** for Unreserved (GM) candidates and 45% for reserved(SC, ST, C-I) categories or as per the government norms and university notification.
- ✎ Admission shall be through NTA CUET or an **appropriate entrance test/selection process** as prescribed by NCTE/University.
- ✎ Reservation policy of the Government shall be applicable.

### **1.5 Duration and Structure**

The programme shall be of **Four Years duration (Eight Semesters)**.  
The **Multiple Entry–Exit framework** shall be available:

- After 1 year: Certificate in Education
- After 2 years: Diploma in Education
- After 3 years: B.A./B.Sc. in chosen discipline
- After 4 years: Dual Major Degree (B.A. B.Ed. / B.Sc. B.Ed.)

**1.6 Medium of instruction** and examination shall be **English and/or Regional Language** as approved by the University.

### **1.7 Dual Major Degree**

One in **Education**, another in a chosen discipline (Humanities/Sciences/Commerce/Interdisciplinary).

### **1.8 Stage-Specific Specialization**

Focus on Middle Stage pedagogy and child development.

### **1.9 Vertical Mobility**

Eligible for Master's in Education or in chosen disciplinary subject.

## **1.10 Credit System**

Minimum 15 hours of classroom instruction per credit; 30 hours for practicum.

## **2.0 Semester System**

The Stage-Specific ITEP will be organized on the semester pattern with two semesters in an academic year. Each semester will consist of 15-16 weeks of teaching-learning activities, excluding end-semester examinations. A semester will consist of a minimum 96 working days, excluding end-semester examination days. Each working week will have a minimum of 40 hours of instructional/contact time.

## **2.1 Credit-hours for Courses of Study**

Taught courses involving classroom teaching and structured interaction require a minimum of 15 hours of instructional/contact time per credit in a semester. Practicum requiring students to participate in an approved project or practical activity will require a minimum of 30 hours of student engagement per credit in a semester. This will be applicable to activities such as seminars, internships, lab-based activities, studio activities, workshop-based activities, field-based learning/projects and practices, community engagement and service, etc.

## **2.2 Graduate Attributes of ITEP (Middle Stage – Grades 6–8)**

The **Integrated Teacher Education Programme (ITEP) with Middle Stage Specialization** seeks to develop in student-teachers a set of **knowledge, skills, capacities, and dispositions** that will enable them to become competent, reflective, and socially responsive educators. These attributes represent the **learning outcomes** expected of every graduate completing the programme.

### **2.2.1 Knowledge and Understanding**

Graduates of Middle Stage ITEP will demonstrate:

- ✎ A comprehensive understanding of the **aims of education, curricular goals, competencies, and learning outcomes** defined for **Grades 6–8**.

- ✎ In-depth knowledge of at least **two school subjects** (Major and Minor) taught at the Middle Stage, along with interdisciplinary linkages.
- ✎ Awareness of the **psychological, social, and cultural dimensions of early adolescence**, including the challenges faced by learners aged 11–14.
- ✎ Conceptual clarity of **pedagogical approaches** for activity-based, project-based, and experiential learning suited for Middle Stage.

### 2.2.2 Pedagogical and Professional Skills

Graduates will possess:

- ✎ Capacity to **design and deliver developmentally appropriate learning experiences** that promote physical, cognitive, socio-emotional, ethical, and creative growth of Middle Stage learners.
- ✎ Competence in **stage-specific pedagogy** for subjects such as Mathematics, Science, Social Sciences, Languages, Arts, Physical & Vocational Education.
- ✎ Ability to integrate **ICT tools, arts-based pedagogy, and sports-based pedagogy** in classroom practice.
- ✎ Skills in **developing and using teaching-learning materials (TLMs)** including low-cost, local, and digital resources.
- ✎ Proficiency in **assessment for, of, and as learning**, using multiple methods such as projects, rubrics, peer/self-assessment, and portfolios.
- ✎ Classroom management skills, including the ability to foster **collaborative learning, critical dialogue, and inclusive participation**.

### 2.2.3 Inclusive and Contextualized Practice

Graduates will demonstrate:

- ✎ Commitment to **inclusive education**, addressing the needs of children from diverse linguistic, cultural, socio-economic backgrounds, and those with disabilities or learning difficulties.
- ✎ Sensitivity towards **gender equity, social justice, and respect for diversity** in the classroom and community.

- ✎ Ability to engage with parents, caregivers, and community members to **mobilize support for adolescent learning and retention.**
- ✎ Skills to adapt pedagogy to **local contexts, indigenous knowledge systems, and community resources.**

#### 2.2.4 Values and Dispositions

Graduates will embody:

- ✎ Respect for the **Constitutional values** of justice, liberty, equality, fraternity, secularism, and democratic citizenship.
- ✎ **Empathy, care, patience, and ethical responsibility** in dealing with adolescent learners.
- ✎ Positive attitudes towards **lifelong learning, reflective practice, and professional development.**
- ✎ Strong sense of **national identity and global outlook**, fostering cultural rootedness alongside openness to global knowledge.
- ✎ Commitment to **environmental sustainability and social responsibility.**

#### 2.2.5 21<sup>st</sup> Century Competencies

ITEP graduates will be equipped with:

- ✎ **Critical thinking, problem-solving, and creativity.**
- ✎ **Digital literacy** and ability to use educational technology effectively.
- ✎ **Collaboration and teamwork** skills in professional and community contexts.
- ✎ Effective **oral, written, and multimodal communication.**
- ✎ Leadership readiness for contributing to school transformation and educational innovation.

#### 2.2.6 Stage-Specific Competencies for Middle Stage (Grades 6–8)

Graduates will specifically demonstrate:

- ✎ Ability to **teach two school subjects effectively** with developmentally appropriate pedagogy.

- ✎ Skills in bridging the **transition from Preparatory Stage (Grades 3–5)** to the **analytical and disciplinary learning of the Secondary Stage (Grades 9–12)**.
- ✎ Competence in nurturing **curiosity, reasoning, scientific temper, and creativity** among adolescents.
- ✎ Capacity to guide students in areas of **career awareness, health, well-being, and value education** relevant to early adolescence.
- ✎ Ability to manage **peer interactions, identity formation, and socio-emotional challenges** typical of Middle Stage learners.

### 2.3 Curricular Thrusts of ITEP – Middle Stage (Grades 6–8)

The **Middle Stage (Grades 6–8; ages 11–14)** is a critical period of schooling, where learners move from **activity-based exploratory learning** of the Preparatory Stage to a more **analytical, disciplinary, and abstract mode of learning**. The **Integrated Teacher Education Programme (ITEP)** at this stage aims to equip student-teachers with knowledge, skills, and values required to **nurture curiosity, reasoning, creativity, and socio-emotional growth** of adolescents.

#### 2.3.1 Holistic Development of Adolescents

- ✎ Curriculum designed to promote **physical, cognitive, socio-emotional, ethical, and creative development**.
- ✎ Special attention to **identity formation, peer interaction, emotional well-being, and value education**.
- ✎ Integration of **arts, sports, yoga, and vocational elements** into teaching-learning practices.

#### 2.3.2 Strong Foundations in Disciplinary Knowledge

- ✎ Rigorous engagement with **core school subjects**: Languages, Mathematics, Science, Social Sciences, Arts, and Physical/Vocational Education.

- ✎ **Interdisciplinary learning** that connects knowledge across subjects (e.g., environment and sustainability, Indian knowledge systems).
- ✎ Emphasis on **conceptual clarity and application** rather than rote learning.

### 2.3.3 Learner-Centered and Inclusive Pedagogy

- ✎ Adoption of **activity-based, project-based, and experiential learning methods**.
- ✎ Classroom practices responsive to **diverse socio-economic, linguistic, and cultural contexts** of learners.
- ✎ Strategies for **inclusive education**, enabling participation of children with disabilities and those from disadvantaged groups.

### 2.3.4 Integration of Technology and Innovation

- ✎ Pedagogical use of **ICT, digital tools, and e-resources** to enhance teaching-learning-assessment.
- ✎ Encouragement of **blended learning models** suited to adolescent learners.
- ✎ Use of **AI, data interpretation, simulations, and gamification** where appropriate to develop 21st-century skills.

### 2.3.5 Development of Critical and Creative Thinking

- ✎ Curriculum designed to promote **logical reasoning, problem-solving, creativity, and inquiry-based learning**.
- ✎ Opportunities for **scientific exploration, mathematical reasoning, and historical/ethical reflection**.
- ✎ Integration of **debates, discussions, and collaborative projects** to strengthen higher-order thinking skills.

### 2.3.6 School Experience and Field Engagement

- ✎ Progressive engagement with **real classroom settings** from observation to peer teaching and full internships.
- ✎ Reflection on school culture, learner diversity, classroom management, and community linkages.

- ✎ Opportunities for **action research and innovation projects** in partnership with schools.

### **2.3.7 Community Engagement**

- ✎ Direct involvement of student-teachers in **local community initiatives, literacy missions, and environmental campaigns.**
- ✎ Building awareness among adolescents on **health, nutrition, digital literacy, gender sensitivity, and civic responsibility.**
- ✎ Promoting the idea of education as a **social service for nation-building and community development.**

### **2.3.8 Teacher as Mentor and Facilitator**

- ✎ Preparation of teachers not merely as transmitters of knowledge, but as:
  - ✓ **Guides and counselors** for adolescent learners.
  - ✓ **Designers of meaningful learning experiences.**
  - ✓ **Leaders of innovation** in school contexts.
  - ✓ **Role models of Constitutional values, ethics, and empathy.**

## **2.4 Curricular Structure**

The curriculum is guided by NEP 2020 principles and includes:

**2.4.1 Foundations of Education** (Philosophical, Psychological, Sociological, Policy Perspectives).

**2.4.2 Disciplinary / Interdisciplinary Studies** (Major/Minor subject areas).

**2.4.3 Stage-Specific Content-Cum-Pedagogy** (Grades 6–8 curriculum, subject-specific pedagogy).

**2.4.4 Ability Enhancement & Value-Added Courses** (ICT, Indian Knowledge Systems, Gender Studies, Environmental Education).

**2.4.5 School Experience & Internship** (progressive practicum in Middle Schools).

**2.4.6 Community Engagement** (NSS, local initiatives, literacy, environmental awareness).

## 2.5 Semester-wise Progression

**2.5.1 Semesters 1–2:** Foundations, language enhancement, introductory pedagogy, induction programme.

**2.5.2 Semesters 3–4:** Disciplinary courses, child development, practicum in Grade 6 classrooms.

Semester	I	II	III	IV	V	VI	VII	VIII	Total
DSC-Major	4	4	4	4	4	4 4 (Project)	--	--	<b>48</b>
		4	4	4	4 4 (Elective)	-	--		
DSC-Minor-1	4	4	4	4	--	--	--		<b>16</b>
DSC-Minor-2	4	4	4	4	--	--	--		<b>16</b>
Content-Cum Pedagogy	--	--	4	2 2	2 2	2 2	--	--	<b>16</b>
Foundation Courses	4	--	4	4	--	2 2	2 2	4 2 4 (Elective)	<b>30</b>
Ability Enhancement & Value-added Courses	4 2 2	4 2 2	--	--	2	2	2 2	2 2	<b>28</b>
School Experience	--	--	--	--	2	2	2 10	2 2	<b>20</b>
Community Engagement	--	--	--	--	--	--	--	2	<b>2</b>
<b>Total Credits</b>	<b>24</b>	<b>24</b>	<b>24</b>	<b>24</b>	<b>20</b>	<b>20</b>	<b>20</b>	<b>20</b>	<b>176</b>
<b>Total Marks</b>	<b>600</b>	<b>600</b>	<b>600</b>	<b>600</b>	<b>500</b>	<b>500</b>	<b>500</b>	<b>500</b>	<b>4400</b>

**2.5.3 Semesters 5–6:** Stage-specific pedagogy (Maths, Science, Social Science, Languages for Grades 6–8), short school internship.

**2.5.4 Semesters 7–8:** Full-time school internship in Middle Schools, action research, community engagement, preparation of teaching-learning material.

## 3.0 Course Structure and Credit Distribution

### 3.1 Semester-wise Summary BA B.Ed and BSc B.Ed

Semester	I	II	II	IV	V	VI	VII	VIII	Total
<b>DSC-Major 1</b>	4+0=4	4+2=6	4+2=6	4+0=4 4+2=6	4+2=6 4+2=6	0+4=4 4+2=6	--	--	<b>48</b>
<b>DSC-Minor-1</b>	4+0=4	4+2=6	4+0=4	4+0=4	--	--	--	--	<b>16</b>
<b>DSC-Minor-2</b>	4+0=4	4+2=6	4+0=4	4+0=4					<b>16</b>
<b>Content-Cum Pedagogy</b>	--	--	4	2 2	2 2	2 2	--	--	<b>16</b>
<b>Foundation Courses</b>	4	--	4	4	--	2 2	2 2	4 2 4	<b>30</b>
<b>Ability Enhancement &amp; Value-added Courses</b>	4 2 2	4 2 2	--	--	2	2	2 2	2 2	<b>28</b>
<b>School Experience</b>	--	--	--	--	2	2	2 10	2 2	<b>20</b>
<b>Community Engagement</b>	--	--	--	--	--	--	--	2	<b>2</b>
<b>Total Credits</b>	<b>24</b>	<b>24</b>	<b>22</b>	<b>24</b>	<b>20</b>	<b>22</b>	<b>20</b>	<b>20</b>	<b>176</b>
<b>Total Marks</b>	<b>600</b>	<b>600</b>	<b>600</b>	<b>600</b>	<b>500</b>	<b>500</b>	<b>500</b>	<b>500</b>	<b>4400</b>

### **3.2 Credit Summary**

- **Foundations of Education** – 30 Credits
- **Disciplinary courses** – 64 credits
- **Interdisciplinary courses** – 16 Credits
- **Stage-Specific Pedagogy (Middle Stage)** – 16 Credits
- **Ability Enhancement & Value-Added Courses** – 28 Credits
- **School Experience & Internship** – 20 Credits
- **Community Engagement & Service** – 2 Credits
- **Total** – 176 Credits

#### **4.0 Assessment and Evaluation (60:40 Pattern)**

Evaluation shall follow the **60:40 pattern**.

- **60% External Examination** (conducted by the University).
- **40% Internal Assessment** (conducted by the Department/College).

#### **4.1 End-Semester Examination (60%)**

- Conducted by the University.
- Written, practical, or viva-voce depending on the course.
- Tests knowledge, comprehension, application, analysis, and reflection.

#### **4.2 Continuous Internal Assessment (40%)**

- Conducted by teachers/departments.
- Components may include:
  - Written tests / quizzes
  - Assignments and projects
  - Seminar presentations
  - Lesson plans and micro-teaching
  - Reflective journals, portfolios
  - Peer/self-evaluation

#### **4.3 Course-Wise Distribution**

- **Theory Courses:** 60 External + 40 Internal
- **Practicum / Ability Enhancement Courses:** 30 External + 20 Internal = 50 Marks
- **School Internship:** 60 External (School/University evaluation) + 40 Internal (Mentor + Portfolio)
- **Community Engagement:** 50 Marks (based on reports, presentations, reflection)

#### **4.4 Minimum Requirements**

- **50% marks** in each course.
- Must pass external and internal separately (minimum 30/60 external, 25/50 internal).

- **80% attendance** in theory, **90% attendance** in practicum/internship.

#### 4.5 Declaration of Results

##### Declaration of Results

- ✎ Results will be declared **semester-wise** on SGPA
- ✎ Cumulative Grade Point Average (CGPA) will be calculated across eight semesters.
- ✎ Final degree classification will be based on:
  - ✓ **CGPA Score** (in line with University/UGC norms).
  - ✓ Satisfactory completion of internship, community engagement, and practicum.

##### SGPA & CGPA System

##### Grading Scale (10-Point)

The following **letter grade system** is followed:

Marks (%)	Grade	Grade Point (GP)	Performance
90 – 100	O	10	Outstanding
80 – <90	A+	9	Excellent
70 – <80	A	8	Very Good
60 – <70	B+	7	Good
50 – <60	B	6	Above Avg.
45 – <50	C	5	Average
40 – <45	P	4	Pass
<40	F	0	Fail

**Note:** To pass a course, a student must secure at least **Grade P (4.0 GP, 40%)** separately in internal and external.

##### Calculation of SGPA

**Formula:**

$$\text{SGPA} = \frac{\sum(C_i \times G_i)}{\sum C_i}$$

Where:

- $C_i$  = credits for the  $i$ th course
- $G_i$  = grade point earned in the  $i$ th course

$$\text{SGPA} = \frac{\text{Sum of (Credit} \times \text{Grade Point)}}{\text{Total Credits}}$$

### Calculation of CGPA

**Formula:**

$$\text{CGPA} = \frac{\sum(C_s \times S_s)}{\sum C_s}$$

Where:

- $S_s$  = SGPA of the semester
- $C_s$  = total credits in that semester

### Degree Classification

- **CGPA  $\geq 7.5$  ( $\geq 70\%$ )** → First Class with Distinction
- **CGPA 6.0 – 7.49 (60–69%)** → First Class
- **CGPA 5.0 – 5.99 (50–59%)** → Second Class
- **CGPA 4.0 – 4.99 (40–49%)** → Pass Class

### Question Paper Pattern

The University shall prescribe the following **Question Paper Pattern** for all theory and practicum courses under the Integrated Teacher Education Programme (ITEP – Middle Stage):

#### **A. Theory Papers (100 Marks: 60 External + 40 Internal)**

1. **Duration:** The duration of Theory Papers carrying 60 Marks will be **02 hours**.

2. The question paper of theory subjects will consist of two sections viz; Section-A and Section-B; Section-A comprising 08 questions of 04 marks each. The students are expected to answer any 05 questions of their choice among given questions in this section and Section-B comprising 08 questions of 08 marks each. The students are expected to answer any 05 questions of their choice among given questions in this section. The question paper setters are supposed to draft the items in the question paper by covering the content from the entire syllabus.
3. The **internal assessment** (40 marks) shall be awarded based on:
  - Class tests, assignments, presentations – 20 marks.
  - Lesson planning/micro-teaching/seminar participation – 10 marks.
  - Attendance/participation and reflective journal – 10 marks.

#### **B. Practicum/Value-Added Courses (50 Marks: 30 External + 20 Internal)**

**Duration:** 01 hours.

1. The paper shall consist of **short notes and one long-answer/essay question**, scaled to 30 marks for external.
2. Internal assessment (20 marks) shall be awarded on the basis of:
  - Practical activities/assignments – 15 marks.
  - Attendance/participation – 05 marks.

#### **C. School Experience & Internship**

1. Internship courses shall be evaluated jointly by **University examiners and school mentors**.
2. Distribution of marks:
  - External evaluation (University appointed examiners): **60%**.
  - Internal evaluation (school mentors + faculty supervisors): **40%**.
3. Components include:
  - Preparation of lesson plans, delivery of lessons, use of ICT.
  - Maintenance of internship diary and reflective journal.
  - Community participation and interaction with school stakeholders.

#### **D. Community Engagement / Extension Activities 50 Marks please check**

1. External (30 marks) – assessed through reports, presentations, and viva-voce by University-appointed examiners.
2. Internal (20 marks) – based on participation, initiative, and reflective assignments assessed by faculty.

#### **E. General Instructions to Paper Setters and Examiners**

1. The question paper shall ensure **coverage of the entire syllabus**.
2. Questions shall be framed to test **understanding, application, critical thinking, and pedagogical insight**, not rote learning.
3. Language of the question paper shall be **English and/or Hindi**, as approved by the University.
4. Paper setters must indicate, wherever necessary, the **word limit or time guidance** for descriptive/essay-type questions.
5. For practicum-based courses, evaluation rubrics shall be strictly followed as prescribed by the University.

#### **School Internship Programme (SIP) – ITEP Middle Stage (Grades 6–8)**

##### **Objectives of SIP**

- To provide **hands-on professional experience** in real school settings.
- To integrate **theory with practice**.
- To develop **teaching, observation, reflection, assessment, classroom management, and community engagement skills**.
- To shape **professional dispositions** such as ethics, inclusivity, empathy, and leadership.
- Per day 04 hours X 02 weeks each trainee has to carry out the following activities.
  - School observation (infrastructure, timetables, records, culture)
  - Peer teaching & micro-teaching
  - Preparation of lesson plans
  - Reflective journal writing

- Classroom teaching (8–10 lessons in two subjects)
- Conduct of diagnostic tests
- School-based research/action project
- Observation of senior teachers
- Teaching minimum **40–50 lessons** across two subjects in Grades 6–8
- Preparation & use of TLMs, ICT integration
- Classroom assessment & remedial teaching
- Participation in co-curricular and school activities
- Maintenance of reflective portfolio
- Presentation of Internship Report
- Sharing of experiences
- Critical reflection seminars
- Viva-voce based on portfolio

### **Total Internship Duration [NCTE after seeing]**

- **26 weeks (approx. 130–140 working days)** across four semesters.
- Distribution: 4 + 4 + 16 + 2 weeks.

### **Evaluation Framework (60:40 Pattern)**

- **External (60%):** University/External Examiners assess **lesson delivery, teaching competencies, action research, portfolio viva.**
- **Internal (40%):** School mentors & college supervisors assess **planning, discipline, participation, reflective journals, peer interaction.**
- **Tools: Observation schedule, rubric, reflective portfolio, lesson record, attendance record, feedback reports.**

### **Expected Learning Outcomes**

By completion, the intern teacher should:

1. Plan and deliver **stage-appropriate lessons** using multiple pedagogies.
2. Integrate **ICT, TLMs, and experiential learning.**
3. Demonstrate **classroom management, inclusivity, and assessment skills.**
4. Engage in **community outreach, co-curricular participation, and leadership.**

5. Reflect critically on teaching practices to become a **professional teacher**.

### 5.0 Re-assessment & Supplementary Exams

- ✎ Students failing in **theory courses** may reappear in supplementary examinations.
- ✎ Students failing in **practicum or internship** must **redo the component** in the following semester/year under supervision.

### Award of Certificate, Diploma, and Degree – ITEP

#### Multiple Exit Options (As per NEP 2020)

A candidate admitted to the **04-Year ITEP** shall be eligible for the following awards on successful completion of the credits prescribed up to the stage of exit: **[To be given as per credit table]**

Exit Point	Duration	Minimum Credits Completed BA B.Ed	Minimum Credits Completed BSc B.Ed	Award/Certificate	Nomenclature
After 1st Year	2 Semesters	48	48	<b>Certificate in Education Studies</b>	Certificate
After 2nd Year	4 Semesters	48	46	<b>Diploma in Education Studies</b>	Diploma
After 3rd Year	6 Semesters	40	42	<i>Bachelor's Degree in [Discipline] without B.Ed.*</i>	Degree
After 4th Year	8 Semesters	176 (Full Programme)	176 (Full Programme)	<b>B.A. B.Ed. / B.Sc. B.Ed. (Middle Stage)</b>	Integrated Dual Degree

\*Discipline refers to the Major subject area opted by the student (e.g., English, Mathematics, Physics, History, etc.).

## **Award of Certificate / Diploma / Degree**

The University shall award the **Certificate, Diploma, or Degree** under the seal of the University and signed by the **Vice-Chancellor, Registrar, and Controller of Examinations**.

- ✎ The nomenclature of the degree shall be:
  - “*Bachelor of Arts – Bachelor of Education (B.A. B.Ed.) – Middle Stage*”
  - “*Bachelor of Science – Bachelor of Education (B.Sc. B.Ed.) – Middle Stage*”
  - “*Bachelor of Commerce – Bachelor of Education (B.Com. B.Ed.) – Middle Stage*”
- ✎ The **Provisional Certificate** shall be issued immediately after declaration of result by the **Controller of Examinations**.

## **Classification of Results [Need clarity]**

Classification shall be based on the **Cumulative Grade Point Average (CGPA)** earned:

- **CGPA  $\geq$  7.50** → First Division with Distinction
- **CGPA 6.00 – 7.49** → First Division
- **CGPA 5.00 – 5.99** → Second Division
- **CGPA 4.00 – 4.99** → Pass Division
- **CGPA  $<$  4.00** → Fail

## **Certificates for Practicum/Internship**

- Students who successfully complete the **School Internship Programme (SIP)** shall be issued a **separate Internship Completion Certificate** by the concerned School, countersigned by the Head of the Institution and the Principal of the College.
- This certificate shall be **submitted to the University** and form part of the student’s permanent record.

## **Convocation & Award**

- ✎ The final **Degree shall be awarded in the University Convocation** held annually.
- ✎ Students unable to attend Convocation shall be conferred the degree **in absentia**, on payment of the prescribed fee.

### **5.1 Weightage for Different Course Types**

- **Theory Courses (Foundations, Disciplinary, Pedagogy):**
  - 60 Marks – End Semester Exam
  - 40 Marks – Internal Assessment

### **5.2 Practicum & Ability Enhancement Courses (ICT, Arts, Yoga, Sports, Communication, Work Education):**

- 50 Marks Total = 30 (Performance/Practical Exam) + 20 (Internal record, participation, assignments)

### **5.3 School Experience & Internship:**

- Evaluated on **comprehensive rubrics**:
  - Preparation of Lesson/Unit Plans
  - Classroom Delivery & Management
  - Use of Teaching-Learning Materials (TLMs)
  - Assessment of Learners
  - Reflection & Self-Analysis
- Marks Distribution:
  - 60 Marks (External evaluation by school supervisor/University examiner)
  - 40 Marks (Internal evaluation by mentor faculty, portfolio, daily records)

### **5.4 Community Engagement & Service:**

- 50 Marks based on participation, reports, presentations, and reflective diaries.

## 6.0 Academic Integrity

- Original work required in assignments and projects.
- Plagiarism or malpractice → disciplinary action as per University rules.

## 7.0 Conduct and Discipline

- Students must uphold **academic honesty, professional ethics, and Constitutional values.**
- Code of conduct in schools during internship must be observed strictly.

## 8.0 Continuous & Comprehensive Evaluation for school internship.

## 9.0 School Experience (Middle Stage)

- ✎ **9.1 Pre-Internship:** Observation of Grades 6–8, peer teaching, demo lessons.
- ✎ **9.2 Practice Teaching:** Assisted teaching in two curricular areas (e.g., Science & Mathematics / Social Science & Language).
- ✎ **9.3 Internship:** Independent teaching (min. 10 lessons per subject), classroom management, preparation of lesson/unit plans, development of TLMs, participation in school activities.

## 10.0 General Regulations

- ✎ **Attendance:** Minimum 80% in theory and 90% in practicum.
- ✎ **Academic Honesty & Conduct:** As per University/HEI rules.
- ✎ **Examination Rules:** Supplementary exams permitted; promotion requires passing all core pedagogy courses.

## 11.0 Conduct and Discipline

- ✎ Student-teachers shall uphold **academic integrity, professional ethics, and Constitutional values.**
- ✎ Malpractice in examinations or plagiarism in assignments shall invite disciplinary action.
- ✎ Attendance, dress code, and code of conduct in schools during practicum/internship shall be strictly observed.

## **12.0 Award of Degree**

Candidates who successfully complete the prescribed programme requirements shall be awarded the degree of:

- ✓ **B.A. B.Ed. (Middle Stage)**, or
- ✓ **B.Sc. B.Ed. (Middle Stage)**

Classification of results shall be based on CGPA in accordance with UGC/University norms.

## **13.0 Interpretation**

- ✎ In case of any doubt or dispute in interpretation of these Regulations, the decision of the **Vice-Chancellor/Competent Authority** of the University shall be final.
- ✎ Matters not covered by these Regulations shall be governed by the rules of the University, NCTE, and UGC.

**KARNATAK UNIVERSITY DHARWAD**

**ITEP**

**Syllabus**

**BA B. Ed and BSc B. Ed**

**2025**

## ITEP Course Structure

### B.A. B.Ed. (English) Credit Structure

B.A. B.Ed. (English)	I	II	III	IV	V	VI	VII	VIII	Total	Grand Total
English(Major)	4(Core)	4(Core)	4(Core)	4(core)	4(Core)	Project/ Internship/Field work	--	--	48	80
	--	4(Core)	4(Core)	4(Core)	4(Core)/ 4(Elective- 1)	4(Elective 2)				
History (Indisciplinary- 1)	4(Core)	4(Core)	4(Core)	4(Core)	--	--	--	--	16	
Political Science- (Indisciplinary- 2)	4(Core)	4(Core)	4(Core)	4(Core)	--	--	--	--	16	
<b>Discipline Specific Total credits per Sem</b>	<b>12</b>	<b>16</b>	<b>16</b>	<b>16</b>	<b>12</b>	<b>08</b>			<b>80</b>	
Pedagogy of sub 1 (English)	--	--	4	2	2	2	--	--	16	16
Pedagogy of sub 2 (Social Science)				2	2	2				
<b>Credits from education (Other Major)</b>	<b>12</b>	<b>08</b>	<b>04</b>	<b>04</b>	<b>04</b>	<b>04</b>	<b>08</b>	<b>20</b>		<b>80</b>
Total Credits Per Sem	24	24	24	24	20	20	20	20		176

## B.A. B.Ed. (English)

### I semester

Code.No.	Course	Credits	Marks		Total Marks
			Internal	Theory	
<b>SIP- Two-week student Induction Programme</b>					
<b>Foundation Course of Education</b>					
IBEN1EDC01T	Evolution of Indian Education	4	40	60	100
<b>Discipline Specific Course</b>					
IBEN1DSC01T	Introduction to Language, Linguistics, Literature and culture	4	40	60	100
IBEN1DSC02T	History of India (From earliest to the shatavahana)	4	40	60	100
IBEN1DSC03T	Basic Concepts of Political Science	4	40	60	100
<b>Ability Enhancement &amp; Value-Added Courses</b>					
IBEN1AB01T	Language-I /English	4	40	60	100
IBEN1AB02T	Art Education (Performing & visual)	2	20	30	50
IBEN1AB03T	Understanding India-I (Indian Ethos & Knowledge systems)	2	20	30	50
<b>Total Credits</b>		<b>24</b>	<b>240</b>	<b>360</b>	<b>600</b>

### II Semester

Code.No.	Course	Credits	Marks		Total Marks
			Internal	Theory	
<b>Discipline Specific Course</b>					
IBEN2DSC01T	English Literature-Part 1 (From beginning to 1798)	4	40	60	100
IBEN2DSC02T	English Literature –Part 2 (From 1798 to Modern Age)	4	40	60	100
IBEN2DSC03T	History of India (From Guptas to 1206 A .D.)	4	40	60	100
IBEN2DSC04T	Western and Indian Political Thinkers	4	40	60	100
<b>Ability Enhancement &amp; Value-Added Courses</b>					
IBEN2AB01T	Language-II /Kannada/Hindi	4	40	60	100
IBEN2AB02T	Understanding India-II (Indian Ethos & Knowledge systems)	2	20	30	50
IBEN2AB03T	Teacher And Society	2	20	30	50
<b>Total Credits</b>		<b>24</b>	<b>240</b>	<b>360</b>	<b>600</b>

# **Syllabus**

## **Semester I**

### **BA. B.Ed. (English)**

#### **Courses:**

- 1. Foundational Course of Education:**
  - 1.1 Evolution of Indian Education
- 2. Discipline Specific Course: DSC**
  - 2.1 Introduction to Language, Linguistics, Literature and culture
  - 2.2 History of India (From earliest to the shatavahana)
  - 2.3 Basic Concepts of Political Science
- 3. Ability Enhancement & Value-Added Courses**
  - 3.1 Language-I /English
  - 3.2 Art Education (Performing & visual)
  - 3.3 Understanding India-I (Indian Ethos & Knowledge systems)

## 1. Foundational Course of Education:

**Course Title: 1.1 Evolution of Indian Education**

**Course code: IBEN1EDC01T**

Type of Course	Theory / Practical	Credits	Formative Assessment Marks	Summative assessment Marks	Total Marks
FCE-1	Theory	4	40	60	100

### Learning Outcomes:

After completion of this course, it is expected that the student teachers will be able to:

1. discuss and understand the genesis, vision and evolution of education in India from ancient to contemporary times.
2. critically revisit colonial education and its impact on the contemporary Indian education system.
3. enable them to shape their educational perspective to act as an effective teacher.
4. locate themselves in the larger system of education in India while discussing the contribution of Indian thinkers
5. develop a road map for futuristic education system in India for addressing the need of local and global context.

### UNIT-1: Ancient Indian Education: Vedic Period (2 Weeks)

- A. Vision, Objectives, and Salient Features of the Vedic Education System.
- B. Teaching and Learning Process during Vedic Period
- C. Forms and Development of Educational Institutions and Organizational Practices.
- D. Understanding Guru Shishya Parampara

## **UNIT-II: Ancient Indian Education: Buddhist and Jain Period (2 Weeks)**

- A. Buddhist and Jain Education System: Vision, Objective and Salient Features
- B. Teaching -Learning and Curricular Practices during the Buddhist, Jain and Sangam Periods
- C. Finance and Management of Educational Institutions.
- D. Contribution of Educational Institutions: Nalanda, Taxila, Vikramshila, Vallabhi.

## **UNIT-III: Post-Gupta Period to Colonial Period (2 Weeks)**

- A. Brief Historical Development and Salient Features of Education in this Era
- B. Educational Systems: Nadia, Home-Education, Pathshalas, Tols, Maktab, Chatuspadis and Gurukuls etc.
- C. Pedagogical Inquiry. Community and Its Interface.
- D. Finance and Management: Critical Analysis of the Role of Dynasties with reference to Educational Institutions.

## **UNIT IV: Modern Indian Education (9 Weeks)**

- A. Colonial Education in India:

Critical Examination of Wood's Dispatch and Macaulay Minutes; Colonization of Education in India.

- B. Swadeshi and Nationalist attempts at Educational Reforms and Contribution of Indian Thinkers (with reference to Objectives of Education, Curriculum and Pedagogy):

Savitribai and Jyotiba Phule, Swami Vivekananda, Pt. Madanmohan Malaviya, Sir Syed Ahmad Khan, Rabindranath Tagore, Mahatma Gandhi, Sri Aurobindo, Gijubhai Badheka, Jiddu Krishnamurti and Dr. Bhim Rao Ambedkar

- C. Education in Independent India

- Constitutional Values and Educational Provisions.
- Educational Committees, Commissions and Policies with specific reference to the Kothari Commission, National Policy on Education 1968; National Policy on Education 1986 and its Plan of Action 1992.
- Educational Planning and Organisation Critical review and impact of DPEP, SSA UEE, RMSA, RTE Act 2009.
- NEP 2020: Futuristic Vision for Education in India.

**Practicum:**

Following are the suggestive practicals and activities. The teachers may design more tasks based on classroom interactions and discussions.

- Prepare a report highlighting the significance of educational reforms in School education in the light of NEP 2020.
- Critically analyze the role of education in understanding the concept of citizenship for democracy.
- Compare the vision, objectives, and salient features of education during different periods.
- Design a plan of action to develop awareness/attitude/practices related Fundamental Rights/Fundamental duties/Democratic Citizenship.
- Sharing of student experiences (in groups) related to establishing Indian constitutional values through School Education and the need for dynamic and vibrant School Ethos.
- Survey of strengths and limitations of educational institutions of one's own locality.
- Visit to places of educational significance.
- Design activities for developing awareness, attitudes, skills, and participatory values to negotiate diversity in the classroom.

**Mode of Transaction:**

The course content transaction will include the following:

- Planned lectures infused with multimedia/PowerPoint presentations.
- Small group discussion, panel interactions, small theme-based seminars, group discussions, cooperative teaching and team teaching, selections from theoretical readings, case studies, analyses of educational statistics and personal field engagement with educationally marginalized communities and groups, through focus group discussions, surveys, short-term project work, etc,
- Hands-on experience of engaging with diverse communities, children, and schools.

**Mode of Assessment:**

The examination scheme and mode shall be as prescribed by the Examination Board, Karnatak University, Dharwad. from time to time.

<b>Formative Assessment for Theory</b>	
<b>Assessment Occasion/ Type</b>	<b>Marks</b>
InternalAssessmentTest1	<b>15</b>
InternalAssessmentTest2	<b>15</b>
Assignment	<b>10</b>
<b>Total</b>	<b>40</b>
<b>Formative Assessment as per guidelines.</b>	

**Suggestive Reading Materials:**

Teachers may suggest books/readings as per the needs of the learners and learning content.

- Arora, P., & Gandhi, H. (2021). National education policy 2020: Paving the ways for transformational reforms. Shipra Publications.
- Dash, B. N. (2009). Thoughts and theories of Indian educational thinkers. Dominant Publishers and Distributors.
- Desai, S. & Amaresh, D. (2011). Caste in the 21st century India: competing narratives. Economic and Political Weekly, Vol. 46, No. 11
- Dutt, M. N. (2008). Mahabharata: Santi parva (Vol. 7). Parimal Publications.

## 2. Discipline Specific Course: DSC

**Course Title: 2.1 Introduction to language, Linguistics, Literature and Culture**

**Course code: IBEN1DSC01T**

Type of Course	Theory / Practical	Credits	Formative Assessment Marks	Summative assessment Marks	Total Marks
DSC-1	Theory	4	40	60	100

### Course Outcomes:

At the end of the course students will be able to:

- Get introduced to the concept of Language, Linguistics, Literature and culture
- Understand various forms and terms of Literature.
- Distinguish Literature and its relation to various disciplines
- Acquire knowledge of linguistics and origin of languages
- Discern cultural aspects in literature
- Comprehend forms and terms of literature
- Obtain basic knowledge of language, literature and culture

Unit	Title: Introduction to Language, Linguistics, Literature and Culture	75 hrs/ sem
Unit I	Introduction to the Study of Language. What is language? Meaning, definitions and significance Characteristics of Language Origin and Development of Human Languages Language and Culture	15hrs
Unit II	Introduction to Linguistics Meaning, Definitions, Scope, levels and branches of Linguistics Phonetics and Phonology, Speech Mechanism, Vowels and Consonants, Transcription of Words and Word Stress, Phoneme, allophones Morphology- morpheme, allomorphs, free morphemes and bound morphemes, affixes and word building Syntax- Types of Sentences, IC analysis, Clauses, phrases Semantics- Types of Meaning, hyponymy, synonymy, antonym, entailment	15 hrs

<b>Unit III</b>	<p>Introduction to Literature          What is literature? Why study literature? Literature and Life, Literature and Society</p> <p><b>Literary Forms</b>  <b>Poetry:</b> Lyric, Sonnet, Ballad, Epic, Elegy, Mock-Epic  <b>Prose:</b> Novel, Novella, Short Story, Essay, Biography, Autobiography <b>Drama:</b> Comedy, Tragedy, Tragi-comedy, One-act-play,  <b>Literary Terms:</b>          Couplet, Allegory, Alliteration, Assonance, Refrain, aside, monologue, soliloquy, meta fiction, plot, character, setting, narrative technique, farce, simile, metaphor, personification, hyperbole, satire, prologue, epilogue. Art for Art's sake, Expressionism, Metre and Metrical Devices, Classicism, Romanticism, Realism, Naturalism, Canon,</p>	<b>15 hrs</b>
<b>Unit IV</b>	<p>Introduction to Study of Culture          Meaning of Culture, The idea of Culture, Culture and the Media 'Towards a Definition of Culture', in India and World Culture (New Delhi: Sahitya Academy, 1986).          Media Culture and Cultural Studies – Pramod Nayar          Key Concepts : Ideology, identity, Subaltern, Modernity, Representation</p>	<b>15 hrs</b>
<b>Unit V</b>	<p>1. "A Different History" (Poem) Sujata Bhatt          2. I Too (Poem) – Langston Hughes          3. Shooting an Elephant – George Orwell          4. The Silent Rattle – Basu Bevinagidad          5. Spoken English and Broken English – G B Shaw</p>	<b>15 hrs</b>

**Recommended books:**

1. Baldick, Chris. The Oxford Dictionary of Literary Terms, OUP, 2001.
2. Bate, Jonathan. English Literature : A Very Short Introduction, OUP.
3. Benett, Andrew. An Introduction to Literature, Criticism and Theory Routledge
4. Eagleton, Terry. How to Read Literature. Yale University Press
5. Eaglestone, Robert. Doing English; A guide for Literature Students, Routledge, 2000.
6. Hudson, William Henry. An Introduction to the Study of Literature New Delhi Atlantic, 2007.
7. Mehrotra, Arvind. Ed., An Illustrated History of Indian Literature in English, Orient Blackswan 2005.

<b>Formative Assessment for Theory</b>	
<b>Assessment Occasion/ Type</b>	<b>Marks</b>
InternalAssessmentTest1	<b>15</b>
InternalAssessmentTest2	<b>15</b>
Assignment	<b>10</b>
<b>Total</b>	<b>40</b>
<b>Formative Assessment as per guidelines.</b>	

**Course Title: 2.2 HISTORY OF INDIA (From Earliest to the Satavahana)****Course Code: IBEN1DSC02T**

Type of Course	Theory / Practical	Credits	Formative Assessment Marks	Summative assessment Marks	Total Marks
DSC-2	60	4	40	60	100

**Course Outcomes:**

At the end of the course students will be able to:

- The Literary and Archaeological Sources and the influence of Geographical factors
- The development of Cultures; Towns, Trade and Economy, Religion and Literature.
- The rise and spread of Jainism and Buddhism and establishment of early dynasties and their contributions

Unit	Title: HISTORY OF INDIA (From Earliest to the Satavahana)	75 hrs/sem
<b>Unit I:</b>	<b>Reconstructing Ancient Indian History</b>	<b>15Hrs</b>
	• Introduction-Understanding the History of India.	
	• Geographical Features of India	
	• Sources and tools of historical reconstruction- Archaeological & Literary.	
<b>Unit II:</b>	<b>Pre-historic Period</b>	<b>15 Hrs</b>
	• Paleolithic Culture- sequence and distribution; stone industries and other technological developments.	
	• Mesolithic Cultures- regional and chronological distribution; new developments in technology and economy; rock art.	
	• Neolithic and Chalcolithic Cultures: The advent of food production Understanding the regional and chronological distribution of the Neolithic and Chalcolithic cultures.	
<b>Unit-III</b>	<b>Expansion of Civilization &amp; Culture</b>	<b>15Hrs</b>
	• The Harappan/Indus Valley Civilization- Extent of the Civilization, Different Phases, Towns & town planning, citadel; agricultural technologies; Bricks, Beads, Bones (craft productions) and trade, seals, script, weights, the end of the civilization. Problems of interpretation	
	• Early Vedic Culture- Origin of the Aryans, and their settlements, contribution to literature, Polity, Economy, Society & Religion	
	• Later Vedic Culture and Cultural Contributions- literature, Polity, Economy, Society & Religion	
<b>Unit-IV</b>	<b>State Formation in Ancient India</b>	<b>15Hrs</b>
	• Pre- Mauryan History- Republics and 16 Mahajanapadas in Ancient India	

	<ul style="list-style-type: none"> <li>• Growth of Jainism &amp; Buddhism- Life &amp; teachings of Mahaveera &amp; Gautama Buddha, Causes for the spread &amp; Decline of Jainism &amp; Buddhism</li> </ul>	
	<ul style="list-style-type: none"> <li>• The Mauryan Empire- Origin- Early rulers- Chandra Gupta Maurya - Administration, Asoka-Kalinga War, Buddhism, Buddhist Council, Dhamma, Growth of Mauryan Art. Asokan inscriptions- Their contribution to Religion, Literature, Art and Architecture.</li> </ul>	
<b>Unit-V</b>	<b>Post Mauryan Period/ Changing political formations (circa 300 BCE to circa CE 300):</b>	<b>15Hrs</b>
	<ul style="list-style-type: none"> <li>• Kushanas- Political History-Kanishka and their cultural Contributions.</li> </ul>	
	<ul style="list-style-type: none"> <li>• The Satavahanas- origin- Early rulers- Gautami Putra Sathakarni-their Contribution to Religion, Literature, Arts &amp; Architecture.</li> </ul>	
	<ul style="list-style-type: none"> <li>• Map Study: <ul style="list-style-type: none"> <li>➤ Mark the important towns of Harappan Civilization and write their historical importance</li> <li>➤ Mark the important places of Ashokan Edicts found in India and write a short note about them.</li> </ul> </li> </ul>	

#### Recommended Books :

1. Thapar Romila : *History of India Vol-I*. Penguin Books India Pvt.Ltd., New Delhi-2000.
2. Majumdar R.C.: *Ancient India*. Motilal Banarsidas Delhi, Reprinted:2017
3. Lunia B.N. : *Evolution of Indian Culture*. Lakshmi Narayan Agarwal, Agra. 1960.
4. Jha D. N. : *Ancient India- An Introductory*. Rawat Publishers, Jaipur.1977
5. Khurana K.L: *Ancient India*. Lakshmi Narayan Agarwal, Agra. 2011.
6. Das S.K.: *The Economic History of Ancient India*. Vohra Publishers, Allahabad. 2007.
7. Sharma R.S.: *Material Culture and Social formations in Ancient India*. Macmillan India Ltd. Delhi. 2007.

<b>Formative Assessment for Theory</b>	
<b>Assessment Occasion/ Type</b>	<b>Marks</b>
InternalAssessmentTest1	<b>15</b>
InternalAssessmentTest2	<b>15</b>
Assignment	<b>10</b>
<b>Total</b>	<b>40</b>
<b>Formative Assessment as per guidelines.</b>	

## Course Title: 2.3 Basic Concepts of Political Science

Course Code: IBEN1DSC03T

Type of Course	Theory / Practical	Credits	Formative Assessment Marks	Summative assessment Marks	Total Marks
DSC-3	Theory	4	40	60	100

### Course Outcomes:

At the end of the course students will be able to:

- Understand fundamental Political theories and Ideologies.
- Analyze the structure and functions of Political Institutions
- Develop critical thinking about political processes and policies.
- Evaluate the role of government in society.
- Acquire basic knowledge about the Political Science.

Unit	Title: BASIC CONCEPTS IN POLITICAL SCIENCE	75 hrs/ Sem
Unit I	<b>Understanding Political Science.</b> 1.1. Meaning, Nature, Scope and Importance of Political Science, Difference Between Political Science and Politics. 1.2. Approaches to the study of Political Science 1.3. Political Theory: Meaning, Nature, Scope and Significance.	15 hrs
Unit II	<b>State and Government.</b> 1.1 Meaning, Definitions and Elements of State. 1.2 Theories of Origin of State: Divine Theory, Force Theory, Social Contract Theory, Historical Theory. 1.3. Government: Meaning, Nature, Types and Significance.	15 hrs
Unit III	<b>Democracy</b> 1.1. Democracy: Origin, Growth, Meaning, Nature and Kinds of Democracy. 1.2. Essential Conditions for the successes of Democracy. 1.3. Problems and Prospects of Democracy in India	15 hrs
Unit IV	<b>Sovereignty</b> 1.1. Meaning, Kinds and Characteristics of Sovereignty 1.2. Austin's Concept of Sovereignty and Pluralistic Sovereignty. 1.3. Challenges to the State Sovereignty in the age of Globalization.	15hrs

<b>Unit V</b>	<b>Liberty, Equality, Law and Justice.</b> <b>1.1.</b> Liberty: Meaning and Kinds. <b>1.2.</b> Equality: Meaning and Kinds (Social, Economic and Political) <b>1.3.</b> Law and Justice: Meaning, Kinds & Significance.	15hrs
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### Recommended books:

- 1.O.P Gauba : An Introduction to Political Theory, Macmillan Publication, New Delhi, 2002
2. S Ramaswamy: Political Theory: Ideas and Concepts, Macmillan Publication, New Delhi, 2002
- 3.A.C. Kapur: Principles of Political Science, S Chand and Co. New Delhi, 1977
4. S.P. Verma : Modern Political Theory, Vikas Publications New Delhi, 1983
- 5.V.D.Mahajan : Political Theory, S Chand and Company Ltd, New Delhi, 2011
- 6.E Barker : Principles of Social and Political Theory, Oxford University Press, London, 1976
7. R.T.Jangam, S.H.Patil, S.S. Patagundi: Political Analysis, Oxford and IBH Publishing Co. Pvt Ltd, New Delhi, 1997
8. R.C.Agarwal: Political Theory, S Chand and Co., New Delhi, 2016
9. B.K.Gokhale: Political Science (Theory and Governmental Machinery) Himalaya Publishing House, New Delhi, Bangalore, 2001

<b>Formative Assessment for Theory</b>	
<b>Assessment Occasion/ Type</b>	<b>Marks</b>
InternalAssessmentTest1	<b>15</b>
InternalAssessmentTest2	<b>15</b>
Assignment	<b>10</b>
<b>Total</b>	<b>40</b>
<b>Formative Assessment as per guidelines.</b>	

### 3. Ability enhancement & Value-Added Courses (AE&VAC)

**Course Title: 3.1 Language: English 1 Art Vision**

**Course Code: IBEN1AB01T**

Type of Course	Theory / Practical	Credits	Formative Assessment Marks	Summative assessment Marks	Total Marks
AE& VAC-1	Theory	4	40	60	100

#### Course Outcomes:

CO1: Acquire the knowledge of English prose and poetry

CO2: Acquire the knowledge of parts of speech

CO3: Appreciate the nuances of English poetry and prose

CO4: Use proper articles, prepositions and forms of verbs

CO5: Use appropriate tense forms in sentences

CO6: Acquire basic language skills

Unit	Title: English 1 Art Vision	60 hrs/sem
<b>Unit I Prose</b>	<ol style="list-style-type: none"> <li>1. The Secret of Work – Swami Vivekanand</li> <li>2. Salta Pro Nobis – John Galsworthy</li> <li>3. The Umbrella - Guy de Maupassant</li> <li>4. The Gold Watch – Mulk Raj Anand</li> <li>5. Florence Nightingale – Abrar Mohsin</li> </ol>	<b>15 hrs</b>
<b>Unit II Poetry</b>	<ol style="list-style-type: none"> <li>1. Kublakhan – S. T. Coleridge</li> <li>2. In the Bazaars of Hyderabad – Sarojini Naidu</li> <li>3. Paper Boat- Rabindranath Tagore</li> <li>4. Sonnet 18 – William Shakespeare</li> <li>5. Refugee Mother and Child – Chinua Achebe</li> </ol>	<b>15 hrs</b>

<b>Unit III Grammar</b>	1. Parts of Speech (With special emphasis on Verbs, Adverbs, adjectives and Prepositions) 2. Use of Articles in English 3. Cloze Test	<b>15 hrs</b>
<b>Unit I</b>	1. Tenses – (Special emphasis on Simple Present, Present Continuous and Simple Past Tense) 2. Reading Skills – Meaning, Types , Techniques 3. Synonyms and Antonyms	<b>15hrs</b>

- 1. Text Books: Art Vision: An Anthology of Poetry and Prose**, ed Board of Editors, Ravindra Publications, Hyderabad

**Suggested Reading:**

2. R. P. Singh's *Functional Skills in Language and Literature*, OUP
3. Murphy, Raymond. *Intermediate English Grammar*. Cambridge Univ. Press.
4. Wren and Martin. *High School English Grammar and Composition*.

<b>Formative Assessment for Theory</b>	
<b>Assessment Occasion/ type</b>	<b>Marks</b>
Internal Assessment Test 1	15
Internal Assessment Test 2	15
Assignment	10
<b>Total</b>	<b>40</b>
<i>Formative Assessment as per guidelines.</i>	

**Course Title: 3.2 Art Education (Performing and Visual)**

**Course code: IBEN1AB02T**

Type of Course	Theory / Practical	Credits	Formative Assessment Marks	Summative assessment Marks	Total Marks
AE& VAC-2	Theory	2	20	30	50

**Learning Outcomes:**

After completion of this course, it is expected that the students will be able to:

- articulate the importance and the role of aesthetics and art in education;
- understand the medium of collage and its versatility;
- design, plan, and create an expressive self-portrait collage by applying a variety of collage techniques;
- design and set up an interactive visual art exhibition to display their artworks;
- understand and appreciate art-based learning experiences;
- develop the ability to reflect and challenge their assumptions and beliefs around art and develop new understandings.

**UNIT-1: Understand the Importance of Aesthetics and Art in Education (1 Week)**

Students will collectively view and engage in a series of artworks closely, share their observations, critically analyze their observations, listen to multiple perspectives from peers, suspend judgements, and draw their own understanding of the artwork. They will gain familiarity with the role of art in education and will recognize aesthetic experiences through compare and contrast.

A. Introduction to Art and Aesthetics.

- B. Visual Thinking Strategy (VTS) Activity.
- C. Learning Art Forms (Warli, Madhubani, Gond Art and Others) - Any One.
- D. Art as Self-Expression and its Application in Education.

### **UNIT-II: Exploring paper collage and its techniques (2 Weeks)**

Students will view and discuss examples of collage artworks; artist process and artist interview videos Students will get a chance to compare and contrast various ways collage as a medium is used and will engage in discussions and dialogues. Students will analyze effective ways of using the medium of collage in educational and other settings.

- A. Introduction to Collage and its Medium (Newspaper, Fabric, Ribbon, Coins, Feathers and others).
- B. Manipulating Paper in Different Ways and Creating 2-D Composition of Paper Collage.
- C. Creating Visual Texture, Physical Texture and Patterns Using Techniques Like (Decoupage, Photomontage, And 3 -D).

### **UNIT-III: Ideating and creating for an Expressive Self-Portrait (7 Weeks)**

Students will engage in art making activities. Students will draw from their previous experiences of using paper for 2D explorations and add more interest to their unique 3D explorations. Students will continuously reflect on their learning through artwork. Students will work independently and collaboratively throughout the course.

- A. Making Paper Stand and Create Paper Sculpture Using 3-D Techniques (Like Paper - Cutting, Paper Folding, Clay, Paper- Mache).
- B. Engaging in Close Observation Sketching and Drawing Activity (Self- Portrait, Poster, Calligraphy).
- C. Expressive Self- Portrait Drawing and Collage

### **UNIT-IV: Designing and setting up an Exhibition (5 Weeks)**

Designing, Planning and Setting Up an Art Exhibition.

### **Pedagogy:**

Students will be planning the various aspects of a visual art exhibition: ways to display artworks, designing the layout of the exhibition space and how the audience will move within the space. Students will divide the tasks among themselves and set up the exhibition space.

**Mode of Transaction:**

The entire syllabus is based on practical exercises. The nature and scope of activities and tasks are explained in each unit.

**Mode of Assessment:**

The examination scheme and mode shall modify and/or evolve as per the guidelines of the Examination Board, Karnatak University Dharwad, from time to time.

**References:**

- Veerswar, P. & Sharma, N. (2001). Aesthetics. Krishna Prakashan Media.
- Sharma, L.C. (1980). A brief history of Indian painting. Goal publishing house.
- Chandok, A. (2015). Art and education. Nirmal Publishing House.
- Prasad, D. (1998). Art as the basis of education. NBT.
- Ghosh, S. (2020). Madhubani painting-vibrant folk art of Mithila. Art and Design Review, 8(2), 61-78.
- Mishra, S. (2021). Journey of folk art: The case of Mithila painting of Bihar. Journal of Engineering Technologies and Innovative Research, 8(3), 61-78.

<b>Formative Assessment for Theory</b>	
<b>Assessment Occasion/ type</b>	<b>Marks</b>
Internal Assessment Test 1	5
Internal Assessment Test 2	5
Assignment	10
<b>Total</b>	<b>20</b>
<i>Formative Assessment as per guidelines.</i>	

**Course Title: 3.3 Understanding India Part- I (Indian Ethos and Knowledge Systems)**

**Course code: IBEN1AB03T**

Type of Course	Theory / Practical	Credits	Formative Assessment Marks	Summative assessment Marks	Total Marks
AE& VAC-3	Theory	2	20	30	50

**Learning Outcomes:**

After the completion of the course, it is expected that the students will be able to:

- recognize the vast corpus of knowledge traditions of India, while developing an appreciation for it,
- apply their acquired research and critical thinking skills to multidisciplinary themes, and-appreciate the diverse belief systems and knowledge traditions in India.
- discuss the formation and evolution of knowledge of India through multidisciplinary lens.

**UNIT-1: Introduction to the Knowledge of India (2 Weeks)**

- A. Definition & Scope; Relevance of this Knowledge.
- B. Need to revisit our Ancient Knowledge, Traditions, and Culture.

**UNIT-II: Culture-Art and Literature (4 Weeks)**

- A. Fine Arts (Traditional Art Forms, Contemporary Arts, Arts and Spirituality, Arts Identity, and Art and Globalization): and.
- B. Performing Arts (Indian Dance Systems, Traditional Indian Pieces of Music, Visual Arts, Folk Arts, etc.,)
- C. Literature (Sanskrit Literature, Religious Literature, Indian Poetry, Folk Literature, Indian Fiction, Sangam Literature, Kannada, Malayalam Literature, Bengali Literature, etc.

### **UNIT-III: Polity, Law and Economy (5 Weeks)**

- A. Kingship & Types of Government (Oligarchies, Republics); Local Administration (Village Administration);
- B. Basis of Law: Dharma & its sources; Criminal Justice: Police, and Punishments; Lessons from Chanakya Niti; Lessons for modern-day India: Towards a Tradition-Driven Equitable and Just Polity and Law System.
- C. Overview of the Indian Economy from the Stone Age to the Guptas: The new culture of Urbanization (including Castes, Guilds, and other Economic Institutions; Harappan Civilization Economy; Growth of Agriculture and Proliferation of New Occupations: Growth of Writing);
- D. Internal & External Trade and Commerce, including Trade Routes, Indo-Roman Contacts, and Maritime Trade of South India; Temple Economy.
- E. Land Ownership - Land Grants & Property Rights, Land Revenue Systems.
- F. Understanding Artha shastra: Ideas & Criticism; Locating Relevance of Ancient Indian Economic Thought in Modern-Day Indian Economy.
- G. Understanding Economy, Polity and Law in Contemporary India.

### **UNIT-IV: Environment & Health (4 Weeks)**

- A. Understanding Equilibrium between Society & Environment: Society's Perceptions Natural Resources like Forests, Land, Water, and Animals.
- B. Sustainable Architecture & Urban Planning; Solving Today's Environmental Challenges (Best Practices from Indigenous Knowledge, Tribes and Community-Led Efforts, etc.).
- C. India's Health Tradition: Ayurveda, Siddha, Ashtavaidya, Unani, and other Schools of Thought; Lessons from Sushruta Samhita and Charaka Samhita:
- D. Mental health in Ancient India: Towards Time-Tested Concepts of Mental Wellness (Concept of Mind, Dhyana, Mind-Body Relationship, Ayurveda, Yoga Darshan, Atman, etc.)

### **Practicum:**

The modes of curriculum transaction will include lectures, Tutorials, and Practicum.

Practicum will include organization of day trips that help student teachers watch events relating to visual and performing art; activities that enable student teachers to identify and record through photos, videos, etc. the elements of ancient architecture still existing in the city around them; organization of Individual and group presentations based on themes such as Polity, Law and Economy etc., organization of a 'Knowledge of India' day in the institution to celebrate the culture (food, clothes, etc.) that they would have

been explored in lectures and tutorials; interactions with family members, elders, neighbours, and other members of society about the evolution of local systems and economy etc.

### **Mode of Transaction:**

The entire syllabus is based on practical exercises. Classroom interactions will include learner driven participatory sessions, and Guest lectures through experts and practitioners, such as fine arts and performing arts practitioners along with contemporary poets & writers of Indian literature. Also, it will include Screening of documentaries and films followed by a discussion; Learner-driven discussions in the form of focus group discussions (FGDs), Socratic Discussions, etc.; Debate/discussion can be organized to explain India's Vaad tradition: discussion on how some of the ancient methods of teaching are relevant in today's time; discussions that help Identify ethical dilemmas in daily lives and understanding the importance of ancient ethics and values to resolve them.

### **Mode of Assessment:**

The approaches to learning assessment will include:

- Supporting the curiosity and interest of student teachers in the selected themes through a multi-modal approach, including regular assessments and actionable feedback that enable learners to outline and interpret the processes and events of the formation & evolution of knowledge of India through a multidisciplinary lens.
- Enabling the student teachers to demonstrate critical analysis and independent thinking of the processes and events in the formulation & evolution of different traditions that help student teachers evaluate the diverse traditions of India to distinguish its achievements and limitations.
- Use of first-hand or second-hand experiences that enable student-teachers to develop and articulate an ethics-based education rooted in Indian thought to their students in the classroom context.

The examination scheme and mode shall modify and/or evolve as per the guidelines of the Examination Board, Karnatak University Dharwad, from time to time.

### **Suggestive Readings Material:**

Teachers may suggest books/readings as per the needs of the learners and learning content.

- Altekar, A.S. (2009). Education in Ancient India. New Delhi: Gyan Publishing House.(Originally published in 1944 by Osmania University.Nand Kishore & Bros.
- Dominik, W. (2001). The roots of ayurveda. Penguin Classics.

- Mahadevan, B., Bhat, R.V. & Nagendra, P.R.N. (2021). Introduction to Indian knowledge system: Concepts and applications. PHI Learning Pvt. Ltd.
- Nehru, J (1946).The Discovery of India. UK:Meridian Books. Reprinted (2008) by Penguin.
- Sinha, A. (1998). Design of settlements in the vastu shastras. Journal of Cultural Geography, 17(2), 27-41.
- Swami Suparnananda (2016). The Cultural Heritage of India (Vol. 2). The Rama Krishna Mission Institute of Culture.
- Tachikawa, M. (1971). A sixth-century manual of Indian logic: A translation of the Nyayapravesa. Journal of Indian Philosophy, 1(2), 111-145.

<b>Formative Assessment for Theory</b>	
<b>Assessment Occasion/ type</b>	<b>Marks</b>
Internal Assessment Test 1	5
Internal Assessment Test 2	5
Assignment	10
<b>Total</b>	<b>20</b>
<i>Formative Assessment as per guidelines.</i>	

## **Syllabus**

### **Semester II**

#### **BA. B.Ed. (English)**

##### **Courses:**

#### **1. Discipline Specific Course: DSC**

- 1.1 English Literature-Part 1 (From beginning to 1798)
- 1.2 English Literature –Part 2 (From 1798 to Modern Age)
- 1.3 History of India (From Guptas to 1206 A.D.)
- 1.4 Western and Indian Political

#### **2. Ability Enhancement & Value-Added Courses**

- 2.1 Language-II /Kannada/Hindi

**2.2 Understanding India-II (Indian Ethos & Knowledge systems)**

**2.3 Teacher And Society**

**1. Discipline Specific Course: DSC**

**Course Title: 1.1 English Literature- Part- I (From beginning to 1798)**

**Course code: IBEN2DSC01T**

<b>Type of Course</b>	<b>Theory / Practical</b>	<b>Credits</b>	<b>Formative Assessment Marks</b>	<b>Summative assessment Marks</b>	<b>Total Marks</b>
<b>DSC-1</b>	<b>theory</b>	<b>4</b>	<b>40</b>	<b>60</b>	<b>100</b>

**Course Outcomes:**

- At the end of the course students will be able to:
- Understand major trends and movements in English literature
- Comprehend the major works of representative writers from Chaucer to Dr Johnson
- Acquire Knowledge of English poetry, prose, novel and drama of prescribed ages
- Understand literary movements in English Literature
- Appreciate the contribution of English writers of prescribed period

<b>Unit</b>	<b>Title: English Literature Part 1 (From beginning to 1798)</b>	<b>75 Hours / Sem</b>
<b>Unit - I</b>	<b>HISTORY OF ENGLISH LITERATURE (UP TO 1798)</b>	<b>15 Hrs.</b>
	Age of Chaucer, Renaissance, Elizabethan Poetry, Elizabethan Drama, Metaphysical Poetry, Restoration Drama, 18th Century Prose, Development of Novel in 18th Century, Neo-classical and Transitional Poetry <b>Key Terms:</b> Renaissance, Reformation, Comedy of Humor, Puritanism, Comedy of manners, Neo-classicism, periodical essay, picaresque novel, gothic novel	
<b>Unit - II</b>	<b>Major Writers, Works and Trends:</b>	<b>15 Hrs.</b>
	Francis Bacon, Christopher Marlowe, Ben Jonson, John Milton, John Dryden, Alexander Pope, Dr. Samuel Johnson, Oliver Goldsmith, John Bunyan, Aphra Behn, Margaret Cavendish, Elizabeth Cary, Anne Finch, Amelia Lanyer, Fanny Burney, Fairy Queene, As You Like It, Jonson's Alchemist, Paradise Lost, Absalom and Achitophel, Rape of the Lock, Pamela, Letters of Elizabeth Carte, Coverly Papers etc.	
<b>Unit - III</b>	<b>Representative Texts:</b>	<b>15 Hrs.</b>
	<b>Poems</b> Amoretti III: The Sovereign Beauty – Edmund Spenser To Celia – Ben Jonson On His Blindness - John Milton Sunne Rising - John Donne The Pulley – George Herbert My Luv is Like Red Red Rose Robert Burns	
<b>Unit - IV</b>	<b>Essays</b> Of Revenge - Francis Bacon Man in Black – Oliver Goldsmith Preface to Shakespeare – Dr Samuel Johnson	<b>15 Hrs.</b>
<b>Unit-V</b>	<b>Play:</b> Midsummer Night's Dream- William Shakespeare (Any edition)	<b>15 hrs</b>

**Books recommended and Suggested Reading**

1. Andrew Sanders, English Literature, OUP, 2005
2. Edward Albert, History of English Literature, OUP, 2014
3. M. H. Abrams, A Glossary of Literary Terms, Cengage Publishers, New Delhi

<b>Formative Assessment for Theory</b>	
<b>Assessment Occasion/ Type</b>	<b>Marks</b>
InternalAssessmentTest1	<b>15</b>
InternalAssessmentTest2	<b>15</b>
Assignment	<b>10</b>
<b>Total</b>	<b>40</b>
<b>Formative Assessment as per guidelines.</b>	

**Course Title: 1.2 English Literature- Part 2 (From 1798 to Modern Age)**  
**Course Code: IBEN2DSC02T**

<b>Type of Course</b>	<b>Theory / Practical</b>	<b>Credits</b>	<b>Formative Assessment Marks</b>	<b>Summative assessment Marks</b>	<b>Total Marks</b>
<b>DSC-2</b>	<b>Theory</b>	<b>4</b>	<b>40</b>	<b>60</b>	<b>100</b>

### Course Outcomes:

- At the end of the course students will be able to: Understand major trends and movements in English literature from 19th century to Modern Age
- Understand the major works of representative writers from Wordsworth to T S Eliot
- Acquire Knowledge of English poetry, prose, novel and drama of prescribed ages
- Acquaint themselves with the literary movements in English Literature
- Appreciate the contribution of English writers of prescribed period

Unit	Title: English Literature Part 2 (From 1798 to Modern Age)	75 Hours / Sem
Unit - I	<p><b>Background to Literature:</b> Romantic Period –Poetry and Prose, Victorian Age- Poetry, Pre-Raphaelite Poetry, Oxford Movement, Victorian Novel, 19th century</p> <p>Prose, Modern Age: Major trends in Modern Poetry, Modern Novel, Modern Drama, Modern Prose.</p> <p>Key concepts : Modernism, Marxism, Stream of Consciousness, Poetic Drama, Irish Theatre Movement,</p>	15 Hrs.
Unit- II	<p><b>Major Writers, and Works</b></p> <p>S T Coleridge, P B Shelley, Jane Austen, Charles Lamb, William Hazlitt, Walter Scott, Alfred Tennyson, Matthew Arnold, John Ruskin, Thomas Carlyle, Bronte Sisters, Thomas Hardy, George Eliot, Charles Dickens, T. S. Eliot, W.B. Yeats, G. B. Shaw, Virginia Woolf, D. H. Lawrence, H G Wells, Somerset Maugham, John Galsworthy, E M Forster, George Orwell, W H Auden</p> <p><i>Hard Times, The Return of the Native, Unto This Last, The Murder in the Cathedral, Arms and the Man, Culture and Anarchy, Animal Farm, The Waste Land, Sons and Lovers,</i></p>	15 Hrs.
Unit - III	<p>Tintern Abbey – William Wordsworth</p> <p>Ozymandias – P B Shelley</p> <p>My Last Duchess – Robert Browning</p> <p>John Keats : Ode on Grecian Urn</p> <p>Matthew Arnold: Dover Beach</p> <p>W B Yeats : Easter 1916</p>	15 Hrs.
Unit - IV	<p><b>Novel:</b></p> <p>The Heart of Darkness – Joseph Conrad</p>	15 Hrs.

<b>Unit-V</b>	<b>Play:</b> Justice : John Galsworthy	<b>15 hrs</b>
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### Books recommended and Suggested Reading

1. Andrew Sanders, English Literature, OUP, 2005
2. Edward Albert, History of English Literature, OUP, 2014
3. M. H. Abrams, A Glossary of Literary Terms, Cengage Publishers, New Delhi

<b>Formative Assessment for Theory</b>	
<b>Assessment Occasion/ Type</b>	<b>Marks</b>
InternalAssessmentTest1	<b>15</b>
InternalAssessmentTest2	<b>15</b>
Assignment	<b>10</b>
<b>Total</b>	<b>40</b>
<b>Formative Assessment as per guidelines.</b>	

**Course Title: 1.3 HISTORY OF INDIA (From Guptas to 1206 A.D.)**  
**Course Code: IBEN2DSC03T**

<b>Type of Course</b>	<b>Theory / Practical</b>	<b>Credits</b>	<b>Formative Assessment Marks</b>	<b>Summative assessment Marks</b>	<b>Total Marks</b>
<b>DSC-3</b>	<b>Theory</b>	<b>4</b>	<b>40</b>	<b>60</b>	<b>100</b>

## Course Outcomes:

At the end of the course students will be able to:

- The rule of Gupta and Vardhana empires and the consolidation various dynasties in South India
- The development of science, technology, literature and architecture of our ancient past.
- Foreign invasions on Northern India and rise of early Philosophies and Sects.

Unit	Title: HISTORY OF INDIA (From Guptas to 1206 A.D.)	75 hrs/ sem
<b>Unit I:</b>	<b>Establishment of Empire &amp; Kingdoms:</b>	<b>15Hrs</b>
	<ul style="list-style-type: none"><li>• Reconstructing the History of Medieval India- Sources - Archaeological &amp; Literary</li></ul>	
	<ul style="list-style-type: none"><li>• The Gupta Empire- Brief Political History with special reference to Samudra Gupta- Golden Age of the Guptas-Growth of Literature, Science, Art &amp; Architecture</li></ul>	
	<ul style="list-style-type: none"><li>• Vardhana Dyansty-Early Rulers-Achievements of Harshavardhana, Their Contribution to Religion, Literature, Art and Architecture.</li></ul>	
<b>Unit II:</b>	<b>Early Dynasties in Karnataka:</b>	<b>15 Hrs</b>
	<ul style="list-style-type: none"><li>• The Kadambas- Political History- Mayuravarma- Literature, Art, Architecture, The Chalukyas of Badami – Early Rulers-Pulakesi II –Their Contribution to Art &amp; Architecture, Education and Literature</li></ul>	
	<ul style="list-style-type: none"><li>• The Rashtrakutas- Early Rulers – Dhruva, Govinda-III, Amoghavarsha-I, Krishna-III,</li></ul>	
	<ul style="list-style-type: none"><li>• Cultural Contributions of the Rashtrakuta - Religion, Education, Literature, Art and Architecture</li></ul>	
<b>Unit-III</b>	<b>Dynasties in South India:</b>	<b>15Hrs</b>
	<ul style="list-style-type: none"><li>• The Sangama Age-Literature and Society</li></ul>	
	<ul style="list-style-type: none"><li>• The Pallava Political History- Mahendravarma-I, Narasimhavarma-I</li></ul>	
	<ul style="list-style-type: none"><li>• The Art &amp; Architecture of the Pallavas- Temples, Caves- Salient features, Literature</li></ul>	
<b>Unit-IV</b>	<b>Expansion of Political Supremacy in South India:</b>	<b>15Hrs</b>
	<ul style="list-style-type: none"><li>• The Cholas- Political History- Rajaraja-I, Rajendra-I, Local Self-Government.</li></ul>	
	<ul style="list-style-type: none"><li>• The Art &amp; Architecture of the Cholas- Salient features, Growth of Literature</li></ul>	
	<ul style="list-style-type: none"><li>• Religious Developments in South India: Shaivism, Vaishnavism, Jainism Buddhism</li></ul>	

Unit-V	Invasion of Arabs and Indian Philosophy:	15Hrs
	<ul style="list-style-type: none"> <li>Arab conquest of Sindh: Causes and consequences of early Turkish invasions: Ghazni Mahmud and Ghorī Mohmud invasions</li> </ul>	
	<ul style="list-style-type: none"> <li>Indian Philosophy-Dvaita philosophies-Shankara, Madhva and Ramanuja, Basaveshvara, Akkamahadevi, Shivasharanas</li> </ul>	
	<ul style="list-style-type: none"> <li>Map Study: <ul style="list-style-type: none"> <li>➤ Mark the empire of Samudra Gupta and write a note on his Conquests</li> <li>➤ Mark the empire of Pulakesi- II and write a short note about his Conquests</li> </ul> </li> </ul>	

### Recommended Books :

1. Thapar Romila : *History of India Vol-I*. Penguin Books India Pvt. Ltd., New Delhi-2000.
2. Majumdar R.C.: *Ancient India*. Motilal Banarsidas Delhi, Reprinted:2017
3. Lunia B.N. : *Evolution of Indian Culture*. Lakshmi Narayan Agarwal, Agra. 1960.
4. Jha D. N.: *Ancient India- An Introductory*. Rawat Publishers, Jaipur.1977
5. Khurana K.L: *Ancient India*. Lakshmi Narayan Agarwal, Agra. 2011.
6. Das S.K.: *The Economic History of Ancient India*. Vohra Publishers, Allahabad. 2007.
7. Sharma R.S. : *Material Culture and Social formations in Ancient India*. Macmillan India Ltd. Delhi. 2007.
8. Sharma R.S.: *India's Ancient Past*. Oxford University Press. New Delhi. 31<sup>st</sup> Impression 2018.
9. Bashyam A.L.: *The Wonder that was India, Vol-I*. Picador Pan Macmillan, Publisher Ltd. London. 2004.
10. Nilkanta Sastri K.A.: *The Illustrated History of South India*. Oxford University Press , New Delhi.2009

Formative Assessment for Theory	
Assessment Occasion/ type	Marks
Internal Assessment Test 1	15
Internal Assessment Test 2	15
Assignment	10
<b>Total</b>	<b>40</b>
<i>Formative Assessment as per guidelines.</i>	

**Course Title: 1.4 Western and Indian Political Thinkers**

**Course Code: IBEN2DSC04T**

Type of Course	Theory / Practical	Credits	Formative Assessment Marks	Summative assessment Marks	Total Marks
DSC-4	Theory	4	40	60	100

**Course Outcomes:** At the end of the course students will be able to:

- 1: Understand key ideas and contributions of major political Thinkers.
- 2: Analyze historical and cultural contexts of political theories.
3. Compare and contrast different political philosophies.
4. Understand the evolution of political thought over the period of time.
5. Develop the ability to articulate and debate political ideas.

Unit	Title: WESTERN AND INDIAN POLITICAL THINKERS	75 hrs/ Sem
Unit I	<b>Western Political Thinkers</b> 1.1. Features of Greek Political Thought 1.2. Plato –Ideal State, Theory of Justice and Philosopher King. 1.3. Aristotle – State, Classification of Governments, Theory of Revolution	15 hrs
Unit II	<b>Medieval Western Political Thinkers</b> 1.1. Thomas Aquinas – Classification of Law 1.2. St. Augustine - Two Swords Theory 1.3. Machiavelli -Advice to the Prince, Separation of Politics from Ethics and Religion	15 hrs
Unit III	<b>Modern Western Political Thinkers</b> 1.1. Hobbes – Theory of Absolute Sovereignty. John Locke –Theory of Social Contract. J.J. Rousseau – General Will. 1.2. J.S. Mill – Views on Liberty. 1.3. Karl Marx – Theory of Communism.	15 hrs
Unit IV	<b>Ancient and Medieval Indian Political Thinkers.</b> 1.1. Kautilya – Theory of Saptanga, Theory of Mandala. 1.2. Sabareeshwara- Political Philosophy of Sabareeshwara ( Concept of Anubhav Mantapa, Humanism) 1.3. Gautama Buddha –Life and Teachings	15hrs

Unit-V	<b>Modern Indian Political Thought</b> 1.1. Mahatma Gandhi – Concept of Satyagraha, Techniques of Satyagraha, Truth and Non 1.2. Violence. 1.3. Dr. B.R. Ambedkar – Ideas on Social Justice and Democracy. 1.4. Ram Manohar Lohia – Socialism, Ideas on Four Pillar State, Jayaprakash Narayan – Total Revolution.	15 hrs
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**Recommended books:**

1. Zelliott, E. (1986). 'The Social and Political Thought of B.R. Ambedkar', in Panthan, Th. & Deutsch, K. L.(eds.) Political Thought in Modern India. New Delhi: Sage,
2. C.L.Wayper: Political Thought, B.I.Publications Bombay, 1983
3. Mukharjee and Ramawsamy: History of Political Thought- Plato to Marx, Prentice-Hall, India, New Delhi, 1999
4. D.R.Bhandari: History of European Political Philosophy, Bangalore Printing and Publishing, Co Ltd., Banraglore, 1990
5. V.P.Varma: Modern Political Thought, Lakshmi Narain Agarwal Agra, 1991
6. K.S.Padhy : Indian Political Thought, PHI Leaming Pvt, Ltd, Delhi, 2014
7. H.R.Mukhi: Political Thought, SBD Publishers, Delhi
8. R.C. Gupta: Western Political Thought, Lakshmi Narain Agarwal Agra, 2002
9. R.C.Gupta: Great Political Thinkers East and West, Lakshmi Narain Agarwal, Agra, 2015
10. Sukhbir Singh: History of Political Thought, Vol-1 and 2 Rastogi Publications, Meerut, India, 2001
11. Nelson, Brian, R. (2004). Western Political Thought From Socrates to the Age of Ideology. Delhi: Pearson Education.
12. Mukherjee , Subrata., Ramaswamy, Sushila. (1999). A History of Political Thought Plato to Marx. New Delhi: Prentice – Hall.
13. William, Ebenstein. (1951). Great Political Thinkers: Plato to the Present. London: Rinehart Publication.

<b>Formative Assessment for Theory</b>	
<b>Assessment Occasion/ type</b>	<b>Marks</b>
Internal Assessment Test 1	15
Internal Assessment Test 2	15
Assignment	10
<b>Total</b>	<b>40</b>
<i>Formative Assessment as per guidelines.</i>	

## 2. Ability enhancement & Value-Added Courses (AE&VAC)

**Course Title: 2.1 Language-II /Kannada: Belagu -1**  
**Course code: IBEN2AB01T**

Type of Course	Theory / Practical	Credits	Formative Assessment Marks	Summative assessment Marks	Total Marks
AE&VAC-1	Theory	4	40	60	100

**Course Outcomes (COs):Attheend ofthecoursestudentswillbeableto:**

CO1: ರಾಷ್ಟ್ರೀಯತೆ ಎಂಬ ಪರಿಕಲ್ಪನೆಯ ಕುರಿತು ಸ್ಪಷ್ಟತೆ ಒದಗುತ್ತದೆ.

CO2: ತಮ್ಮ ಭಾವಿಸುವ ಕ್ರಮದಿಂದ ಬಿಡುಗಡೆ

CO3: ಸಾಹಿತ್ಯ ಸಮಕಾಲೀನ ಸ್ಪಂದನೆ ಎನ್ನುವುದು ತಿಳಿಯುತ್ತದೆ.

CO4: ಕನ್ನಡತನ ಎನ್ನುವುದು ಕೇವಲ ಭಾವನಾತ್ಮಕತೆಯಲ್ಲ, ಅದು ಉಸಿರಿನಂಥ ವಾಸ್ತವ

**CO5:**ಕರ್ನಾಟಕ ಏಕೀಕರಣ ಚಳುವಳಿಯ ತಿಳಿವು ಲಭಿಸುತ್ತದೆ

CO6: ಭಾಷೆಗೂ-ವ್ಯಕ್ತಿಗೂ, ಭಾಷೆಗೂ-ಸಮುದಾಯಕ್ಕೂ ಇರುವ ಕರುಳು ಬಳ್ಳಿ ತಿಳಿಯುತ್ತದೆ

CO7: ವಿದ್ಯಾರ್ಥಿಗಳಲ್ಲಿ ನಾಗರಿಕ ಪ್ರಜ್ಞೆ ಅರಳುತ್ತದೆ.

Unit	Title: ಬೆಳಗು ೧ (ಕನ್ನಡ AECC )	60hrs/sem
UnitI	<p><b>ರಾಷ್ಟ್ರೀಯತೆ</b></p> <p>೧. ಭಾರತದಲ್ಲಿ ರಾಷ್ಟ್ರೀಯವಾದ - ರವಿಂದ್ರನಾಥ ಠಾಕೂರ್</p> <p>೨. ಕನ್ನಡಕ್ಕೂ ಒಂದು ರಾಷ್ಟ್ರೀಯತೆ - ದೇವನೂರ ಮಹಾದೇವ</p> <p>೩. ಅಮೃತತ್ವ - ತತ್ವದ ಹಂಬಲದಲ್ಲಿ - ಜಿ. ಹ. ರಘುನಾಥ</p> <p>೪. ರಾಷ್ಟ್ರೀಯತೆಯ ಆಚರಣೆಯ ಸುತ್ತ - ರಾಮಲಿಂಗಪ್ಪ ಟಿ. ಬೇಗೂರ</p>	15 hrs
UnitII	<p><b>ಸ್ವಾತಂತ್ರ್ಯದ ಪ್ರತಿಸ್ಪಂದನೆ</b></p> <p>೧. ಗಾಂಧಿ (ಕವಿತೆ) - ಜಿ. ಎಸ್. ಶಿವರುದ್ರಪ್ಪ</p> <p>೨. ಭಾರತಾಂಬೆಯ ರಥೋತ್ಸವ - ಡಿ. ಗೋವಿಂದ ದಾಸ</p> <p>೩. ನಿರಾಶ್ರಿತೆ (ಕಥೆ)- ಎಚ್. ವಿ. ಸಾವಿತ್ರಮ್ಮ</p> <p>೪. ಇಂದೇ ಸೀಮೋಲ್ಲಂಘನ - ಚೆನ್ನವೀರ ಕೇರವಿ</p>	15 hrs

UnitIII	<p><b>ಕರ್ನಾಟಕರ ತಾತ್ವಿಕತೆ</b></p> <p>೧. ಕನ್ನಡ ಡಿಂಡಿಮ ಕವಿತೆ ಮತ್ತು ಮುನ್ನುಡಿ - ಕುವೆಂಪು</p> <p>೨. ನಾಡಿಗೂ ನುಡಿಗೂ ಸಂಬಂಧ - ದ. ರಾ. ಬೇಂದ್ರೆ</p> <p>೩. ಜನಭಾಷೆ ಸ್ಥಿತಿ ಮತ್ತು ಗತಿ - ಚಂಪಾ</p> <p>೪. ಕರ್ನಾಟಕ ಸಂಸ್ಕೃತಿ ಎಂದರೇನು?- ರಹಮತ್ ತರೀಕೆರೆ</p>	15 hrs
UnitIV	<p><b>ಕರ್ನಾಟಕತ್ವ; ಸೃಜನಶೀಲ ಸ್ವಂದನ</b></p> <p>೧. ಕಾವೇರಿಯಿಂದಮಾ ಗೋದಾವರಿ.....- ಶ್ರೀವಿಜಯ</p> <p>೨. ಉದಯವಾಗಲಿ ನಮ್ಮ ಚೆಲುವ ಕನ್ನಡ ನಾಡು - ಹುಯಿಲಗೋಳ ನಾರಾಯಣ</p> <p>೩. ಆಯ್ದ ವಚನಗಳು - ಜಯದೇವಿ ತಾಯಿ ಲಿಗಾಡೆ</p> <p>೪. ನಿತ್ಯೋತ್ಸವ - ಕೆ. ಎಸ್. ನಿಸಾರ್ ಅಹಮದ್</p>	15hrs

**Recommended books:**

1. ನಿತ್ಯೋತ್ಸವ - ನಿಸಾರ್ ಅಹಮದ್
2. ಗರಿ - ದ. ರಾ. ಬೇಂದ್ರೆ
3. ಕವಿರಾಜಮಾರ್ಗ - ಶ್ರೀವಿಜಯ
4. ಪಂಪಭಾರತ - ಪಂಪ
5. ವಚನ ಸಂಪುಟಗಳು - ವ.ಸಾ.ಪ, ವಿಜಯಪುರ
6. ಸಾಲು ದೀಪಗಳು - ಕನ್ನಡ ಸಾಹಿತ್ಯ ಅಕಾಡೆಮಿ, ಬೆಂಗಳೂರು.

<b>Formative Assessment for Theory</b>	
<b>Assessment Occasion/ Type</b>	<b>Marks</b>
InternalAssessmentTest1	<b>15</b>
InternalAssessmentTest2	<b>15</b>
Assignment	<b>10</b>
<b>Total</b>	<b>40</b>
<b>Formative Assessment as per guidelines.</b>	

**Course Title: 2.1 Language-II /Hindi: Kavya Kaumudi aur Anuvad**

**Course code: IBEN2AB01T**

<b>Type of Course</b>	<b>Theory / Practical</b>	<b>Credits</b>	<b>Formative Assessment Marks</b>	<b>Summative assessment Marks</b>	<b>Total Marks</b>
<b>AE&amp; VAC-1</b>	<b>Theory</b>	<b>4</b>	<b>40</b>	<b>60</b>	<b>100</b>

**Course Outcomes (COs):**At the end of the course students will be able to:

- CO1: कविता में रुचि उत्पन्न करना  
 CO2: गति, लय, भावयुक्त वाचन की योग्यता उत्पन्न करना  
 CO3: कल्पना शक्ति को उत्पन्न करना  
 CO4: सौंदर्यानुभूति की क्षमता उत्पन्न करना  
 CO5: रस, छंद, अलंकार का ज्ञान कराना  
 CO6: विविध भावों से युक्त कविता को समीक्षात्मक अध्ययन के लिए प्रोत्साहित करना  
 CO7: छात्रों में अनुवाद कौशल का विकास होता है ।  
 CO8: अनुवाद कला द्वारा बेरोजगारी की समस्या से मुक्त हो सकते हैं ।

Unit	Title: KAVYA KAUMUDI AUR ANUVAD काव्य कौमुदी और अनुवाद	60hrs/ sem
Unit I	हिंदी काव्य का सामान्य परिचय	15hrs
Unit II	काव्य कौमुदी-सं. डॉ.एन.शाजी, डॉ. शीबा एम.आर, डॉ. मंजू ए. (राजपल एण्ड सन्स, दिल्ली) 1. किरण - जयशंकर प्रसाद 2. वह तोडती पत्थर - सूर्यकामत त्रीपाठी 'निराला' 3. मधुशाला - हरिवंशराय बच्चन 4. एकलव्य - कीर्ति चौधरी 5. मरने से नहीं डरता - चंद्रकांत देवताळे	15hrs

Unit III	6. मुक्ति – अरुण कमल 7. बेजगह – अनामिका 8. नालंदा के खंडहर – निर्मला गर्ग	1 hrs
Unit IV	अनुवाद कला कन्नड या अंग्रेजी से हिंदी में अनुवाद	15hrs

**Recommended books:**

1. काव्य कौमुदी-सं. डॉ.एन.शाजी, डॉ. शीबा एम.आर, डॉ. मंजू ए. राजपाल एण्ड सन्स, दिल्ली
2. हिंदी कविता – सं. कण्णूर विश्वविद्यालय, राधाकृष्ण प्रकाशन, जी-17, जगतपुरी, दिल्ली
3. नई कविता के प्रतिमान – लक्ष्मीकांत वर्मा, भारती प्रकाशन, इलाहाबाद
4. नई रचना और रचनाकार – डॉ. दयानंद शर्मा, अन्नपूर्णा प्रकाशन, कानपुर
5. नई कविता के सात अध्याय – डॉ. देवेश ठाकूर, संकल्प प्रकाशन, मुंबई
6. प्रयोजनमूलक हिंदी-डा-नरेश मिश्र, राजपाल एण्ड सन्स नई दिल्ली ।
7. प्रयोजनमूलक हिंदी-डा-बशीरुद्दीन मदरी, गीता प्रकाशन हैदराबाद
8. सरकारी कार्यालयों में हिंदी का प्रयोग-गोपिनाथ श्रीवास्तव, लोकभारती प्रकाशन।
9. प्रयोजनमूलक हिंदी- राष्ट्राभाषा प्रचार समिति, वर्धा।

<b>Formative Assessment for Theory</b>	
<b>Assessment Occasion/ Type</b>	<b>Marks</b>
InternalAssessmentTest1	<b>15</b>
InternalAssessmentTest2	<b>15</b>
Assignment	<b>10</b>
<b>Total</b>	<b>40</b>
<b>Formative Assessment as per guidelines.</b>	

**Course Title: 2.2 Understanding India Part- II (Indian Ethos and Knowledge Systems)**

**Course Code: IBEN2AB02T**

Type of Course	Theory / Practical	Credits	Formative Assessment Marks	Summative assessment Marks	Total Marks
AE&VAC-2	Theory	2	20	30	50

**Learning Outcomes:**

After the completion of the course, it is expected that the students will be able to:

- recognize the vast corpus of knowledge traditions of India, while developing an appreciation for it,
- apply their acquired research and critical thinking skills to multidisciplinary themes, and appreciate the diverse belief systems and knowledge traditions in India.
- discuss the formation and evolution of knowledge of India through a multidisciplinary lens.

**UNIT-I**

**Philosophy, Ethics & Values: Schools of Philosophy (4 Weeks)**

- A. Vaishesika, Nyaya, Samkhya, Yoga, Purva Mimansa and Vedanta or Uttara Mimansa (theory and the major thinkers) - and Jain, Buddhist, and Charvak traditions.
- B. Vedanta: Philosophical Systems (Advaita, Vishishtadvaita, Dvaita).
- C. Ethics, Morality, and Social Dilemma (including Self-Leadership) and their relevance in today's time.
- D. How do Indians value spirituality? Spirituality and Social Responsibility; Importance of Spirituality in current times.
- E. Using Ethics in a Technologically Volatile World: leading an ethical and modern life.

- F. Practical Vedanta for Well-Being (mindfulness, inter-connectedness, society-self relationship, etc.).

## UNIT-II

### Culture-Lifestyle (4 Weeks)

- A. Food (regional cuisines, Ayurvedic Diet, Food and Festival, Food, Hospitality, and Globalization).
- B. Clothes (Traditional Indian Clothing, Textile Arts, Religious Costumes, Clothing Status, Clothing, Gender, Globalization in Clothing).
- C. Sports (Traditional Indian Sports, Martial Arts, Sports and Gender, Sports & Globalization).
- D. The Lifestyle of Yoga; Adapting Ancient Lifestyle - A path towards longevity.

## UNIT-III

### Science & Technology (4 Weeks)

- A. Arithmetic and logic.
- B. Natural Sciences: Mathematics, Physics, Metallurgy, and Chemistry.
- C. Astronomy: India's Contributions to the World
- D. Indian Notions of Time and Space.
- E. Technology in the Economy: Agriculture, Transportation, etc.

## UNIT-IV

### Linguistic Traditions (3 Weeks)

- A. History of Linguistics in India (Conceptualizing Ancient Indian Linguistics, Oral Traditions, etc.).
- B. Language as Culture: Evolution of Languages over the years & Language as Building Blocks to different Cultures and Society
- C. C. Language: Identity, Culture, and History.

### Practicum:

The modes of curriculum transaction will include lectures, Tutorials, and Practicum.

Practicum will include organization of day trips that help student teachers watch events relating to visual and performing art; activities that enable student teachers to identify and record through photos, videos, etc. the elements of ancient architecture still existing in the city around them; organization of Individual and group presentations based on themes such as Polity, Law and Economy etc., organization of a 'Knowledge of India 'day in the institution to celebrate the

culture (food, clothes, etc.) that they would have been explored in lectures and tutorials; interactions with family members, elders, neighbours, and other members of society about the evolution of local systems and economy etc.

### **Mode of Transaction:**

The entire syllabus is based on practical exercises. Classroom interactions will include learner driven participatory sessions and Guest lectures through experts and practitioners such as fine arts and performing arts practitioners along with contemporary poets & writers of Indian literature. Also, it will include Screening of documentaries and films followed by a discussion; Learner-driven discussions in the form of focus group discussions (FGDs), Socratic Discussions etc.; Debate/discussion can be organized to explain India's Vaad tradition; discussion on how some of the ancient methods of teaching are relevant in today's time; discussions that help Identify ethical dilemmas in daily lives and understanding the importance of ancient ethics and values to resolve them.

### **Mode of Assessment:**

The approaches to learning assessment will include:

- Supporting the curiosity and interest of student teachers in the selected themes through a multi-modal approach, including regular assessments and actionable feedback that enable learners to outline and interpret the processes and events of the formation & evolution of knowledge of India through a multidisciplinary lens.
- Enabling the student teachers to demonstrate critical analysis and independent thinking of the processes and events in the formulation & evolution of different traditions that help student teachers evaluate the diverse traditions of India to distinguish its achievements and limitations.
- Use of first-hand or second-hand experiences that enable student-teachers to develop and articulate an ethics-based education rooted in Indian thought to their students in the classroom context.

The examination scheme and mode shall modify and/or evolve as per the guidelines of the Examination Board, Karnatak University Dharwad, from time to time.

<b>Formative Assessment for Theory</b>	
<b>Assessment Occasion/ type</b>	<b>Marks</b>
Internal Assessment Test 1	5
Internal Assessment Test 2	5
Assignment	10
<b>Total</b>	<b>20</b>
<i>Formative Assessment as per guidelines.</i>	

### **Suggestive Readings Material:**

Teachers may suggest books/readings as per the needs of the learners and learning content.

- Balasubramanian, R. (2000). Introduction. In Chattopadhyana, D. P. (Ed.), History of science, philosophy and culture in Indian civilization. Advaita Vedanta. [Vol. 2 (II)]. Centre for Studies in Civilizations.
- Bhagat, G. (1990, April-June). Kautilya revisited and re-visioned. The Indian Journal of Political Science. 31(2), 186-212.
- Bhattacharya, R. (2002). Carvaka fragments: A new collection. Journal of Indian Philosophy, 30, 597-640.
- Dharampal (2021). Indian science and technology in the eighteenth century: Some contemporary European accounts. Rashtrtthaana Sahitya.
- Dominik, W. (2001). The roots of ayurveda. Penguin Classics.
- Kangle, R. P. (2019). Kautiliya Artha sastra. Motilal Banarsidass Publishers Pvt. Ltd.
- Rangarajan, L. N. (1987). The Artha shastra. Penguin Books.
- Sen, S. N., & Shukla, K. S. (Eds.). (2000). History of astronomy in India (2 ed.). Indian National Science Academy.
- Sharma, S. (2023). Significance of ancient Indian sciences in contemporary education.
- Subbarayapa, B. V. (1982). Glimpses of science and technology in ancient and mediaeval India. Endeavour, 6(4), 177-182. [https://doi.org/10.1016/0160-9327\(82\)90073-4](https://doi.org/10.1016/0160-9327(82)90073-4)
- Tschurennev, J. (2019). Empire, Civil Society, and the Beginnings of Colonial Education in India, Cambridge University Press DOI: <https://doi.org/10.1017/9781108653374>

**Course Title: 2.3 Teacher and Society**

**Course Code: IBEN2AB03T**

Type of Course	Theory / Practical	Credits	Formative Assessment Marks	Summative assessment Marks	Total Marks
AE&VAC-3	Theory	2	20	30	50

**Learning Outcomes:**

After completion of the course, it is expected that the student teachers will be able to:

- examine the relationship between teacher beliefs, values, character, social and cultural context, and teaching critically.
- conceptualize teacher agency, its individual, contextual, and structural dimensions, and how it gets impacted and in turn shapes education.
- explain the teacher's roles and characteristics; the personal and professional self, the reflective practitioner, and their significant role in shaping self, school, and society,

- demonstrate a critical understanding of the Pedagogy of Ethic of Care in Teacher Education.
- reflect on Individual and collective pedagogical practices so as to improve learning and teaching,

**UNIT-I: Understanding the Teacher: Exploring the Personal and Professional Being (5 Weeks)**

- A. Exploring the Social Context of Teacher: Teacher Beliefs, Values and Aspirations, Diverse Identities, Social Contexts and Commitment to Learning and Education.
- B. Teacher as a Professional: Qualifications, Attitude, Aptitude, Experience.
- C. The Reflective Practitioner: Nurturing the Professional Competencies through Collaborative and Collective Engagement with Self, Others, and the Social Context.

**UNIT-II: Nurturing the Teacher: A Dialogue Beyond the Curricular Goals, for Life and Posterity (5 Weeks)**

- A. Teaching: One profession many roles.
- B. Holistic Teacher Development: Nurturing the Panchakoshas.
- C. Developing Pedagogy of Ethic of Care in Education.
- D. Being a Critical Teacher: Role of Teacher in Shaping the Educational Policy, Practice, and Reforms

**UNIT-III: Understanding Teachers' Agency: Shaping Education Systems and Society (5 Weeks)**

- A. Teachers' Agency: Individual, Cultural and Structural Dimensions; Challenges and Issues: Performativity, Non-academic Engagements, Systemic Apathy, Policy and Practices.
- B. Teacher Discourses: Engaging in Critical Education, Dialogues on Power Relations associated with Gender, Ethnicity, Culture, Disability, Caste, Class, Poverty: the Reproduction of Disadvantage, and Realizing the True Human Potential.
- C. Being a Critical Teacher: Raising Debates around Rapid Technological Advancement and Impact on Individual, Family, and Social Life.
- D. Conceptualization of Teacher, Teaching, and Teacher Roles, 'Globalization and the Reconstructed Nationalism Shaping the Socio-Political Milieu and Impact on the Social Psyche, Growing Materialistic Urge, Sensory Drives, and the Gradual Deterioration of the Individual and Societal Character.

**Practicum:**

Following are the suggestive practicals and activities. The teachers may design more tasks based on classroom interactions and discussions.

- Take up a case study of any one teacher education Institution.
- Write a biography of any one of your favorite teachers/ Educationists.

**Mode of Transaction:**

Teacher and Society is a reflection-based course that invites teachers to re-think teachers and teaching. It awakens and inspires teachers to realize broader educational aims through an action and reflection cycle. The approach therefore would include a blend of lectures, in-class seminars, thinking exercises, critical reflections, group work, case-based approaches, and enquiry-based learning.

- Learners would also be exposed to case studies featuring teachers from a representative cross-section of Schools in India and critically analyse their exercise of agentic force in school improvement and the improvement of teaching practice.
- Situating themselves in the geo-political context, the learners will get to critically engage in some of the policy dialogues.
- Learners would reflect on their practice as pre-service interns, knowledge, skills, and understandings-and identify opportunities to apply course learnings to their school context.

**Mode of Assessment:**

The entire syllabus is based on practical exercises. Being a very thought-provoking course, the assessment would largely include critical thinking kind of assignments. The following are some exemplars.

- Write your current teaching philosophy based on your beliefs and values.
- Choose any one area of immediate societal concern like environmental degradation, increasing crime against women, cybercrimes, bullying or any other and draw an action plan that you as a teacher would undertake to mobilize self, school and society towards betterment.
- Critical Reflections on popular debates around power relations associated with Gender, Ethnicity, Culture, Disability, Class. Poverty, and others

- These are just prototypes and institutes may choose either of these or think of other innovative assignments that would inculcate in future teachers a sense of belonging to society.

The examination scheme and mode shall modify and/or evolve as per the guidelines of the Examination Board, Karnatak University of Dharwad, from time to time.

### **Suggestive Reading Materials:**

Teachers may suggest books/readings as per the needs of the learners and learning content.

1. Ashton, K. (2021). Novice teacher agency in the multi-level language classroom. *Language, Culture and Curriculum*, 34(3), 242-256.
2. Axline, M.A. (2018). *Dibs: In Search of Self*. Lexington, Massachusetts: Plunkett Lake Press
3. Biesta, G., Priestley, M., & Robinson, S. (2015). The role of beliefs in teacher agency. *Teachers and Teaching: Theory and Practice*, 21(6), 624-640.
4. Dhanraj, S. (2023). In search of compassionate teachers. *Economic and Political Weekly*, Vol. 58, No. 40
5. Kumar, S. (2021). *Reflective practices and professional development in teaching*. Shipra Publication.
6. Kumar, S. (2023, January). Reconceptualizing teacher education from an emancipatory perspective. *Journal of Educational Planning and Administration*. 37(1), 31-45.
7. Lasky, S. (2005). A sociocultural approach to understanding teacher identity, agency and professional vulnerability in a context of secondary school reform. *Teaching and Teacher Education*, 21(8), 899-916.
8. Motta, S. C., & Bennett, A. (2018). Pedagogies of care, care-full epistemological practice and 'other' caring subjectivities in enabling education. *Teaching in Higher Education*, 23(5), 631-646. <https://doi.org/10.1080/13562517.2018.1465911>
9. National Council for Teacher Education (2022). *National professional standards for teachers*.
10. Rajan, K. M. (1997, January-March). Teachers' role in three organizational models. *New Frontiers in Education*, 27(1), 63-68.
11. Schon, D. A. (1983). *The reflective practitioner: How professionals think in action*. Basic Books.

12. Sharma, G. (2019). Policy and Regulatory Changes in Teacher Education in India: Concerns, Debates and Contestations. Economic and Political Weekly (Engage), Vol. 54, Issue No. 9, 02 Mar, 2019.

<b>Formative Assessment for Theory</b>	
<b>Assessment Occasion/ type</b>	<b>Marks</b>
Internal Assessment Test 1	5
Internal Assessment Test 2	5
Assignment	10
<b>Total</b>	<b>20</b>
<i>Formative Assessment as per guidelines.</i>	

### **B.A. B.Ed. (History) Credit Structure**

B.A. B.Ed. (History)	I	II	III	IV	V	VI	VII	VIII	Total	Grand Total
History(Major)	4(Core)	4(Core)	4(Core)	4(core)	4(Core)	Project/ Internship/Field work	--	--	48	80
	--	4(Core)	4(Core)	4(Core)	4(Core)/ 4(Elective- 1)	4(Elective 2)				

English (Indisciplinary-1)	4(Core)	4(Core)	4(Core)	4(Core)	--	--	--	--	16	
Geography (Indisciplinary-2)	4(Core)	4(Core)	4(Core)	4(Core)	--	--	--	--	16	
<b>Discipline Specific Total credits per Sem</b>	<b>12</b>	<b>16</b>	<b>16</b>	<b>16</b>	<b>12</b>	<b>08</b>			<b>80</b>	
Pedagogy of sub 1 (History)	--	--	4	2	2	2	--	--	16	16
Pedagogy of sub 2 (Social Science)				2	2	2				
<b>Credits from education (Other Major)</b>	<b>12</b>	<b>08</b>	<b>04</b>	<b>04</b>	<b>04</b>	<b>04</b>	<b>08</b>	<b>20</b>		<b>80</b>
<b>Total Credits Per Sem</b>	<b>24</b>	<b>24</b>	<b>24</b>	<b>24</b>	<b>20</b>	<b>20</b>	<b>20</b>	<b>20</b>		<b>176</b>

## **B.A. B.Ed. (History)**

### **I semester**

Code.No.	Course	Credits	Marks		Total Marks
			Internal	Theory	

<b>SIP- Two-week student Induction Programme</b>					
<b>Foundation Course of Education</b>					
IBHI1EDC01T	Evolution of Indian Education	4	40	60	100
<b>Discipline Specific Course</b>					
IBHI1DSC01T	History of India (From Earliest to the Satavahana)	4	40	60	100
IBHI1DSC02T	Introduction to Language, Linguistics, Literature and Culture	4	40	60	100
IBHI1DSC03T	Principles of Geomorphology	4	40	60	100
<b>Ability Enhancement &amp; Value-Added Courses</b>					
IBHI1AB01T	Language-I /English	4	40	60	100
IBHI1AB02T	Art Education (Performing & visual)	2	20	30	50
IBHI1AB03T	Understanding India (Indian Ethos & Knowledge systems)-I	2	20	30	50
<b>Total Credits</b>		<b>24</b>	<b>240</b>	<b>360</b>	<b>600</b>

## II Semester

Code.No.	Course	Credits	Marks		Total Marks
			Internal	Theory	
<b>Discipline Specific Course</b>					
IBHI2DSC01T	History of India(From Guptas To 1206 A.D.)	4	40	60	100
IBHI2DSC02T	History of India 1206 A.D. to 1526	4	40	60	100
IBHI2DSC03T	English Literature-Part 1 (From beginning to 1798)	4	40	60	100
IBHI2DSC04T	Principles of Climatology	4	40	60	100
<b>Ability Enhancement &amp; Value-Added Courses</b>					
IBHI2AB01T	Language-II /Kannada/Hindi	4	40	60	100
IBHI2AB02T	Understanding India (Indian Ethos & Knowledge systems)-II	2	20	30	50
IBHI2AB03T	Teacher And Society	2	20	30	50
<b>Total Credits</b>		<b>24</b>	<b>240</b>	<b>360</b>	<b>600</b>

# **Syllabus**

## **Semester I**

### **BA. B.Ed. (History)**

#### **Courses:**

- 1. Foundational Course of Education:**
  - 1.1 Evolution of Indian Education
- 2. Discipline Specific Course: DSC**
  - 2.1 History of India (From Earliest to the Satavahana)
  - 2.2 Introduction to Language, Linguistics, Literature and Culture
  - 2.3 Principles of Geomorphology
- 3. Ability enhancement & Value-Added Courses**
  - 3.1 Language-I /English
  - 3.2 Art Education (Performing & visual)
  - 3.3 Understanding India - I (Indian Ethos & Knowledge systems)

## 1. Foundational Course of Education:

**Course Title: 1.1 Evolution of Indian Education**

**Course code: IBHI1EDC01T**

Type of Course	Theory / Practical	Credits	Formative Assessment Marks	Summative assessment Marks	Total Marks
FCE-1	Theory	4	40	60	100

### Learning Outcomes:

After completion of this course, it is expected that the student teachers will be able to:

- discuss and understand the genesis, vision and evolution of education in India from ancient to contemporary times.
- critically revisit colonial education and its impact on the contemporary Indian education system.
- enable them to shape their educational perspective to act as an effective teacher.
- locate themselves in the larger system of education in India while discussing the contribution of Indian thinkers
- develop a road map for futuristic education system in India for addressing the need of local and global context.

### UNIT-1: Ancient Indian Education: Vedic Period (2 Weeks)

- A. Vision, Objectives, and Salient Features of the Vedic Education System.
- B. Teaching and Learning Process during Vedic Period
- C. Forms and Development of Educational Institutions and Organizational Practices.
- D. Understanding Guru Shishya Parampara

## **UNIT-II: Ancient Indian Education: Buddhist and Jain Period (2 Weeks)**

- A. Buddhist and Jain Education System: Vision, Objective and Salient Features
- B. Teaching -Learning and Curricular Practices during the Buddhist, Jain and Sangam Periods
- C. Finance and Management of Educational Institutions.
- D. Contribution of Educational Institutions: Nalanda, Taxila, Vikramshila, Vallabhi.

## **UNIT-III: Post-Gupta Period to Colonial Period (2 Weeks)**

- A. Brief Historical Development and Salient Features of Education in this Era
- B. Educational Systems: Nadia, Home-Education, Pathshalas, Tols, Maktab, Chatuspadis and Gurukuls etc.
- C. Pedagogical Inquiry. Community and Its Interface.
- D. Finance and Management: Critical Analysis of the Role of Dynasties with reference to Educational Institutions.

## **UNIT IV: Modern Indian Education (9 Weeks)**

- A. Colonial Education in India:  
Critical Examination of Wood's Dispatch and Macaulay Minutes; Colonization of Education in India.
- B. Swadeshi and Nationalist attempts at Educational Reforms and Contribution of Indian Thinkers (with reference to Objectives of Education, Curriculum and Pedagogy):

Savitribai and Jyotiba Phule, Swami Vivekananda, Pt. Madanmohan Malaviya, Sir Syed Ahmad Khan, Rabindranath Tagore, Mahatma Gandhi, Sri Aurobindo, Gijubhai Badheka, Jiddu Krishnamurti and Dr. Bhim Rao Ambedkar

- C. Education in Independent India
  - Constitutional Values and Educational Provisions.
  - Educational Committees, Commissions and Policies with specific reference to the Kothari Commission, National Policy on Education 1968; National Policy on Education 1986 and its Plan of Action 1992.
  - Educational Planning and Organisation Critical review and impact of DPEP, SSA UEE, RMSA, RTE Act 2009.
  - NEP 2020: Futuristic Vision for Education in India.

**Practicum:**

Following are the suggestive practicals and activities. The teachers may design more tasks based on classroom interactions and discussions.

- Prepare a report highlighting the significance of educational reforms in School education in the light of NEP 2020.
- Critically analyze the role of education in understanding the concept of citizenship for democracy.
- Compare the vision, objectives, and salient features of education during different periods.
- Design a plan of action to develop awareness/attitude/practices related Fundamental Rights/Fundamental duties/Democratic Citizenship.
- Sharing of student experiences (in groups) related to establishing Indian constitutional values through School Education and the need for dynamic and vibrant School Ethos.
- Survey of strengths and limitations of educational institutions of one's own locality.
- Visit to places of educational significance.
- Design activities for developing awareness, attitudes, skills, and participatory values to negotiate diversity in the classroom.

**Mode of Transaction:**

The course content transaction will include the following:

- Planned lectures infused with multimedia/PowerPoint presentations.
- Small group discussion, panel interactions, small theme-based seminars, group discussions, cooperative teaching and team teaching, selections from theoretical readings, case studies, analyses of educational statistics and personal field engagement with educationally marginalized communities and groups, through focus group discussions, surveys, short-term project work, etc,
- Hands-on experience of engaging with diverse communities, children, and schools.

**Mode of Assessment:**

The examination scheme and mode shall be as prescribed by the Examination Board, Karnatak University, Dharwad. from time to time.

<b>Formative Assessment for Theory</b>	
<b>Assessment Occasion/ Type</b>	<b>Marks</b>
InternalAssessmentTest1	<b>15</b>
InternalAssessmentTest2	<b>15</b>
Assignment	<b>10</b>
<b>Total</b>	<b>40</b>
<b>Formative Assessment as per guidelines.</b>	

### Suggestive Reading Materials:

Teachers may suggest books/readings as per the needs of the learners and learning content.

- Arora, P., & Gandhi, H. (2021). National education policy 2020: Paving the ways for transformational reforms. Shipra Publications.
- Dash, B. N. (2009). Thoughts and theories of Indian educational thinkers. Dominant Publishers and Distributors.
- Desai, S. & Amaresh, D. (2011). Caste in the 21st century India: competing narratives. Economic and Political Weekly, Vol. 46, No. 11
- Dutt, M. N. (2008). Mahabharata: Santi parva (Vol. 7). Parimal Publications.

## 2. Discipline Specific Course: DSC

**Course Title: 2.1 HISTORY OF INDIA (From Earliest to the Satavahana)**

**Course code IBHI1DSC01T**

Type of Course	Theory / Practical	Credits	Formative Assessment Marks	Summative assessment Marks	Total Marks
DSC-1	Theory	4	40	60	100

**Course Outcomes: At the end of the course students will be able to:**

- The Literary and Archaeological Sources and the influence of Geographical factors
- The development of Cultures; Towns, Trade and Economy, Religion and Literature.
- The rise and spread of Jainism and Buddhism and establishment of early dynasties and their contributions

Unit	Title: HISTORY OF INDIA (From Earliest to the Satavahana)	75 hrs/ sem
Unit I:	<b>Reconstructing Ancient Indian History</b> <ul style="list-style-type: none"><li>• Introduction-Understanding the History of India.</li><li>• Geographical Features of India</li><li>• Sources and tools of historical reconstruction- Archaeological &amp; Literary.</li></ul>	15Hrs
Unit II:	<b>Pre-historic Period</b> <ul style="list-style-type: none"><li>• Paleolithic Culture- sequence and distribution; stone industries and other technological developments.</li><li>• Mesolithic Cultures- regional and chronological distribution; new developments in technology and economy; rock art.</li><li>• Neolithic and Chalcolithic Cultures: The advent of food production Understanding the regional and chronological distribution of the Neolithic and Chalcolithic cultures.</li></ul>	15 Hrs
Unit-III	<b>Expansion of Civilization &amp; Culture</b> <ul style="list-style-type: none"><li>• The Harappan/Indus Valley Civilization- Extent of the Civilization, Different Phases, Towns &amp; town planning, citadel; agricultural technologies; Bricks, Beads, Bones (craft productions) and trade, seals, script, weights, the end of the civilization. Problems of interpretation</li></ul>	15 Hrs

	<ul style="list-style-type: none"> <li>• Early Vedic Culture- Origin of the Aryans, and their settlements, contribution to literature, Polity, Economy, Society &amp; Religion</li> <li>• Later Vedic Culture and Cultural Contributions- literature, Polity, Economy, Society &amp; Religion</li> </ul>	
<b>Unit-IV</b>	<p><b>State Formation in Ancient India</b></p> <ul style="list-style-type: none"> <li>• Pre- Mauryan History- Republics and 16 Mahajanapadas in Ancient India</li> <li>• Growth of Jainism &amp; Buddhism- Life &amp; teachings of Mahaveera &amp; Gautama Buddha, Causes for the spread &amp; Decline of Jainism &amp; Buddhism</li> <li>• The Mauryan Empire- Origin- Early rulers- Chandra Gupta Maurya - Administration, Asoka-Kalinga War, Buddhism, Buddhist Council, Dhamma, Growth of Mauryan Art. Asokan inscriptions- Their contribution to Religion, Literature, Art and Architecture.</li> </ul>	<b>15 Hrs</b>
<b>Unit-V</b>	<p><b>Post Mauryan Period/ Changing political formations (circa 300 BCE to circa CE 300):</b></p> <ul style="list-style-type: none"> <li>• Kushanas- Political History-Kanishka and their cultural Contributions.</li> <li>• The Satavahanas- origin- Early rulers- Gautami Putra Sathakarni-their Contribution to Religion, Literature, Arts &amp; Architecture.</li> <li>• Map Study: <ul style="list-style-type: none"> <li>➤ Mark the important towns of Harappan Civilization and write their historical importance</li> <li>➤ Mark the important places of Ashokan Edicts found in India and write a short note about them.</li> </ul> </li> </ul>	<b>15Hrs</b>

**Recommended Books :**

1. Thapar Romila : History of India Vol-I. Penguin Books India Pvt.Ltd., New Delhi-2000.
2. Majumdar R.C.: Ancient India. Motilal Banarsidas Delhi, Reprinted:2017
3. Lunia B.N. : Evolution of Indian Culture. Lakshmi Narayan Agarwal, Agra. 1960.
4. Jha D. N. : Ancient India- An Introductory. Rawat Publishers, Jaipur.1977
5. Khurana K.L: Ancient India. Lakshmi Narayan Agarwal, Agra. 2011.
6. Das S.K.: The Economic History of Ancient India. Vohra Publishers, Allahabad. 2007.
7. Sharma R.S.: Material Culture and Social formations in Ancient India. Macmillan India Ltd. Delhi. 2007.
8. Sharma R.S. : India's Ancient Past. Oxford University Press. New Delhi. 31st impression 2018.
9. Bashyam A.L. : The wonder that was India, Vol-I. Picador Pan Macmillan Publisher Ltd. London. 2004.
10. Bridget & Raymond Allchin : The rise of Civilization in India and Pakistan. Cambridge University Press. Foundation books Delhi, First South Asia Edition 2011.

<b>Formative Assessment for Theory</b>	
<b>Assessment Occasion/ Type</b>	<b>Marks</b>
InternalAssessmentTest1	<b>15</b>
InternalAssessmentTest2	<b>15</b>
Assignment	<b>10</b>
<b>Total</b>	
<b>Formative Assessment as per guidelines.</b>	

## Course Title: 2.2 Introduction to language, Linguistics, Literature and Culture

Course Code: IBH11DSC02T

Type of Course	Theory / Practical	Credits	Formative Assessment Marks	Summative assessment Marks	Total Marks
DSC-2	Theory	4	40	60	100

### Course Outcomes:

At the end of the course students will be able to:

- Get introduced to the concept of Language, Linguistics, Literature and culture
- Understand various forms and terms of Literature.
- Distinguish Literature and its relation to various disciplines
- Acquire knowledge of linguistics and origin of languages
- Discern cultural aspects in literature
- Comprehend forms and terms of literature
- Obtain basic knowledge of language, literature and culture

Unit	Title: Introduction to Language, Linguistics, Literature and Culture	75 hrs/ sem
<b>Unit I</b>	Introduction to the Study of Language. What is language? Meaning, definitions and significance Characteristics of Language Origin and Development of Human Languages Language and Culture	<b>15hrs</b>
<b>Unit II</b>	Introduction to Linguistics Meaning, Definitions, Scope, levels and branches of Linguistics Phonetics and Phonology, Speech Mechanism, Vowels and Consonants, Transcription of Words and Word Stress, Phoneme, allophones Morphology- morpheme, allomorphs, free morphemes and bound morphemes, affixes and word building Syntax- Types of Sentences, IC analysis, Clauses, phrases Semantics- Types of Meaning, hyponymy, synonymy, antonym, entailment	<b>15 hrs</b>

<b>Unit III</b>	<p>Introduction to Literature          What is literature? Why study literature? Literature and Life, Literature and Society</p> <p><b>Literary Forms</b>  <b>Poetry:</b> Lyric, Sonnet, Ballad, Epic, Elegy, Mock-Epic  <b>Prose:</b> Novel, Novella, Short Story, Essay, Biography, Autobiography  <b>Drama:</b> Comedy, Tragedy, Tragi-comedy, One-act-play,</p> <p><b>Literary Terms:</b>          Couplet, Allegory, Alliteration, Assonance, Refrain, aside, monologue, soliloquy, meta fiction, plot, character, setting, narrative technique, farce, simile, metaphor, personification, hyperbole, satire, prologue, epilogue. Art for Art's sake, Expressionism, Metre and Metrical Devices, Classicism, Romanticism, Realism, Naturalism, Canon,</p>	<b>15 hrs</b>
<b>Unit IV</b>	<p>Introduction to Study of Culture          Meaning of Culture, The idea of Culture, Culture and the Media 'Towards a Definition of Culture', in India and World Culture (New Delhi: Sahitya Academy, 1986).          Media Culture and Cultural Studies – Pramod Nayar          Key Concepts : Ideology, identity, Subaltern, Modernity, Representation</p>	<b>15 hrs</b>
<b>Unit V</b>	<p>1. "A Different History" (Poem) Sujata Bhatt          2. I Too (Poem) – Langston Hughes          3. Shooting an Elephant – George Orwell          4. The Silent Rattle – Basu Bevinagidad          5. Spoken English and Broken English – G B Shaw</p>	<b>15 hrs</b>

**Recommended books:**

1. Baldick, Chris. The Oxford Dictionary of Literary Terms, OUP, 2001.
2. Bate, Jonathan. English Literature : A Very Short Introduction, OUP.
3. Bennett, Andrew. An Introduction to Literature, Criticism and Theory Routledge
4. Eagleton, Terry. How to Read Literature. Yale University Press
5. Eaglestone, Robert. Doing English; A guide for Literature Students, Routledge, 2000.
6. Hudson, William Henry. An Introduction to the Study of Literature New Delhi Atlantic, 2007.
7. Mehrotra, Arvind. Ed., An Illustrated History of Indian Literature in English, Orient Blackswan 2005.

<b>Formative Assessment for Theory</b>	
<b>Assessment Occasion/ Type</b>	<b>Marks</b>
InternalAssessmentTest1	<b>15</b>
InternalAssessmentTest2	<b>15</b>

Assignment	10
<b>Total</b>	<b>40</b>
<b>Formative Assessment as per guidelines.</b>	

**Course Title: 2.3 Principles of Geomorphology**

**Course Code: IBHI1DSC03T**

Type of Course	Theory / Practical	Credits	Formative Assessment Marks	Summative assessment Marks	Total Marks
DSC-3	Theory	4	40	60	100

**Course Outcomes:**

At the end of the course students will be able to:

- To Define the Geomorphology and to explain the essential principles of it.
- To outline the mechanism of dynamic nature of the Earth's surface and interior of the Earth.
- To illustrate and explain the forces affecting the crust of the earth and its effect on it.
- To understand the conceptual and dynamic aspects of landform development.
- To understand the principles of geomorphology thoroughly and explain them.

Unit	Title: Principles of Geomorphology	60 hrs/sem
<b>Unit I</b>	Introduction to geography: physical and human geography. Introduction to Geomorphology: meaning, nature, development and scope. Principles of Geomorphology and Geological Time Scale. Distribution of continents and oceans.	<b>15 hrs</b>
<b>Unit II</b>	Internal structure of the earth. Alfred Wegener's Continental Drift. Theory of Isostasy: Views of Pratt and Airy Convectional Current Theory and Concept of Sea floor Spreading. Theory of Plate Tectonics: plate boundary, subduction. Case Studies: Volcano, Earthquake: reporting of latest incidents.	<b>15 hrs</b>

<b>Unit III</b>	Earth's Movements: Endogenetic and Exogenetic forces, Sudden and Diastrophic movements- Epeirogenetic and Orogenetic Movements- Process of folding and faulting. Vulcanicity and earthquake Rocks: Characteristics, types, importance and rock cycle. Weathering: meaning, types and controlling factors. Mass Movement: meaning, controlling factors, types-landslides and rock-falls.	<b>15 hrs</b>
<b>Unit IV</b>	Landforms: meaning, types and factors controlling landforms development Slope development: concept and types. Concept of Cycle of Erosion–W.M. Davis and W. Penck. Agents of Denudation: river; drainage patterns, groundwater, Sea waves, Wind and Glaciers and resultant landforms. Application of geomorphology: in India and Karnataka (Regional planning, Urban planning and transportation, Mining, Hazard management, Agriculture and Environmental management).	<b>15 hrs</b>

**Books recommended: Text Books:**

1. Ahmed E. (1985) Geomorphology, Kalyani Publishers, New Delhi.
2. Bloom A.L. (1978) Geomorphology: A Systematic Analysis of Late Cenozoic Landforms Prentice – Hall of India, New Delhi.
3. P Mallappa, Physical Geography (Kannada Version)
4. Ranganath Principles of Physical Geography (Kannada Version)
5. Nanjannavar S S: Physical Geography (Kannada Version)
6. Hugar M R Physical Geography part-1(Kannada Version)
7. Goudar M B, Physical Geography (Kannada Version)
8. Kolhapure and S S Nanjan, Physical Geography (Kannada Version)

**References:**

1. Brunnsden D. (1985) Geomorphology in the Service of Man: The Future of Geography, Methuen, U.K.
2. Chorley, R.J., Schumm, S. A. and Sugden, D.E. 1984: Geomorphology, Methuen, London
3. Cooke, R.U. and Warren, 1973: Geomorphology in Deserts, Batsford, London
4. Dayal, P. 1996: Textbook of Geomorphology, Shukla Book Depot, Patna
5. Goudie Anrew et.al. (1981) Geomorphological Techniques, George Allen & Unwin, London.
6. Homes A. (1965) Principles of Physical Geology, 3rd Edition, ELBSS Edn.
7. Strahler A.N. (1968) The Earth Sciences, Harper & Row Intl. Edn, New York
8. Thornberry W.D. (1969) Principles of Geomorphology 2nd Edition, Wiley Intl. Edn. & Wiley, 1984.
9. Verstappen H. (1983) Applied Geomorphology, Geomorphological Surveys for Environmental Development, Elsevier, Amsterdam.

**Websites:**

<https://www.solarviews.com/eng/earth.htm>

<https://www.moorlandschool.co.uk/earth/tectonic.htm>

<b>Formative Assessment for Theory</b>	
<b>Assessment Occasion/ Type</b>	<b>Marks</b>
InternalAssessmentTest1	<b>15</b>
InternalAssessmentTest2	<b>15</b>
Assignment	<b>10</b>
<b>Total</b>	<b>40</b>
<b>Formative Assessment as per guidelines.</b>	

### 3. Ability enhancement & Value-Added Courses (AE&VAC)

**Course Title: 3.1 Language: English 1 Art Vision**

**Course Code: IBHI1AB01T**

<b>Type of Course</b>	<b>Theory / Practical</b>	<b>Credits</b>	<b>Formative Assessment Marks</b>	<b>Summative assessment Marks</b>	<b>Total Marks</b>
<b>AE&amp; VAC-1</b>	<b>Theory</b>	<b>4</b>	<b>40</b>	<b>60</b>	<b>100</b>

#### **Course Outcomes:**

- CO1: Acquire the knowledge of English prose and poetry
- CO2: Acquire the knowledge of parts of speech
- CO3: Appreciate the nuances of English poetry and prose
- CO4: Use proper articles, prepositions and forms of verbs
- CO5: Use appropriate tense forms in sentences
- CO6: Acquire basic language skills

<b>Unit</b>	<b>Title: English 1 Art Vision</b>	<b>60 hrs/sem</b>
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<b>Unit I Prose</b>	1. The Secret of Work – Swami Vivekanand 2. Salta Pro Nobis – John Galsworthy 3. The Umbrella - Guy de Maupassant 4. The Gold Watch – Mulk Raj Anand 5. Florence Nightingale – Abrar Mohsin	<b>15 hrs</b>
<b>Unit II Poetry</b>	1. Kublakhan – S. T. Coleridge 2. In the Bazaars of Hyderabad – Sarojini Naidu 3. Paper Boat- Rabindranath Tagore 4. Sonnet 18 – William Shakespeare 5. Refugee Mother and Child – Chinua Achebe	<b>15 hrs</b>
<b>Unit III Grammar</b>	1. Parts of Speech (With special emphasis on Verbs, Adverbs, adjectives and Prepositions) 2. Use of Articles in English 3. Cloze Test	<b>15 hrs</b>
<b>Unit I</b>	1. Tenses – (Special emphasis on Simple Present, Present Continuous and Simple Past Tense) 2. Reading Skills – Meaning, Types , Techniques 3. Synonyms and Antonyms	<b>15hrs</b>

1. **Text Books: Art Vision: An Anthology of Poetry and Prose**, ed Board of Editors, Ravindra Publications, Hyderabad

**Suggested Reading:**

2. R. P. Singh's *Functional Skills in Language and Literature*, OUP  
3. Murphy, Raymond. *Intermediate English Grammar*. Cambridge Univ. Press.  
4. Wren and Martin. *High School English Grammar and Composition*.

<b>Formative Assessment for Theory</b>	
<b>Assessment Occasion/ type</b>	<b>Marks</b>
Internal Assessment Test 1	15
Internal Assessment Test 2	15
Assignment	10
<b>Total</b>	<b>40</b>
<i>Formative Assessment as per guidelines.</i>	

**Course: 3.2 Art Education (Performing and Visual)**

**Course code: IBHI1AB02T**

Type of Course	Theory / Practical	Credits	Formative Assessment Marks	Summative assessment Marks	Total Marks
AE& VAC-2	Theory	2	20	30	50

**Learning Outcomes:**

After completion of this course, it is expected that the students will be able to:

- articulate the importance and the role of aesthetics and art in education;
- understand the medium of collage and its versatility;
- design, plan, and create an expressive self-portrait collage by applying a variety of collage techniques;
- design and set up an interactive visual art exhibition to display their artworks;
- understand and appreciate art-based learning experiences;
- develop the ability to reflect and challenge their assumptions and beliefs around art and develop new understandings.

### **UNIT-1: Understand the Importance of Aesthetics and Art in Education (1 Week)**

Students will collectively view and engage in a series of artworks closely share their observations critically analyze their observations, listen to multiple perspectives from peers suspend judgements and draw their own understanding of the artwork. They will gain familiarity with the role of art in education and will recognize aesthetic experiences through compare and contrast.

- A. Introduction to Art and Aesthetics.
- B. Visual Thinking Strategy (VTS) Activity.
- C. Learning Art Forms (Warli, Madhubani, Gond Art and Others) - Any One.
- D. Art as Self-Expression and its Application in Education.

### **UNIT-II: Exploring paper collage and its techniques (2 Weeks)**

Students will view and discuss examples of collage artworks; artist process and artist interview videos Students will get a chance to compare and contrast various ways collage as a medium is used and will engage in discussions and dialogues. Students will analyze effective ways of using the medium of collage in educational and other settings.

- A. Introduction to Collage and its Medium (Newspaper, Fabric, Ribbon, Coins, Feathers and others).
- B. Manipulating Paper in Different Ways and Creating 2-D Composition of Paper Collage.
- C. Creating Visual Texture, Physical Texture and Patterns Using Techniques Like (Decoupage, Photomontage, And 3 -D).

### **UNIT-III: Ideating and creating for an Expressive Self-Portrait (7 Weeks)**

Students will engage in art making activities. Students will draw from their previous experiences of using paper for 2D explorations and add more interest to their unique 3D explorations. Students will continuously reflect on their learning through artwork. Students will work independently and collaboratively throughout the course.

- A. Making Paper Stand and Create Paper Sculpture Using 3-D Techniques (Like Paper - Cutting, Paper Folding, Clay, Paper- Mache).

- B. Engaging in Close Observation Sketching and Drawing Activity (Self- Portrait, Poster, Calligraphy).
- C. Expressive Self- Portrait Drawing and Collage

**UNIT-IV: Designing and setting up an Exhibition (5 Weeks)**

Designing, Planning and Setting Up an Art Exhibition.

**Pedagogy:**

Students will be planning the various aspects of a visual art exhibition: ways to display artworks, designing the layout of the exhibition space and how the audience will move within the space. Students will divide the tasks among themselves and set up the exhibition space.

**Mode of Transaction:**

The entire syllabus is based on practical exercises. The nature and scope of activities and tasks are explained in each unit.

**Mode of Assessment:**

The examination scheme and mode shall modify and/or evolve as per the guidelines of the Examination Board, Karnatak University Dharwad, from time to time.

**References:**

- Veerswar, P. & Sharma, N. (2001). Aesthetics. Krishna Prakashan Media.
- Sharma, L.C. (1980). A brief history of Indian painting. Goal publishing house.
- Chandok, A. (2015). Art and education. Nirmal Publishing House.
- Prasad, D. (1998). Art as the basis of education. NBT.
- Ghosh, S. (2020). Madhubani painting-vibrant folk art of Mithila. Art and Design Review, 8(2), 61-78.
- Mishra, S. (2021). Journey of folk art: The case of Mithila painting of Bihar. Journal of Engineering Technologies and Innovative Research, 8(3), 61-78.

Formative Assessment for Theory	
Assessment Occasion/ type	Marks
Internal Assessment Test 1	5

Internal Assessment Test 2	5
Assignment	10
<b>Total</b>	<b>20</b>
<i>Formative Assessment as per guidelines.</i>	

**Course Title: 3.3 Understanding India Part- I (Indian Ethos and Knowledge Systems)**

**Course Code: IBHI1AB03T**

Type of Course	Theory / Practical	Credits	Formative Assessment Marks	Summative assessment Marks	Total Marks
AE& VAC-3	Theory	2	20	30	50

**Learning Outcomes:**

After the completion of the course, it is expected that the students will be able to:

- recognize the vast corpus of knowledge traditions of India, while developing an appreciation for it,
- apply their acquired research and critical thinking skills to multidisciplinary themes, and appreciate the diverse belief systems and knowledge traditions in India.
- discuss the formation and evolution of knowledge of India through multidisciplinary lens.

#### **UNIT-1: Introduction to the Knowledge of India (2 Weeks)**

- A. Definition & Scope; Relevance of this Knowledge.
- B. Need to revisit our Ancient Knowledge, Traditions, and Culture.

#### **UNIT-II: Culture-Art and Literature (4 Weeks)**

- A. Fine Arts (Traditional Art Forms, Contemporary Arts, Arts and Spirituality, Arts Identity, and Art and Globalization): and.
- B. Performing Arts (Indian Dance Systems, Traditional Indian Pieces of Music, Visual Arts, Folk Arts, etc.,)
- C. Literature (Sanskrit Literature, Religious Literature, Indian Poetry, Folk Literature, Indian Fiction, Sangam Literature, Kannada, Malayalam Literature, Bengali Literature, etc.

#### **UNIT-III: Polity, Law and Economy (5 Weeks)**

- A. Kingship & Types of Government (Oligarchies, Republics); Local Administration (Village Administration);
- B. Basis of Law: Dharma & its sources; Criminal Justice: Police, and Punishments; Lessons from Chanakya Niti; Lessons for modern-day India: Towards a Tradition-Driven Equitable and Just Polity and Law System.
- C. Overview of the Indian Economy from the Stone Age to the Guptas: The new culture of Urbanization (including Castes, Guilds, and other Economic Institutions; Harappan Civilization Economy; Growth of Agriculture and Proliferation of New Occupations: Growth of Writing);
- D. Internal & External Trade and Commerce, including Trade Routes, Indo-Roman Contacts, and Maritime Trade of South India; Temple Economy.
- E. Land Ownership - Land Grants & Property Rights, Land Revenue Systems.
- F. Understanding Artha shastra: Ideas & Criticism; Locating Relevance of Ancient Indian Economic Thought in Modern-Day Indian Economy.
- G. Understanding Economy, Polity and Law in Contemporary India.

#### **UNIT-IV: Environment & Health (4 Weeks)**

- A. Understanding Equilibrium between Society & Environment: Society's Perceptions Natural Resources like Forests, Land, Water, and Animals.

- B. Sustainable Architecture & Urban Planning; Solving Today's Environmental Challenges (Best Practices from Indigenous Knowledge, Tribes and Community-Led Efforts, etc.).
- C. India's Health Tradition: Ayurveda, Siddha, Ashtavaidya, Unani, and other Schools of Thought; Lessons from Sushruta Samhita and Charaka Samhita:
- D. Mental health in Ancient India: Towards Time-Tested Concepts of Mental Wellness (Concept of Mind, Dhyana, Mind-Body Relationship, Ayurveda, Yoga Darshan, Atman, etc.)

**Practicum:**

The modes of curriculum transaction will include lectures, Tutorials, and Practicum.

Practicum will include organization of day trips that help student teachers watch events relating to visual and performing art; activities that enable student teachers to identify and record through photos, videos, etc. the elements of ancient architecture still existing in the city around them; organization of Individual and group presentations based on themes such as Polity, Law and Economy etc., organization of a 'Knowledge of India' day in the institution to celebrate the culture (food, clothes, etc.) that they would have been explored in lectures and tutorials; interactions with family members, elders, neighbours, and other members of society about the evolution of local systems and economy etc.

**Mode of Transaction:**

The entire syllabus is based on practical exercises. Classroom interactions will include learner driven participatory sessions, and Guest lectures through experts and practitioners, such as fine arts and performing arts practitioners along with contemporary poets & writers of Indian literature. Also, it will include Screening of documentaries and films followed by a discussion; Learner-driven discussions in the form of focus group discussions (FGDs), Socratic Discussions, etc.; Debate/discussion can be organized to explain India's Vaad tradition: discussion on how some of the ancient methods of teaching are relevant in today's time; discussions that help Identify ethical dilemmas in daily lives and understanding the importance of ancient ethics and values to resolve them.

**Mode of Assessment:**

The approaches to learning assessment will include:

- Supporting the curiosity and interest of student teachers in the selected themes through a multi-modal approach, including regular assessments and actionable feedback that enable learners to outline and interpret the processes and events of the formation & evolution of knowledge of India through a multidisciplinary lens.

- Enabling the student teachers to demonstrate critical analysis and independent thinking of the processes and events in the formulation & evolution of different traditions that help student teachers evaluate the diverse traditions of India to distinguish its achievements and limitations.
- Use of first-hand or second-hand experiences that enable student-teachers to develop and articulate an ethics-based education rooted in Indian thought to their students in the classroom context.

The examination scheme and mode shall modify and/or evolve as per the guidelines of the Examination Board, Karnatak University Dharwad, from time to time.

### **Suggestive Readings Material:**

Teachers may suggest books/readings as per the needs of the learners and learning content.

- Altekari, A.S. (2009). Education in Ancient India. New Delhi: Gyan Publishing House. (Originally published in 1944 by Osmania University. Nand Kishore & Bros.
- Dominik, W. (2001). The roots of ayurveda. Penguin Classics.
- Mahadevan, B., Bhat, R.V. & Nagendra, P.R.N. (2021). Introduction to Indian knowledge system: Concepts and applications. PHI Learning Pvt. Ltd.
- Nehru, J (1946). The Discovery of India. UK: Meridian Books. Reprinted (2008) by Penguin.
- Sinha, A. (1998). Design of settlements in the vastu shastras. Journal of Cultural Geography, 17(2), 27-41.
- Swami Suparnananda (2016). The Cultural Heritage of India (Vol. 2). The Rama Krishna Mission Institute of Culture.
- Tachikawa, M. (1971). A sixth-century manual of Indian logic: A translation of the Nyayapravesa. Journal of Indian Philosophy, 1(2), 111-145.

<b>Formative Assessment for Theory</b>	
<b>Assessment Occasion/ type</b>	<b>Marks</b>
Internal Assessment Test 1	5
Internal Assessment Test 2	5
Assignment	10
<b>Total</b>	<b>20</b>
<i>Formative Assessment as per guidelines.</i>	

## **Semester II**

## **BA. B.Ed. (History)**

### **Courses:**

- 1. Discipline Specific Course: DSC**
  - 1.1 History of India (From Guptas to 1206 A.D.)
  - 1.2 History of India 1206 A.D. to 1526
  - 1.3 English Literature-Part 1 (From beginning to 1798)
  - 1.4 Principles of Climatology
  
- 2. Ability enhancement & Value-Added Courses**
  - 2.1 Language-II /Kannada/Hindi
  - 2.2 Understanding India -II (Indian Ethos & Knowledge systems)
  - 2.3 Teacher And Society

**Course Title: 1.1 History of India (From Guptas to 1206A.D.)****Course Code: IBHI2DSC01T**

Type of Course	Theory / Practical	Credits	Formative Assessment Marks	Summative assessment Marks	Total Marks
DSC-1	Theory	4	40	60	100

**Course Outcomes:**

At the end of the course students will be able to:

- The rule of Gupta and Vardhana empires and the consolidation various dynasties in South India
- The development of science, technology, literature and architecture of our ancient past.
- Foreign invasions on Northern India and rise of early Philosophies and Sects.

Unit	Title: HISTORY OF INDIA (From Guptas to 1206 A.D.)	75 hrs/sem
<b>Unit I:</b>	<b>Establishment of Empire &amp; Kingdoms:</b>	<b>15Hrs</b>
	<ul style="list-style-type: none"> <li>• Reconstructing the History of Medieval India- Sources - Archaeological &amp; Literary</li> </ul>	
	<ul style="list-style-type: none"> <li>• The Gupta Empire- Brief Political History with special reference to Samudra Gupta- Golden Age of the Guptas-Growth of Literature, Science, Art &amp; Architecture</li> </ul>	
	<ul style="list-style-type: none"> <li>• Vardhana Dyansty-Early Rulers-Achievements of Harshavardhana, Their Contribution to Religion, Literature, Art and Architecture.</li> </ul>	
<b>Unit II:</b>	<b>Early Dynasties in Karnataka:</b>	<b>15 Hrs</b>
	<ul style="list-style-type: none"> <li>• The Kadambas- Political History- Mayuravarma- Literature, Art, Architecture, The Chalukyas of Badami – Early Rulers-Pulakesi II –Their Contribution to Art &amp; Architecture, Education and Literature</li> </ul>	
	<ul style="list-style-type: none"> <li>• The Rashtrakutas- Early Rulers – Dhruva, Govinda-III, Amoghavarsha-I, Krishna-III,</li> </ul>	
	<ul style="list-style-type: none"> <li>• Cultural Contributions of the Rashtrakuta - Religion, Education, Literature, Art and Architecture</li> </ul>	
<b>Unit-III</b>	<b>Dynasties in South India:</b>	<b>15Hrs</b>
	<ul style="list-style-type: none"> <li>• The Sangama Age-Literature and Society</li> </ul>	
	<ul style="list-style-type: none"> <li>• The Pallava Political History- Mahendravarma-I, Narasimhavarma-I</li> </ul>	
	<ul style="list-style-type: none"> <li>• The Art &amp; Architecture of the Pallavas- Temples, Caves- Salient features, Literature</li> </ul>	
<b>Unit-IV</b>	<b>Expansion of Political Supremacy in South India:</b>	<b>15Hrs</b>
	<ul style="list-style-type: none"> <li>• The Cholas- Political History- Rajaraja-I, Rajendra-I, Local Self-Government.</li> </ul>	
	<ul style="list-style-type: none"> <li>• The Art &amp; Architecture of the Cholas- Salient features, Growth of Literature</li> </ul>	
	<ul style="list-style-type: none"> <li>• Religious Developments in South India: Shaivism, Vaishnavism, Jainism Buddhism</li> </ul>	

Unit-V	Invasion of Arabs and Indian Philosophy:	15Hrs
	<ul style="list-style-type: none"> <li>Arab conquest of Sindh: Causes and consequences of early Turkish invasions: Ghazni Mahmud and Ghori Mohmud invasions</li> </ul>	
	<ul style="list-style-type: none"> <li>Indian Philosophy-Dvaita philosophies-Shankara, Madhva and Ramanuja, Basaveshvara, Akkamahadevi, Shivasharanas</li> </ul>	
	<ul style="list-style-type: none"> <li>Map Study: <ul style="list-style-type: none"> <li>➤ Mark the empire of Samudra Gupta and write a note on his Conquests</li> <li>➤ Mark the empire of Pulakesi- II and write a short note about his Conquests</li> </ul> </li> </ul>	

### Recommended Books :

11. Thapar Romila : *History of India Vol-I*. Penguin Books India Pvt. Ltd., New Delhi-2000.
1. Majumdar R.C.: *Ancient India*. Motilal Banarsidas Delhi, Reprinted:2017
2. Lunia B.N. : *Evolution of Indian Culture*. Lakshmi Narayan Agarwal, Agra. 1960.
3. Jha D. N.: *Ancient India- An Introductory*. Rawat Publishers, Jaipur.1977
4. Khurana K.L.: *Ancient India*. Lakshmi Narayan Agarwal, Agra. 2011.
5. Das S.K.: *The Economic History of Ancient India*. Vohra Publishers, Allahabad. 2007.
6. Sharma R.S. : *Material Culture and Social formations in Ancient India*. Macmillan India Ltd. Delhi. 2007.
7. Sharma R.S.: *India's Ancient Past*. Oxford University Press. New Delhi. 31<sup>st</sup> Impression 2018.
8. Bashyam A.L.: *The Wonder that was India, Vol-I*. Picador Pan Macmillan, Publisher Ltd. London. 2004.
9. Nilkanta Sastri K.A.: *The Illustrated History of South India*. Oxford University Press , New Delhi.2009

Formative Assessment for Theory	
Assessment Occasion/ type	Marks
Internal Assessment Test 1	15
Internal Assessment Test 2	15
Assignment	10
<b>Total</b>	<b>40</b>
<i>Formative Assessment as per guidelines.</i>	

**Course Title: 1.2 HISTORY OF INDIA (1206 A.D. to 1526)****Course Code: IBHI2DSC02T**

Type of Course	Theory / Practical	Credits	Formative Assessment Marks	Summative assessment Marks	Total Marks
DSC-2	Theory	4	40	60	100

**Course Outcomes:**

At the end of the course students will be able to:

- The administration and reforms of Delhi Sultanates and their Socio-Economic and Cultural Contributions.
- The Administration, Trade and Commerce and Cultural Contributions of Vijayanagar empire.
- The administration and cultural contributions of Bahamani and Adilshahis dynasties and also the life and social philosophy of Bhakti and Sufi Saints

Unit	Title: History of India 1206 A.D. to 1526	75 hrs/ sem
Unit I:	<b>Interpreting the Delhi Sultanate:</b> <ul style="list-style-type: none"> <li>• Survey of sources: Archeological and Literary Sources.</li> <li>• Delhi Sultanate- Foundation, expansion and consolidation of the Sultanate of Delhi; The Slaves- Ku tub Din Aibak, Iltutmish, Iban, Raziya Sultan</li> <li>• The Khiljis: Alla- Ud Din Khilji- Conquests &amp; Administration</li> </ul>	15Hrs
Unit II	<ul style="list-style-type: none"> <li>• <b>Tughluqs and Lodis</b></li> <li>• The Tughluqs -Muhammad Bin Tughluqs, Ferozshah Tughluq- Their Conquests and Administration.</li> <li>• The Lodis: Conquest of Bahlul and Sikandar; Ibrahim Lodi and the First battle of Panipat</li> <li>• Theories of Kingship; Nobles, Sufis, Ulema and the political authority</li> </ul>	15Hrs
Unit-III	<b>Society and Economy:</b> <ul style="list-style-type: none"> <li>• Administration of Delhi Sultanate Delhi</li> <li>• Economy, Trade and Commerce of the Delhi Sultanates.</li> <li>• Art and Architecture of Delhi Sultanate.</li> </ul>	15Hrs
Unit-IV	<b>Emergence of Provincial Dynasties</b>	15Hrs

	<ul style="list-style-type: none"> <li>• The Bahamanis- Early Rulers- their cultural Contributions, disintegration of Bahamani Kingdom</li> <li>• Mahmud Gawan and His Achievements</li> <li>• Adil Shahis of Bijapur-Early Sultans-Ibrahim-I, Ali Adil Shah-I- Ibrahim Adil Shah-II</li> </ul>	
Unit-V	<p><b>The Vijayanagara Empire and Reform Movements.</b></p> <ul style="list-style-type: none"> <li>• Early Rulers- Devaraya-II, Krishnadevaraya and Achievements – Battle of Talikote and Decline.</li> <li>• Sufi Movement-Principles of Sufis, Khwaja Moinuddin Chisti and Hazarat Nizamuddin Auliya. Bhakti movement-Principles- Kabir, Nanak, Vallabhacharya, Chaitanya, Meera Bai</li> </ul> <p><b>Map Study:</b></p> <ul style="list-style-type: none"> <li>➤ Mark the empire of Alla –Ud Din Khilji conquests and write a short note on it.</li> <li>➤ Mark the empire of Krishnadevaraya and write a short note on it.</li> </ul>	15Hrs

### Recommended Books :

1. Habib Irfan: Medieval India.(1200-1750) Oxford University Press. New Delhi. 1998.
2. Chandara Satish: Medieval India from Sultanate to Mughals. Har Anand Publications. Delhi, 2007.
3. Mehta J.L. : Advance study in the History of Medieval India. Vol- 1(1000-1526).Sterling Publishers Pv Ltd. New Delhi.2009.
4. Khurana K.L: Medieval India. Lakshmi Narayan Agarwal, Agra. 2009.
5. Chandara Satish: History of Medieval India. Orient Black Swan Pvt.Ltd. Hyderabad, 2007.
6. Chandara Satish: Essays on Medieval Indian History, Oxford University Press. New Delhi. 2003.
7. Sharma L.P.: History of Medieval India 1000-1740. Konark Publishers Pvt.Ltd. Dehli.1996.
8. Nazim Khalil Ahmed : Religion and Politics in India during the Thirteenth Century. Oxford University Press, New Dehli, 2002.
9. Mahajan V.D. : History of Medieval India Saltanate period and Mughal period, S. Chand & Company Ltd. New Dehli. 2012.
- 10.Hassan Nural S : Religion, State and Society in Medieval India, Oxford University Press, New Delhi, 2008.

Formative Assessment for Theory	
Assessment Occasion/ type	Marks
Internal Assessment Test 1	15
Internal Assessment Test 2	15
Assignment	10
<b>Total</b>	<b>40</b>

**Course Title: 1.3 English Literature- Part 1 (From beginning to 1798)**

**Course code: IBHI2DSC03T**

Type of Course	Theory / Practical	Credits	Formative Assessment Marks	Summative assessment Marks	Total Marks
DSC-3	Theory	4	40	60	100

**Course Outcomes:**

- At the end of the course students will be able to:
- Understand major trends and movements in English literature
- Comprehend the major works of representative writers from Chaucer to Dr Johnson
- Acquire Knowledge of English poetry, prose, novel and drama of prescribed ages
- Understand literary movements in English Literature
- Appreciate the contribution of English writers of prescribed period

Unit	Title: English Literature Part 1 (From beginning to 1798)	75 Hours / Sem
Unit - I	<b>HISTORY OF ENGLISH LITERATURE (UP TO 1798)</b>	15 Hrs.
	Age of Chaucer, Renaissance, Elizabethan Poetry, Elizabethan Drama, Metaphysical Poetry, Restoration Drama, 18th Century Prose, Development of Novel in 18th Century, Neo-classical and Transitional Poetry <b>Key Terms:</b> Renaissance, Reformation, Comedy of Humor, Puritanism, Comedy of manners, Neo-classicism, periodical essay, picaresque novel, gothic novel	
Unit - II	<b>Major Writers, Works and Trends:</b>	15 Hrs.

	Francis Bacon, Christopher Marlowe, Ben Jonson, John Milton, John Dryden, Alexander Pope, Dr. Samuel Johnson, Oliver Goldsmith, John Bunyan, Aphra Behn, Margaret Cavendish, Elizabeth Cary, Anne Finch, Amelia Lanyer, Fanny Burney, Fairy Queene, As You Like It, Jonson's Alchemist, Paradise Lost, Absalom and Achitophel, Rape of the Lock, Pamela, Letters of Elizabeth Carte, Coverly Papers etc.	
<b>Unit - III</b>	<b>Representative Texts:</b>	<b>15 Hrs.</b>
	<b>Poems</b> <ul style="list-style-type: none"> <li>• Amoretti III: The Sovereign Beauty – Edmund Spenser</li> <li>• To Celia – Ben Jonson</li> <li>• On His Blindness - John Milton</li> <li>• Sunne Rising - John Donne</li> <li>• The Pulley – George Herbert</li> <li>• My Luv is Like Red Red Rose Robert</li> <li>• Burns</li> </ul>	
<b>Unit - IV</b>	<b>Essays</b> <ul style="list-style-type: none"> <li>• Of Revenge - Francis Bacon</li> <li>• Man in Black – Oliver Goldsmith</li> <li>• Preface to Shakespeare – Dr Samuel Johnson</li> </ul>	<b>15 Hrs.</b>
<b>Unit-V</b>	<b>Play:</b> Midsummer Night's Dream- William Shakespeare (Any edition)	<b>15 hrs</b>

#### Books recommended and Suggested Reading

4. Andrew Sanders, English Literature, OUP, 2005
5. Edward Albert, History of English Literature, OUP, 2014
6. M. H. Abrams, A Glossary of Literary Terms, Cengage Publishers, New Delhi

<b>Formative Assessment for Theory</b>	
<b>Assessment Occasion/ Type</b>	<b>Marks</b>
InternalAssessmentTest1	<b>15</b>
InternalAssessmentTest2	<b>15</b>
Assignment	<b>10</b>
<b>Total</b>	<b>40</b>
<b>Formative Assessment as per guidelines.</b>	

**Course Title: 1.4 Principles of Climatology**

**Course Code: IBHI2DSC04T**

<b>Type of Course</b>	<b>Theory / Practical</b>	<b>Credits</b>	<b>Formative Assessment Marks</b>	<b>Summative assessment Marks</b>	<b>Total Marks</b>
<b>DSC-4</b>	<b>Theory</b>	<b>4</b>	<b>40</b>	<b>60</b>	<b>100</b>

**Course Outcomes:**

At the end of the course students will be able to:

- To define the field of climatology and to understand the atmospheric composition and structure.
- To outline the mechanism and process of solar radiation transfer to earth surface and to explain the temperature distribution and variation according to time and space.
- To illustrate and explain the air pressure system, wind regulating forces and the formation of the Atmospheric Disturbance.
- To understand and compute the air humidity as well as to explain the process of Condensation and formation of precipitation and its types.
- To understand the principles of climatology and explain in detail

<b>Unit</b>	<b>Title: Principles of Climatology</b>	<b>60 Hours / Sem</b>
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<b>Unit - I</b>	Nature and Scope of Climatology, Atmospheric Sciences, Climatology and Meteorology. <b>Origin and structure of the Atmosphere:</b> Troposphere, Stratosphere, Mesosphere, Ionosphere, Exosphere and their characteristics. Composition of the atmosphere Weather and Climate	<b>15 Hrs.</b>
<b>Unit - II</b>	<b>Insolation:</b> Definition, Mechanism, Solar Constant. Factors affecting the Insolation: Angle of incidence, length of the day, Sunspots, Distance between the earth and the sun, effect of the atmosphere. Heating and cooling process of the atmosphere-Radiation, Conduction, convection and advection. <b>Temperature:</b> meaning and Influencing Factors on the Distribution of Temperature. Distribution of the temperature: Vertical, Horizontal, and Inversion of temperature. <b>Global Energy Budget:</b> Incoming shortwave solar radiation, Outgoing Longwave Terrestrial radiation, Albedo. Net Radiation and Latitudinal Heat Balances.	<b>15 Hrs.</b>
<b>Unit - III</b>	<b>Atmospheric Pressure:</b> Influencing factors on atmospheric pressure. Vertical and Horizontal Distribution of the atmospheric pressure and Pressure Belts, Pressure Gradient. Tri-cellular-Hadley, Ferrel's and Polar Cells. <b>Winds:</b> influencing factors, Types - planetary, seasonal, local winds, Variable winds- Cyclones and anti-cyclones. <b>Air-Masses and Fronts:</b> Definition, Nature, Source Regions and Classification of Air Masses.	<b>15 Hrs.</b>
<b>Unit - IV</b>	<b>Humidity:</b> Sources, influencing factors and types-Absolute, Relative and Specific. <b>Hydrological cycle:</b> process of evaporation, condensation. Clouds and its types. Precipitation and its forms. <b>Climate Change:</b> Causes and consequences, recent issues-floods, drought and global warming.	<b>15 Hrs.</b>

#### **Recommended books: Text Books:**

1. Lal, D. S. (1998). Climatology. Allahabad: Chaitanya Publishing House.
2. P Mallappa, Physical Geography (Kannada Version).
3. Ranganath Principles of Physical Geography (Kannada Version).
4. . Nanjannavar S S: Physical Geography (Kannada Version).
5. Hugar M R Physical Geography part-1(Kannada Version).
6. Goudar M B, Physical Geography (Kannada Version).
7. Kolhapure and S S Nanjan, Physical Geography (Kannada Version).

#### **Reference:**

1. Lutgens, Frederic K. & Tarbuck, Edward J. (2010). The Atmosphere: An Introduction to
2. Meteorology. New Jersey: Pearson Prentice Hall.
3. Oliver, John E. & Hidore, John J. (2003). Climatology: An Atmospheric Science. Delhi:
4. Pearson Education.
5. Singh, S. ( 2005). Climatology. Allahabad: Prayag Pustak Bhawan.

6. Barry, R.G. and Chorley, R.J. (2003): Atmosphere, Weather and Climate; Psychology Press, Hove; East Sussex.
7. East Sussex.
8. Critchfield, H.J., (1975): general Climatology, Prentice Hall, New Jersey.

**Websites:**

<https://science.jrank.org>

<https://www.clearias.com>

<https://www.nationalgeographic>

<https://www.space.com>

<https://www.noaa.gov>

<https://www.climate.nasa.gov>

<https://www.weather.gov>

<b>Formative Assessment for Theory</b>	
<b>Assessment Occasion/ Type</b>	<b>Marks</b>
InternalAssessmentTest1	<b>15</b>
InternalAssessmentTest2	<b>15</b>
Assignment	<b>10</b>
<b>Total</b>	<b>40</b>
<b>Formative Assessment as per guidelines.</b>	

**2. Ability Enhancement & Value-Added Course (AE&VAC)**

**Course Title: 2.1 Language-II /Kannada: Belagu -1**

**Course code: IBHI2AB01T**

<b>Type of Course</b>	<b>Theory / Practical</b>	<b>Credits</b>	<b>Formative Assessment Marks</b>	<b>Summative assessment Marks</b>	<b>Total Marks</b>
<b>AE&amp; VAC-1</b>	<b>Theory</b>	<b>4</b>	<b>40</b>	<b>60</b>	<b>100</b>

**Course Outcomes (COs):Attheend ofthecoursestudentswillbeableto:**

CO1: ರಾಷ್ಟ್ರೀಯತೆ ಎಂಬ ಪರಿಕಲ್ಪನೆಯ ಕುರಿತು ಸ್ಪಷ್ಟತೆ ಒದಗುತ್ತದೆ.

CO2: ತಮ್ಮ ಭಾವಿಸುವ ಕ್ರಮದಿಂದ ಬಿಡುಗಡೆ

CO3: ಸಾಹಿತ್ಯ ಸಮಕಾಲೀನ ಸ್ಪಂದನೆ ಎನ್ನುವುದು ತಿಳಿಯುತ್ತದೆ.

CO4: ಕನ್ನಡತನ ಎನ್ನುವುದು ಕೇವಲ ಭಾವನಾತ್ಮಕತೆಯಲ್ಲ, ಅದು ಉಸಿರಿನಂಥ ವಾಸ್ತವ

CO5:ಕರ್ನಾಟಕ ಏಕೀಕರಣ ಚಳುವಳಿಯ ತಿಳಿವು ಲಭಿಸುತ್ತದೆ

CO6: ಭಾಷೆಗೂ-ವ್ಯಕ್ತಿಗೂ, ಭಾಷೆಗೂ-ಸಮುದಾಯಕ್ಕೂ ಇರುವ ಕರುಳು ಬಳ್ಳಿ ತಿಳಿಯುತ್ತದೆ

CO7: ವಿದ್ಯಾರ್ಥಿಗಳಲ್ಲಿ ನಾಗರಿಕ ಪ್ರಜ್ಞೆ ಅರಳುತ್ತದೆ.

Unit	Title: ಬೆಳಗು ೧ (ಕನ್ನಡ AECC )	60hrs/se m
UnitI	<p>ರಾಷ್ಟ್ರೀಯತೆ</p> <p>೧. ಭಾರತದಲ್ಲಿ ರಾಷ್ಟ್ರೀಯವಾದ - ರವಿಂಧ್ರನಾಥ ಠಾಗೋರ್</p> <p>೨. ಕನ್ನಡಕ್ಕೂ ಒಂದು ರಾಷ್ಟ್ರೀಯತೆ - ದೇವನೂರ ಮಹಾದೇವ</p> <p>೩. ಅಮೃತತ್ವ - ತತ್ವದ ಹಂಬಲದಲ್ಲಿ - ಜ. ಹ. ರಘುನಾಥ</p> <p>೪. ರಾಷ್ಟ್ರೀಯತೆಯ ಆಚರಣೆಯ ಸುತ್ತ - ರಾಮಲಿಂಗಪ್ಪ ಟಿ. ಬೇಗೂರ</p>	15 hrs
UnitII	<p>ಸ್ವಾತಂತ್ರ್ಯದ ಪ್ರತಿಷ್ಠಂದನೆ</p> <p>೧. ಗಾಂಧಿ (ಕವಿತೆ) - ಜಿ. ಎಸ್. ಶಿವರುದ್ರಪ್ಪ</p> <p>೨. ಭಾರತಾಂಬೆಯ ರಥೋತ್ಸವ - ಡಿ. ಗೋವಿಂದ ದಾಸ</p> <p>೩. ನಿರಾಶ್ರಿತೆ (ಕಥೆ)- ಎಚ್. ವಿ. ಸಾವಿತ್ರಮ್ಮ</p> <p>೪. ಇಂದೇ ಸೀಮೋಲ್ಲಂಘನ - ಚೆನ್ನವೀರ ಕಣವಿ</p>	15 hrs

UnitIII	<p><b>ಕರ್ನಾಟಕರ ತಾತ್ವಿಕತೆ</b></p> <p>೧. ಕನ್ನಡ ಡಿಂಡಿಮ ಕವಿತೆ ಮತ್ತು ಮುನ್ನುಡಿ - ಕುವೆಂಪು</p> <p>೨. ನಾಡಿಗೂ ನುಡಿಗೂ ಸಂಬಂಧ - ದ. ರಾ. ಬೇಂದ್ರೆ</p> <p>೩. ಜನಭಾಷೆ ಸ್ಥಿತಿ ಮತ್ತು ಗತಿ - ಚಂಪಾ</p> <p>೪. ಕರ್ನಾಟಕ ಸಂಸ್ಕೃತಿ ಎಂದರೇನು?- ರಹಮತ್ ತರೀಕೆರೆ</p>	15 hrs
UnitIV	<p><b>ಕರ್ನಾಟಕತ್ವ; ಸೃಜನಶೀಲ ಸ್ಪಂದನೆ</b></p> <p>೧. ಕಾವೇರಿಯಿಂದಮಾ ಗೋದಾವರಿ.....- ಶ್ರೀವಿಜಯ</p> <p>೨. ಉದಯವಾಗಲಿ ನಮ್ಮ ಚೆಲುವ ಕನ್ನಡ ನಾಡು - ಹುಯಿಲಗೋಳ ನಾರಾಯಣ</p> <p>೩. ಆಯ್ದ ವಚನಗಳು - ಜಯದೇವಿ ತಾಯಿ ಲಿಗಾಡೆ</p> <p>೪. ನಿತ್ಯೋತ್ಸವ - ಕೆ. ಎಸ್. ನಿಸಾರ್ ಅಹಮದ್</p>	15hrs

**Recommended books:**

1. ನಿತ್ಯೋತ್ಸವ - ನಿಸಾರ್ ಅಹಮದ್
2. ಗರಿ - ದ. ರಾ. ಬೇಂದ್ರೆ
3. ಕವಿರಾಜಮಾರ್ಗ - ಶ್ರೀವಿಜಯ
4. ಪಂಪಭಾರತ - ಪಂಪ
5. ವಚನ ಸಂಪುಟಗಳು - ವ.ಸಾ.ಪ. ವಿಜಯಪುರ
6. ಸಾಲು ದೀಪಗಳು - ಕನ್ನಡ ಸಾಹಿತ್ಯ ಅಕಾಡೆಮಿ, ಬೆಂಗಳೂರು.

<b>Formative Assessment for Theory</b>	
<b>Assessment Occasion/ Type</b>	<b>Marks</b>
InternalAssessmentTest1	<b>15</b>
InternalAssessmentTest2	<b>15</b>
Assignment	<b>10</b>
<b>Total</b>	<b>40</b>
<b>Formative Assessment as per guidelines.</b>	

**Course Title: 2.1 Language-II /Hindi: Kavya Kaumudi aur Anuvad****Course code: IBHI2AB01T**

Type of Course	Theory / Practical	Credits	Formative Assessment Marks	Summative assessment Marks	Total Marks
AE& VAC-1	Theory	4	40	60	100

**Course Outcomes (COs):**At the end of the course students will be able to:

- CO1: कविता में रुचि उत्पन्न करना  
CO2: गति, लय, भावयुक्त वाचन की योग्यता उत्पन्न करना  
CO3: कल्पना शक्ति को उत्पन्न करना  
CO4: सौंदर्यानुभूति की क्षमता उत्पन्न करना  
CO5: रस, छंद, अलंकार का ज्ञान कराना  
CO6: विविध भावों से युक्त कविता को समीक्षात्मक अध्ययन के लिए प्रोत्साहित करना  
CO7: छात्रों में अनुवाद कौशल का विकास होता है।  
CO8: अनुवाद कला द्वारा बेरोजगारी की समस्या से मुक्त हो सकते हैं।

Unit	Title: KAVYA KAUMUDI AUR ANUVAD काव्य कौमुदी और अनुवाद	60hrs/ sem
Unit I	हिंदी काव्य का सामान्य परिचय	15hrs
Unit II	काव्य कौमुदी-सं. डॉ.एन.शाजी, डॉ. शीबा एम.आर, डॉ. मंजू ए. (राजपल एण्ड सन्स, दिल्ली) 1. किरण – जयशंकर प्रसाद 2. वह तोडती पत्थर – सूर्यकामत त्रीपाठी 'निराला' 3. मधुशाला – हरिवंशराय बच्चन 4. एकलव्य – कीर्ति चौधरी 5. मरने से नहीं डरता – चंद्रकांत देवताळे	15hrs

Unit III	6. मुक्ति – अरुण कमल 7. बेजगह – अनामिका 8. नालंदा के खंडहर – निर्मला गर्ग	1 hrs
Unit IV	अनुवाद कला कन्नड या अंग्रेजी से हिंदी में अनुवाद	15hrs

**Recommended books:**

1. काव्य कौमुदी-सं. डॉ.एन.शाजी, डॉ. शीवा एम.आर, डॉ. मंजू ए. राजपल एण्ड सन्स, दिल्ली
2. हिंदी कविता – सं. कण्णूर विश्वविद्यालय, राधाकृष्ण प्रकाशन, जी-17, जगतपुरी, दिल्ली
3. नई कविता के प्रतिमान – लक्ष्मीकांत वर्मा, भारती प्रकाशन, इलाहाबाद
4. नई रचना और रचनाकार – डॉ. दयानंद शर्मा, अन्नपूर्णा प्रकाशन, कानपुर
5. नई कविता के सात अध्याय – डॉ. देवेश ठाकूर, संकल्प प्रकाशन, मुंबई
6. प्रयोजनमूलक हिंदी-डा-नरेश मिश्र, राजपाल एण्ड सन्स नई दिल्ली ।
7. प्रयोजनमूलक हिंदी-डा-बशीरुद्दीन मदरी, गीता प्रकाशन हैदराबाद
8. सरकारी कार्यालयों में हिंदी का प्रयोग-गोपिनाथ श्रीवास्तव, लोकभारती प्रकाशन।
9. प्रयोजनमूलक हिंदी- राष्ट्राभाषा प्रचार समिति, वर्धा।

<b>Formative Assessment for Theory</b>	
<b>Assessment Occasion/ Type</b>	<b>Marks</b>
InternalAssessmentTest1	<b>15</b>
InternalAssessmentTest2	<b>15</b>
Assignment	<b>10</b>
<b>Total</b>	<b>40</b>
<b>Formative Assessment as per guidelines.</b>	

**Course Title: 2.2 Understanding India Part- II (Indian Ethos and Knowledge Systems)**

**Course Code: IBHI2AB02T**

Type of Course	Theory / Practical	Credits	Formative Assessment Marks	Summative assessment Marks	Total Marks
AE& VAC-2	Theory	2	20	30	50

**Learning Outcomes:**

After the completion of the course, it is expected that the students will be able to:

- recognize the vast corpus of knowledge traditions of India, while developing an appreciation for it,
- apply their acquired research and critical thinking skills to multidisciplinary themes, and-appreciate the diverse belief systems and knowledge traditions in India.
- discuss the formation and evolution of knowledge of India through a multidisciplinary lens.

**UNIT-I**

**Philosophy, Ethics & Values: Schools of Philosophy (4 Weeks)**

- A. Vaishesika, Nyaya, Samkhya, Yoga, Purva Mimansa and Vedanta or Uttara Mimansa (theory and the major thinkers) - and Jain, Buddhist, and Charvak traditions.
- B. Vedanta: Philosophical Systems (Advaita, Vishishtadvaita, Dvaita).
- C. Ethics, Morality, and Social Dilemma (including Self-Leadership) and their relevance in today's time.
- D. How do Indians value spirituality? Spirituality and Social Responsibility; Importance of Spirituality in current times.
- E. Using Ethics in a Technologically Volatile World: leading an ethical and modern life.
- F. Practical Vedanta for Well-Being (mindfulness, inter-connectedness, society-self relationship, etc.).

## UNIT-II

### Culture-Lifestyle (4 Weeks)

- A. Food (regional cuisines, Ayurvedic Diet, Food and Festival, Food, Hospitality, and Globalization).
- B. Clothes (Traditional Indian Clothing, Textile Arts, Religious Costumes, Clothing Status, Clothing, Gender, Globalization in Clothing).
- C. Sports (Traditional Indian Sports, Martial Arts, Sports and Gender, Sports & Globalization).
- D. The Lifestyle of Yoga; Adapting Ancient Lifestyle - A path towards longevity.

## UNIT-III

### Science & Technology (4 Weeks)

- A. Arithmetic and logic.
- B. Natural Sciences: Mathematics, Physics, Metallurgy, and Chemistry.
- C. Astronomy: India's Contributions to the World
- D. Indian Notions of Time and Space.
- E. Technology in the Economy: Agriculture, Transportation, etc.

## UNIT-IV

### Linguistic Traditions (3 Weeks)

- A. History of Linguistics in India (Conceptualizing Ancient Indian Linguistics, Oral Traditions, etc.).
- B. Language as Culture: Evolution of Languages over the years & Language as Building Blocks to different Cultures and Society
- C. C. Language: Identity, Culture, and History.

### Practicum:

The modes of curriculum transaction will include lectures, Tutorials, and Practicum.

Practicum will include organization of day trips that help student teachers watch events relating to visual and performing art; activities that enable student teachers to identify and record through photos, videos, etc. the elements of ancient architecture still existing in the city around them; organization of Individual and

group presentations based on themes such as Polity, Law and Economy etc., organization of a 'Knowledge of India 'day in the institution to celebrate the culture (food, clothes, etc.) that they would have been explored in lectures and tutorials; interactions with family members, elders, neighbours, and other members of society about the evolution of local systems and economy etc.

### **Mode of Transaction:**

The entire syllabus is based on practical exercises. Classroom interactions will include learner driven participatory sessions, and Guest lectures through experts and practitioners such as fine arts and performing arts practitioners along with contemporary poets & writers of Indian literature. Also, it will include Screening of documentaries and films followed by a discussion; Learner-driven discussions in the form of focus group discussions (FGDs), Socratic Discussions, etc.; Debate/discussion can be organized to explain India's Vaad tradition; discussion on how some of the ancient methods of teaching are relevant in today's time; discussions that help Identify ethical dilemmas in daily lives and understanding the importance of ancient ethics and values to resolve them.

### **Mode of Assessment:**

The approaches to learning assessment will include:

- Supporting the curiosity and interest of student teachers in the selected themes through a multi-modal approach, including regular assessments and actionable feedback that enable learners to outline and interpret the processes and events of the formation & evolution of knowledge of India through a multidisciplinary lens.
- Enabling the student teachers to demonstrate critical analysis and independent thinking of the processes and events in the formulation & evolution of different traditions that help student teachers evaluate the diverse traditions of India to distinguish its achievements and limitations.
- Use of first-hand or second-hand experiences that enable student-teachers to develop and articulate an ethics-based education rooted in Indian thought to their students in the classroom context.

The examination scheme and mode shall modify and/or evolve as per the guidelines of the Examination Board, Karnatak University Dharwad. of Delhi, from time to time.

### **Suggestive Readings Material:**

Teachers may suggest books/readings as per the needs of the learners and learning content.

- Balasubramanian, R. (2000). Introduction. In Chattopadhyana, D. P. (Ed.), History of science, philosophy and culture in Indian civilization. Advaita Vedanta. [Vol. 2 (II)]. Centre for Studies in Civilizations.
- Bhagat, G. (1990, April-June). Kautilya revisited and re-visioned. The Indian Journal of Political Science. 31(2), 186-212.
- Bhattacharya, R. (2002). Carvaka fragments: A new collection. Journal of Indian Philosophy, 30, 597-640.
- Dharampal (2021). Indian science and technology in the eighteenth century: Some contemporary European accounts. Rashtrottaana Sahitya.
- Dominik, W. (2001). The roots of ayurveda. Penguin Classics.
- Kangle, R. P. (2019). Kautiliya Artha sastra. Motilal Banarsidass Publishers Pvt. Ltd.
- Rangarajan, L. N. (1987). The Artha shastra. Penguin Books.
- Sen, S. N., & Shukla, K. S. (Eds.). (2000). History of astronomy in India (2 ed.). Indian National Science Academy.
- Sharma, S. (2023). Significance of ancient Indian sciences in contemporary education.
- Subbarayapa, B. V. (1982). Glimpses of science and technology in ancient and mediaeval India. Endeavour, 6(4), 177-182. [https://doi.org/10.1016/0160-9327\(82\)90073-4](https://doi.org/10.1016/0160-9327(82)90073-4)
- Tschurennev, J. (2019). Empire, Civil Society, and the Beginnings of Colonial Education in India, Cambridge University Press DOI: <https://doi.org/10.1017/9781108653374>

<b>Formative Assessment for Theory</b>	
<b>Assessment Occasion/ type</b>	<b>Marks</b>
Internal Assessment Test 1	5
Internal Assessment Test 2	5
Assignment	10
<b>Total</b>	<b>20</b>
<i>Formative Assessment as per guidelines.</i>	

**Course Title: 2.3 Teacher and Society**

**Course Code: IBHI2AB03T**

Type of Course	Theory / Practical	Credits	Formative Assessment Marks	Summative assessment Marks	Total Marks
AE& VAC-3	Theory	2	20	30	50

**Learning Outcomes:**

After completion of the course, it is expected that the student teachers will be able to:

- examine the relationship between teacher beliefs, values, character, social and cultural context, and teaching critically.
- conceptualize teacher agency, its individual, contextual, and structural dimensions, and how it gets impacted and in turn shapes education.
- explain the teacher's roles and characteristics; the personal and professional self, the reflective practitioner, and their significant role in shaping self, school, and society,
- demonstrate a critical understanding of the Pedagogy of Ethic of Care in Teacher Education.
- reflect on Individual and collective pedagogical practices so as to improve learning and teaching,

**UNIT-I: Understanding the Teacher: Exploring the Personal and Professional Being  
(5 Weeks)**

- A. Exploring the Social Context of Teacher: Teacher Beliefs, Values and Aspirations, Diverse Identities, Social Contexts and Commitment to Learning and Education.
- B. Teacher as a Professional: Qualifications, Attitude, Aptitude, Experience.

- C. The Reflective Practitioner: Nurturing the Professional Competencies through Collaborative and Collective Engagement with Self, Others, and the Social Context.

**UNIT-II: Nurturing the Teacher: A Dialogue Beyond the Curricular Goals, for Life and Posterity (5 Weeks)**

- A. Teaching: One profession many roles.  
B. Holistic Teacher Development: Nurturing the Panchakoshas.  
C. Developing Pedagogy of Ethic of Care in Education.  
D. Being a Critical Teacher: Role of Teacher in Shaping the Educational Policy, Practice, and Reforms

**UNIT-III: Understanding Teachers' Agency: Shaping Education Systems and Society (5 Weeks)**

- A. Teachers' Agency: Individual, Cultural and Structural Dimensions; Challenges and Issues: Performativity, Non-academic Engagements, Systemic Apathy, Policy and Practices.  
B. Teacher Discourses: Engaging in Critical Education, Dialogues on Power Relations associated with Gender, Ethnicity, Culture, Disability, Caste, Class, Poverty: the Reproduction of Disadvantage, and Realizing the True Human Potential.  
C. Being a Critical Teacher: Raising Debates around Rapid Technological Advancement and Impact on Individual, Family, and Social Life.  
D. Conceptualization of Teacher, Teaching, and Teacher Roles, 'Globalization and the Reconstructed Nationalism Shaping the Socio-Political Milieu and Impact on the Social Psyche, Growing Materialistic Urge, Sensory Drives, and the Gradual Deterioration of the Individual and Societal Character.

**Practicum:**

Following are the suggestive practicals and activities. The teachers may design more tasks based on classroom interactions and discussions.

- Take up a case study of any one teacher education Institution.
- Write a biography of any one of your favorite teachers/ Educationists.

**Mode of Transaction:**

Teacher and Society is a reflection-based course that invites teachers to re-think teachers and teaching. It awakens and inspires teachers to realize broader educational aims through an action and reflection cycle. The approach therefore would include a blend of lectures, in-class

seminars, thinking exercises, critical reflections, group work, case-based approaches, and enquiry-based learning.

- Learners would also be exposed to case studies featuring teachers from a representative cross-section of Schools in India and critically analyse their exercise of agentic force in school improvement and the improvement of teaching practice.
- Situating themselves in the geo-political context, the learners will get to critically engage in some of the policy dialogues.
- Learners would reflect on their practice as pre-service interns, knowledge, skills, and understandings-and identify opportunities to apply course learnings to their school context.

**Mode of Assessment:**

The entire syllabus is based on practical exercises. Being a very thought-provoking course, the assessment would largely include critical thinking kind of assignments. The following are some exemplars.

- Write your current teaching philosophy based on your beliefs and values.
- Choose any one area of immediate societal concern like environmental degradation, increasing crime against women, cybercrimes, bullying or any other and draw an action plan that you as a teacher would undertake to mobilize self, school and society towards betterment.
- Critical Reflections on popular debates around power relations associated with Gender, Ethnicity, Culture, Disability, Class. Poverty, and others
- These are just prototypes and institutes may choose either of these or think of other innovative assignments that would inculcate in future teachers a sense of belonging to society.

The examination scheme and mode shall modify and/or evolve as per the guidelines of the Examination Board, Karnatak University, Dharwad. from time to time.

<b>Formative Assessment for Theory</b>	
<b>Assessment Occasion/ type</b>	<b>Marks</b>
Internal Assessment Test 1	5
Internal Assessment Test 2	5
Assignment	10

<b>Total</b>	<b>20</b>
<i>Formative Assessment as per guidelines.</i>	

### **Suggestive Reading Materials:**

Teachers may suggest books/readings as per the needs of the learners and learning content.

- Ashton, K. (2021). Novice teacher agency in the multi-level language classroom. *Language, Culture and Curriculum*, 34(3), 242-256.
- Axline, M.A. (2018). *Dibs: In Search of Self*. Lexington, Massachusetts: Plunkett Lake Press
- Biesta, G., Priestley, M., & Robinson, S. (2015). The role of beliefs in teacher agency. *Teachers and Teaching: Theory and Practice*, 21(6), 624-640.
- Bridwell-Mitchell, E. N. (2015). Theorizing teacher agency and reform: How institutionalized instructional practices change and persist. *Sociology of Education*, 88(2), 140-159. <https://doi.org/10.1177/0038040715575559>
- De Ruyter, D. J., & Jos Kole J. (2010). Our teachers want to be the best: On the necessity of intra professional reflection about moral ideals of teaching. *Teachers and Teaching*, 16(2), 207-218, <https://doi.org/10.1080/13540600903478474>
- Dhanraj, S. (2023). In search of compassionate teachers. *Economic and Political Weekly*, Vol. 58, No. 40
- Kumar, S. (2021). *Reflective practices and professional development in teaching*. Shipra Publication.
- Kumar, S. (2023, January). Reconceptualizing teacher education from an emancipatory perspective. *Journal of Educational Planning and Administration*. 37(1), 31-45.
- Lasky, S. (2005). A sociocultural approach to understanding teacher identity, agency and professional vulnerability in a context of secondary school reform. *Teaching and Teacher Education*, 21(8), 899-916.
- Motta, S. C., & Bennett, A. (2018). Pedagogies of care, care-full epistemological practice and 'other' caring subjectivities in enabling education. *Teaching in Higher Education*, 23(5), 631-646. <https://doi.org/10.1080/13562517.2018.1465911>
- National Council for Teacher Education (2022). *National professional standards for teachers*.
- Rajan, K. M. (1997, January-March). Teachers' role in three organizational models. *New Frontiers in Education*, 27(1), 63-68.

- Schon, D. A. (1983). *The reflective practitioner: How professionals think in action*. Basic Books.
- Sharma, G. (2019). Policy and Regulatory Changes in Teacher Education in India: Concerns, Debates and Contestations. *Economic and Political Weekly (Engage)*, Vol. 54, Issue No. 9, 02 Mar, 2019.
- Smyth, J. (1987). Teachers as intellectuals in a critical pedagogy of teaching. *Education and Society*, 5, 11-28

## **B.Sc. B.Ed. (Mathematics)**

### **Credit Structure**

## B.Sc. B.Ed. (Mathematics)

### I Semester

Code.No.	Course					Credits	Marks			Total Marks			
	Semester	I	II	III	IV		V	Internal	Theory				
<b>Mathematics</b>	4+0=4	<b>SIP-2 Two-week student induction programme</b>						--	--	<b>48</b>			
<b>Foundation Course of Education</b>													
IBSMT1EDC01T	Evolution of Indian Education	4	4	4	4	4	40	60	100				
<b>Chemistry</b>	4+0=4	4+2=6	4+0=4	4+0=4						<b>16</b>			
<b>Discipline Specific Course</b>													
<b>Physics</b>	4+0=4	4+2=6	4+0=4	4+0=4						<b>16</b>			
IBSMT1DSC01T	Algebra – I and Calculus – I	4	4	4	4	4	40	60	100				
<b>Content Cum Pedagogy</b>										<b>16</b>			
IBSMT1DSC02T	Mechanics, Properties of Matter and Sound	4	4	4	4	4	40	60	100				
<b>IBSMT1DSC03T</b>	Chemistry-1	4	4	4	4	4	40	60	100	<b>30</b>			
<b>Ability Enhancement &amp; Value-Added Courses</b>													
<b>IBSMT1AB01T</b>	Language-I/English	4				4	2	40	2	60	2	100	<b>28</b>
<b>IBSMT1AB02T</b>	Art Education (Performing & visual)					2		20		30		50	
<b>IBSMT1AB03T</b>	Understanding India-I (Indian School Ethos & Knowledge systems)					2		20		30		50	
<b>Total Credits</b>						<b>24</b>				<b>10</b>		<b>600</b>	
<b>Community Engagement</b>	--	--	--	--	--	--	--	--	--	--	2	2	
<b>Total Credits</b>	<b>24</b>	<b>24</b>	<b>22</b>	<b>24</b>	<b>20</b>	<b>22</b>	<b>20</b>	<b>20</b>	<b>20</b>	<b>20</b>	<b>20</b>	<b>176</b>	

### II Semester

Code.No.	Course	Credits	Marks		Total Marks
			Internal	Theory	
<b>Discipline Specific Course</b>					
IBSMT2DSC01T	Number Theory and Calculus – II	4	40	60	100
IBSMT2DSC01P	Number Theory and Calculus – II Practical-I	2	30	260	50
IBSMT2DSC02T	Thermal Physics and Fluid Mechanics	4	40	60	100
IBSMT2DSC03T	Chemistry 3	4	40	60	100
IBSMT2DSC03P	Chemistry 3 Practical	2	30	20	50
<b>Ability Enhancement &amp; Value-Added Courses</b>					

IBSMT2AB01T	Language-II /Kannada/Hindi	4	40	60	100
IBSMT2AB02T	Understanding India-II (Indian Ethos & Knowledge systems)	2	20	30	50
IBSMT2AB03T	Teacher And Society	2	20	30	50
<b>Total Credits</b>		<b>24</b>			<b>600</b>

## **B.Sc. B.Ed.**

### **semester I (Mathematics)**

#### **Courses:**

#### **1. Foundational Course of Education:**

**1.1** Evolution of Indian Education

#### **2. Discipline Specific Course: DSC**

**2.1** Algebra – I and Calculus – I

**2.2** Mechanics, Properties of Matter and Sound

**2.3** Chemistry-1

#### **3. Ability enhancement & Value-Added Courses**

**3.1** Language-I /English

**3.2** Art Education (Performing & visual)

**3.3** Understanding India-I (Indian Ethos & Knowledge systems)

## 1. Foundational Course of Education:

**Course Title: 1.1 Evolution of Indian Education**

**Course Code: IBSMT1EDC01T**

Type of Course	Theory / Practical	Credits	Formative Assessment Marks	Summative assessment Marks	Total Marks
FCE-1	Theory	4	40	60	100

### Learning Outcomes:

After completion of this course, it is expected that the student teachers will be able to:

- discuss and understand the genesis, vision and evolution of education in India from ancient to contemporary times.
- critically revisit colonial education and its impact on the contemporary Indian education system.
- enable them to shape their educational perspective to act as an effective teacher.
- locate themselves in the larger system of education in India while discussing the contribution of Indian thinkers
- develop a road map for futuristic education system in India for addressing the need of local and global context.

### UNIT-1: Ancient Indian Education: Vedic Period (2 Weeks)

A. Vision, Objectives, and Salient Features of the Vedic Education System.

B. Teaching and Learning Process during Vedic Period

C. Forms and Development of Educational Institutions and Organizational Practices.

D. Understanding Guru Shishya Parampara

### **UNIT-II: Ancient Indian Education: Buddhist and Jain Period (2 Weeks)**

- A. Buddhist and Jain Education System: Vision, Objective and Salient Features
- B. Teaching -Learning and Curricular Practices during the Buddhist, Jain and Sangam Periods
- C. Finance and Management of Educational Institutions.
- D. Contribution of Educational Institutions: Nalanda, Taxila, Vikramshila, Vallabhi.

### **UNIT-III: Post-Gupta Period to Colonial Period (2 Weeks)**

- A. Brief Historical Development and Salient Features of Education in this Era
- B. Educational Systems: Nadia, Home-Education, Pathshalas, Tols, Maktab, Chatuspadis and Gurukuls etc.
- C. Pedagogical Inquiry. Community and Its Interface.
- D. Finance and Management: Critical Analysis of the Role of Dynasties with reference to Educational Institutions.

### **UNIT IV: Modern Indian Education (9 Weeks)**

A. Colonial Education in India:

Critical Examination of Wood's Dispatch and Macaulay Minutes; Colonization of Education in India.

B. Swadeshi and Nationalist attempts at Educational Reforms and Contribution of Indian Thinkers (with reference to Objectives of Education, Curriculum and Pedagogy):

Savitribai and Jyotiba Phule, Swami Vivekananda, Pt. Madanmohan Malaviya, Sir Syed Ahmad Khan, Rabindranath Tagore, Mahatma Gandhi, Sri Aurobindo, Gijubhai Badheka, Jiddu Krishnamurti and Dr. Bhim Rao Ambedkar

C. Education in Independent India

- Constitutional Values and Educational Provisions.
- Educational Committees, Commissions and Policies with specific reference to the Kothari Commission, National Policy on Education 1968; National Policy on Education 1986 and its Plan of Action 1992.

- Educational Planning and Organisation Critical review and impact of DPEP, SSA UEE, RMSA, RTE Act 2009.
- NEP 2020: Futuristic Vision for Education in India.

### **Practicum:**

Following are the suggestive practicals and activities. The teachers may design more tasks based on classroom interactions and discussions.

- Prepare a report highlighting the significance of educational reforms in School education in the light of NEP 2020.
- Critically analyze the role of education in understanding the concept of citizenship for democracy.
- Compare the vision, objectives, and salient features of education during different periods.
- Design a plan of action to develop awareness/attitude/practices related Fundamental Rights/Fundamental duties/Democratic Citizenship.
- Sharing of student experiences (in groups) related to establishing Indian constitutional values through School Education and the need for dynamic and vibrant School Ethos.
- Survey of strengths and limitations of educational institutions of one's own locality.
- Visit to places of educational significance.
- Design activities for developing awareness, attitudes, skills, and participatory values to negotiate diversity in the classroom.

### **Mode of Transaction:**

The course content transaction will include the following:

- Planned lectures infused with multimedia/PowerPoint presentations.
- Small group discussion, panel interactions, small theme-based seminars, group discussions, cooperative teaching and team teaching, selections from theoretical readings, case studies, analyses of educational statistics and personal field engagement with educationally marginalized communities and groups, through focus group discussions, surveys, short-term project work, etc,
- Hands-on experience of engaging with diverse communities, children, and schools.

### **Mode of Assessment:**

The examination scheme and mode shall be as prescribed by the Examination Board, Karnatak University of Dharwad, from time to time.

### **Suggestive Reading Materials:**

Teachers may suggest books/readings as per the needs of the learners and learning content.

- Arora, P., & Gandhi, H. )2021(. National education policy 2020: Paving the ways for transformational reforms. Shipra Publications.

- Dash, B. N. (2009). Thoughts and theories of Indian educational thinkers. Dominant Publishers and Distributors.
- Desai, S. & Amaresh, D. (2011). Caste in the 21st century India: competing narratives. Economic and Political Weekly, Vol. 46, No. 11
- Dutt, M. N. (2008). Mahabharata: Santi parva (Vol. 7). Parimal Publications.
- Dyer, H. S. (2018). Pandita Ramahai. Forgotten Books.
- Ghosh, J. (2016). Inequality in India: drivers and consequences. World Social Science Report. International social science council.
- Jain, P. S. (2000). Collected papers on Jaina studies. Motilal Banarsidass.
- Jayaram, N. (2016). Education and emancipation: The saga and ideology of Dr. B. R. Ambedkar, In A. K. Singh. (Ed.). Education and empowerment in India: Policies and practices. Routledge India.

<b>Formative Assessment for Theory</b>	
<b>Assessment Occasion/ Type</b>	<b>Marks</b>
InternalAssessmentTest1	<b>15</b>
InternalAssessmentTest2	<b>15</b>
Assignment	<b>10</b>
<b>Total</b>	<b>40</b>
<b>Formative Assessment as per guidelines.</b>	

## 2. Discipline Specific Course

**Course Title: 2.1 Algebra-I and Calculus-I**

**Course Code: IBSMT1DSC01T**

Type of Course	Theory / Practical	Credits	Formative Assessment Marks	Summative assessment Marks	Total Marks
DSC-1	Theory	4	40	60	100

### Course Outcomes:

After completion of course students will be able to:

- Learn to solve the system of homogeneous and non-homogeneous linear equations in  $m$  variables by using concept of rank of matrix, finding eigenvalues and eigenvectors.
- Thoroughly understand the concepts of continuity and uniform continuity.
- Solve examples related to indeterminate forms.
- Sketch curves in Cartesian, polar and pedal equations.
- Learn geometrical representation of mean value theorem and Rolle's theorem.
- Identify and apply the intermediate value theorem and solve Maclaurin's expansions.
- Trace curves in Cartesian coordinates.

<b>Unit</b>	<b>Title: Algebra - I and Calculus – I</b>	<b>60 Hours / Sem</b>
<b>Unit - I</b>	<b>Matrices:</b>	<b>15 Hrs.</b>
	Rank of a matrix based on row reduction to echelon form, Reduction to normal form, Solution of system of linear equations: Criterion for existence of non-trivial solutions of homogeneous system of linear equations, Solution of system of non-linear equations: Criterion for existence of non-trivial solutions of non-homogeneous system of linear equations, Characteristic equation of matrices, Eigenvalues and Eigenvectors of square matrices, Cayley-Hamilton theorem, Inverse of matrices by Cayley-Hamilton theorem.	
<b>Unit - II</b>	<b>Limits and Continuity:</b>	<b>15 Hrs.</b>
	Definition of limit and continuity of a function in $\epsilon$ - form. Algebra of limits (with proof) and continuity. Definition of boundedness of continuous function. Properties of continuous function. Intermediate value theorem and its examples, Uniform continuity – definition. Theorems - i) Uniform continuity implies continuity and ii) Continuity on closed interval implies uniform continuity, Differentiability: Definition and problems on differentiability of a function, Indeterminate forms, Evaluation of limits using L-Hospital rule.	
<b>Unit - III</b>	<b>Polar Coordinates:</b>	<b>15 Hrs.</b>
	Polar coordinates, Angle between the radius vector and tangent, Angle of intersection of curves (polar forms), Length of perpendicular from pole to the tangent, Pedal equations, Derivative of an arc length in Cartesian, parametric and polar forms, Concavity, Convexity and points of inflexion, Curvature of plane curve, radius of curvature - Cartesian, Parametric, Polar, Pedal forms. Centre of curvature of plane curves. Asymptotes, Tracing of curves in Cartesian form (standard curves).	
<b>Unit - IV</b>	<b>Successive Differentiation and Mean Value Theorems:</b>	<b>15 Hrs.</b>
	The nth derivatives of standard functions: $e^{ax+b}$ , $(ax + b)^n$ , $\log(ax + b)$ , $\sin(ax + b)$ , $\cos(ax + b)$ , $e^{ax}\sin(bx + c)$ , $e^{ax}\cos(bx + c)$ with examples, Leibnitz theorem and its applications. Rolle's theorem, Lagrange's mean value theorem, Cauchy's mean value theorem and related problems. Taylor's theorem with Schlomitch and Roche form of remainder, Taylor's series, Maclaurin's expansions.	

#### **Recommended Books:**

- Theory of Matrices, B. S. Vatsa and S. Vatsa, New Age International (P) Ltd., 2010.
- Matrices, A. R. Vasista and A. K. Vasista, Krishna Prakashan Media (P) Ltd., 2013.
- Principles of Mathematical Analysis, W. Rudin, McGraw Hill Edu., 2023.
- Mathematical Analysis, S. C. Malik and Savita Arora, New Age International (P) Ltd., 2021.
- Introduction to Real Analysis, S. K. Mapa, Leveant Book Publishers, 2022.
- Differential Calculus, Shanti Narayan and P. K. Mittal, S. Chand & Co., 2022.
- The Elements of Calculus, D. C. Pavate and G. V. Bhagwat, Popular Prakashan, 1956.
- Schaum's Outlines of Calculus, E. Mendelson, McGraw Hill, 2021.

- A Course in B.Sc. Mathematics-I, S. S. Bhoosnurmath, C. S. Salimath and V. S. Shetiya EBPB, 2015.
- Objective Mathematics – Differential Calculus and Integral Calculus, K. B. Pandey, A. K. Singh and V. Yadav, Pragati Prakashan, 2020.
- A Course in B.Sc. Mathematics-I, C. S. Salimath, EBPB, 2020.

<b>Formative Assessment for Theory</b>	
<b>Assessment Occasion/ Type</b>	<b>Marks</b>
InternalAssessmentTest1	<b>15</b>
InternalAssessmentTest2	<b>15</b>
Assignment	<b>10</b>
<b>Total</b>	<b>40</b>
<b>Formative Assessment as per guidelines.</b>	

**Course Title: 2.2 Mechanics, Properties of Matter and Sound**

**Course Code: IBSMT1DSC02T**

<b>Type of Course</b>	<b>Theory / Practical</b>	<b>Credits</b>	<b>Formative Assessment Marks</b>	<b>Summative assessment Marks</b>	<b>Total Marks</b>
<b>DSC-2</b>	<b>Theory</b>	<b>4</b>	<b>40</b>	<b>60</b>	<b>100</b>

**Course Outcomes:**

After completion of course students will be able to:

- Analyze data (graphical and analytical), through estimation of errors and their sources in the experimental determination of physical quantities. Also able to fit experimental data to straight-line graph and calculate standard deviation, standard error and probable error.
- Distinguish between inertial, non-inertial and rotational frames of reference. Also able to understand and distinguish real, fictitious and Coriolis force and their importance in real life.
- Distinguish Galilean, Lorentz transformation and their applications. Understand special theory of relativity by studying variation of length, mass and time with relativistic velocity.
- Analyze collision problems through laboratory and center of mass frame of reference, also able to relate these two frames.

- Understand concept of moment of inertia of regular/irregular bodies and its variation with axes through distribution of mass.
- Find Young's modulus, rigidity modulus and their importance in understanding Materials and applications. Understand concept of sound and their experimental determination.
- Understand importance of mechanics, properties of matter and sound in real life situations (everyday life).

Unit	Title: Mechanics, Properties of Matter and Sound	60 Hours / Sem
<b>Unit I</b>	<p><b>Frames of References:</b> Inertial frames, Galilean transformation equations (derivation), Invariance of Newton's Laws under Galilean Transformations, Invariance of the laws of conservation of momentum and energy under Galilean transformations, non-inertial frames and fictitious force (in brief), rotating frame of reference(quantitative), concept of the Coriolis force and mention of its expression.</p> <p><b>Special Theory of Relativity:</b> Postulates of special theory of relativity. The Lorentz transformation equations (Derivation), Length contraction, Time dilation, Simultaneity, Twin paradox, Addition of velocities. Mass-Energy Equivalence (with derivation). Space -Time diagram: Minkowski's four-dimensional space-time.</p>	<b>15hrs</b>
<b>Unit II</b>	<p><b>Collisions:</b> Two-dimensional elastic and inelastic collisions in center of mass and laboratory frames of reference: i) relation between velocities in center of mass system and laboratory system ii) relation between angle of recoil in laboratory system and angle of scattering in center of mass system. Conservation of linear momentum in case of variable mass.</p> <p><b>Gravitation:</b> Central force, Kepler's laws of Planetary motion(derivation). Newton's Law of Gravitation. Determination of Gravitational constant by Cavendish's method. Density and mass of the Earth. Satellite in circular orbit and Geosynchronous orbits. Weightlessness. Basic idea of global positioning system (GPS). Qualitative discussions on applications of artificial satellites.</p>	<b>15hrs</b>
<b>Unit III</b>	<p><b>Rotational Dynamics:</b> Angular momentum of a particle and system of particles. Torque, principle of conservation of angular momentum. Rotation about a fixed axis, moment of inertia, theorem of parallel and perpendicular axes(derivation). M.I. of rectangular lamina and circular disc(derivations), hollow and solid cylinders (mention of expressions). Theory of flywheel and experimental determination of radius of gyration. Theory of compound pendulum, interchangeability of centers of suspension and oscillation, four points collinear with the C.G. about which the time period is same, conditions for maximum and minimum time periods. Bar pendulum, experimental determination of 'g' using bar pendulum. Bifilar suspension with parallel threads (derivation).</p>	<b>15hrs</b>
<b>Unit IV</b>	<p>Elasticity: Relation between elastic constants(derivation), Poisson's ratio in terms of elastic constants(derivation). Twisting couple on a solid cylinder (wire), work done in twisting solid cylinder (wire). Determination of coefficient of rigidity by torsional pendulum and Maxwell needle method. Bending of beams- neutral surface, neutral axis, plane of bending, bending moment. Expression for bending moment(derivation), uniform bending (mention formula). Theory of light cantilever(derivation). Sound: Free, forced and sustained vibrations, resonance with examples. Analytical treatment of damped and forced vibrations. Theory of</p>	<b>15hrs</b>

	Helmholtz resonator, condition for resonance: Expressions for amplitude and phase. Effect of damping on the phase of forced vibration.	
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**Recommended books:**

1. Mechanics (XX-Edition)–D.S. Mathur-S. Chand & Company Ltd., New-Delhi,2007.
2. Mechanics & Electrodynamics (XVII-Edition, Course-1&2)– Brijlal, Subramanyam & Jivan Seshan, S. Chand & Company Ltd., New-Delhi,2008.
3. Properties of Matter (XIII-Edition)–Brijlal & Subramanyam, Eurasia Publishing House Pvt.Ltd., New-Delhi,2001.
4. Elements of Properties of Matter (XXVIII-Edition), D.S. Mathur-S. Chand & Company Ltd., New Delhi,2005.
5. Physics, Vol. No. I(V-Edition)–Resnick, Halliday & Krane–John Wiley & Sons Inc., New-York, Singapore,2005.
6. Berkeley Physics, Vol. No. I–ABC Publications, Bangalore & New-Delhi.
7. University Physics (XI-Edition)-Young & Freedman–PearsonEducation,2004.
8. Introduction to Relativity-R. Resnik.
9. Text book of Sound – Brijlal and Subrahmanyam
10. Refresher Course in B.Sc. Physics Volume 1– C. L. Arora, S. Chand & Company
11. Theoretical Mechanics – Spiegel (Schaum Series).

<b>Formative Assessment for Theory</b>	
<b>Assessment Occasion/ Type</b>	<b>Marks</b>
InternalAssessmentTest1	<b>15</b>
InternalAssessmentTest2	<b>15</b>
Assignment	<b>10</b>
<b>Total</b>	<b>40</b>
<b>Formative Assessment as per guidelines.</b>	

**Course Title: 2.3 Chemistry-I**

**Course Code: IBSMT1DSC03T**

<b>Type of Course</b>	<b>Theory / Practical</b>	<b>Credits</b>	<b>Formative Assessment Marks</b>	<b>Summative assessment Marks</b>	<b>Total Marks</b>
<b>DSC-3</b>	<b>Theory</b>	<b>4</b>	<b>40</b>	<b>60</b>	<b>100</b>

**Course Outcome:**

**After completion of course students will be able to:**

- Describe the dual nature of radiation and matter; dual behaviour of matter and radiation, de Broglie's equations, Heisenberg uncertainty principle and their related problems. Orbital shapes of s, p, d and f atomic orbitals, nodal planes. Electronic configurations of the atoms.

- Define periodicity, explain the cause of periodicity in properties, classify the elements into four categories according to their electronic configuration. Define atomic radii, ionization energy, electron affinity and electro negativity.
- Explain bond lengths, bond angles, bond energies and dihedral angles, bond polarity, dipole moment and illustrate with examples of organic compounds, factors affecting bond parameters. Localized and delocalized bonds. Linear and crossed conjugation system. Electron displacement effects and their applications: inductive effect, electrometric effect, resonance effect, hyper conjugation, and steric effect
- Know the meaning of reaction mechanism. Curly arrow rules. Classification of organic reactions with suitable examples. Types of bond fission. Types of reagents. Reactive intermediates.
- Understand the meaning of stereoisomerism, molecular representation, conformational isomers and configurational isomers, geometrical isomerism, E and Z notation, determination of configuration of geometric isomers by dipole moment method and anhydride formation method, Syn and Anti isomers in compounds containing C=N and their significance.
- Understand the molecular velocity distribution of molecular velocities, Calculation of molecular velocities. Relation between RMS, average and most probable velocities. Distribution of energy amongst molecules. Law of equi partition of energy. Collision properties and coefficient of viscosity, calculation of  $\sigma$  and variation of viscosity with temperature and pressure Critical phenomena Relation between critical constants and van der Waals equation, principle of continuity of states, law of corresponding states.
- Know the principles of titrimetric analysis, titration curves, balancing redox equations, titration curves, theory of redox indicators and applications.
- Understand the titration curves, indicators for precipitation titrations involving silver nitrate. Indicators for EDTA titrations - theory of metal ion indicators.
- Understand stages in gravimetric analysis, conditions of precipitation. theories of precipitation, factors influencing precipitation, co-precipitation and post-precipitation. To know about Structure, specificity, conditions and applications of organic reagents. Advantages of organic reagents over inorganic reagents.

Unit	Title: Chemistry 1	60 Hours / Sem
Unit I	<b>Unit-I : ATOMIC STRUCTURE &amp; PERIODICITY OF ELEMENTS</b>	15hrs
	<b>Atomic Structure:</b> Review of Rutherford's atomic model, Bohr's theory, Hydrogen atomic spectra. Derivation of radius and energy of an electron in hydrogen atom, limitations of Bohr's theory, dual behavior of matter and radiation, de Broglie's equations, Heisenberg uncertainty principle and their related problems. Schrodinger's wave equation for hydrogen atom and meanings of various terms in it (derivation not required). Significance of $\psi$ and $\psi^2$ . Radial and angular wave functions (atomic orbitals) and their distribution curves for 1s, 2s, 2p, 3s, 3p and 3d orbitals (Only graphical representation). Radial and angular nodes, nodal planes and their significance. Quantum numbers and their significances. Shapes of s, p, d and f atomic orbitals. Rules for filling electrons in various orbitals, Electronic configurations of the	

	<p>atoms (atomic number up to 54). Concept of exchange energy. Anomalous electronic configurations. <b>(11 Lectures)</b></p> <p><b>Periodicity of elements:</b> Brief account on the following properties of elements with reference to s and p-block and trends in groups and periods: Atomic and ionic radii, Effective nuclear charge, screening effect, Slater's rules, ionization enthalpy, electron gain enthalpy, electronegativity, Pauling / Allred Rochow scale .</p> <p><b>(4 Lectures)</b></p> <p>Numerical problems are to be solved wherever applicable.</p>	
Unit II	<p><b>FUNDAMENTALS OF ORGANIC CHEMISTRY &amp; STEREOCHEMISTRY-I</b></p> <p><b>Fundamentals of Organic Chemistry:</b> Review of hybridization (sp<sup>3</sup>, sp<sup>2</sup> and sp.). Bond parameters - bond lengths, bond angles, bond energies and dihedral angles, bond polarity, dipole moment and illustrate with examples of organic compounds, factors affecting bond parameters. Localized and delocalized bonds. Electron displacement effects and their applications: inductive effect, electrometric effect, resonance effect, hyper conjugation, and steric effect. <b>(6 Lectures)</b></p> <p><b>Organic reaction Mechanism:</b> Meaning of reaction mechanism. Curly arrow rules. Classification of organic reactions: substitution, addition, elimination, rearrangement, oxidation and reduction reactions with suitable examples (general mechanisms of all the reactions expected), Types of bond fission. Types of reagents: Electrophiles and nucleophiles (all types of examples to be given). Reactive intermediates: Structure, formation, stability and reactions of Carbocations, Carbanions, Free radicals, Carbenes, Nitrenes and Arynes. <b>(5 Lectures)</b></p> <p><b>Stereoisomerism-I:</b> Meaning of stereoisomerism, Molecular representation: Fischer's projection formulae, Newman's formulae, Saw horse formulae. conformational isomers and configurational isomers (distinction between conformation and configuration), Geometrical isomerism: definition, reason for geometrical isomerism, E and Z notation, determination of configuration of geometric isomers by dipole moment method and anhydride formation method, Syn and Anti isomers in compounds containing C=N and their significance. <b>(4 Lectures)</b></p>	15hrs
Unit III	<b>GASEOUS &amp; LIQUID STATES</b>	15hrs

	<p>Gaseous state: Review of kinetic theory of gases. Molecular velocity: Distribution of molecular velocities, Calculation of molecular velocities - , most probable, average and root mean square velocities. Relation between RMS, average and most probable velocities. Distribution of energy amongst molecules. Law of equipartition of energy. Collision properties: Collision frequency, collision diameter (<math>\sigma</math>), collision cross-section, collision number and mean free path and coefficient of viscosity, calculation of <math>\sigma</math> and <math>\eta</math>, variation of viscosity with temperature and pressure Critical phenomena: Andrews isotherms of CO<sub>2</sub>, critical constants and their determination. Relation between critical constants and van der Waals equation (Derivation), principle of continuity of states, law of corresponding states. Numerical problems are to be solved wherever applicable. <b>(7 Lectures)</b></p> <p><b>Liquid state:</b> Molecular forces and general properties of liquids.</p> <p><b>Surface tension:</b> surface tension, surface energy, shapes of liquid drops and soap bubbles, capillary action, determination of surface tension by capillary rise method, drop weight and drop number methods. Effect of temperature on surface tension. Parachor, Additive and constitutive properties: atomic and structural parachor. Elucidation of structure of benzene and benzoquinone.</p> <p><b>Viscosity:</b> Viscosity coefficient, fluidity, molecular viscosity, relative viscosity and absolute viscosity, determination of viscosity using Ostwald viscometer. Effect of temperature, weight, size and shape of molecules and intermolecular forces.</p> <p><b>Refractive index:</b> Definition, specific and molar refraction. Determination of refractive index using Abbe's refractometer. Additive and constitutive properties: Elucidation of structure of molecules. Numerical problems are to be solved wherever applicable. <b>(8 Lectures)</b></p>	
Unit IV	<p><b>VOLUMETRIC &amp; GRAVIMETRIC ANALYSIS</b></p> <p><b>Volumetric Analysis:</b> Review of normality, molarity, molality, mole fraction, ppm &amp; ppb . Standard solutions.</p> <p><b>Acid-base titration:</b> Theory of acid – base indicators. Theory, titration curves for all types of acid – base titrations.</p> <p><b>Redox titration:</b> Theory of redox indicators. Theory, types and applications.</p> <p><b>Precipitation titration:</b> Theory, indicators for precipitation titrations involving silver nitrate- Volhard's and Mohr's methods and their differences.</p> <p><b>Complexometric titration:</b> Theory, titration methods employing EDTA (direct, back, displacement and indirect determinations). Indicators for EDTA titrations - theory of metal ion indicators. Determination of hardness of water. <b>(9 Lectures)</b></p> <p><b>Gravimetric Analysis:</b> Stages in gravimetric analysis, conditions of precipitation, factors influencing precipitation, co-precipitation and post-precipitation. Structure, specificity, conditions and applications of organic reagents such as salicylaldehyde, oxine and dimethylglyoxime in inorganic analysis. Advantages of organic reagents over inorganic reagents. <b>(6 Lectures)</b></p> <p>Numerical problems are to be solved wherever applicable.</p>	15hrs

**Recommended Books/References:**

1. Lee, J.D. Concise Inorganic Chemistry ELBS, 1991.
2. Cotton, F.A., Wilkinson, G. & Gaus, P.L. Basic Inorganic Chemistry, 3 rd Ed., Wiley.

3. Huheey, J. E., Keiter, E.A., Keiter, R.L. & Medhi, O. K. Inorganic Chemistry: Principles of Structure and Reactivity, Pearson Education India, 2006.
4. Rodgers, G. E. Inorganic & Solid State Chemistry, Cengage Learning India Ltd., 2008.
5. Organic Chemistry-P. Y. Bruice, 7th Edition, Pearson Education Pvt. Ltd., New Delhi (2013).
6. Heterocyclic Chemistry- R. K. Bansal, 3rd Edition, New- Age International, New Delhi, 2004.
7. McMurry, J.E. Fundamentals of Organic Chemistry, 7 th Ed. Cengage Learning India Edition, 2013.
8. Morrison, R.T. & Boyd, R.N. Organic Chemistry, Pearson, 2010.
9. Bahl, A. & Bahl, B.S. Advanced Organic Chemistry, S. Chand, 2010.
10. Organic Chemistry Volume-I, II- I. L. Finar, 6th Edition, ELBS London (2004).
11. P.W. Atkins: Physical Chemistry, 2002.
12. Text Book of Physical Chemistry - P. L. Soni, S. Chand & Co., 1993.
13. Principles of Physical Chemistry - B. R. Puri, L. R. Sharma and M. S. Patania, S. L. N. Chand & Co. 1987. A text book of Physical Chemistry- A. S. Negi & S C Anand, 3rd edition 2022

<b>Formative Assessment for Theory</b>	
<b>Assessment Occasion/ Type</b>	<b>Marks</b>
InternalAssessmentTest1	<b>15</b>
InternalAssessmentTest2	<b>15</b>
Assignment	<b>10</b>
<b>Total</b>	<b>40</b>
<b>Formative Assessment as per guidelines.</b>	

### 3. Ability Enhancement & Value-Added Course (AE&VAC)

**Course Title: 3.1 Language 1/ English**

**Rhythmic Voyage**

**Course Code: IBSMT1AB01T**

Type of Course	Theory / Practical	Credits	Formative Assessment Marks	Summative assessment Marks	Total Marks
AE& VAC-1	Theory	4	40	60	100

Course Outcomes (COs): At the end of the course students will be able to:

CO1: Acquire the knowledge of English prose and poetry

CO2: Acquire the knowledge of parts of speech

CO3: Appreciate the nuances of English poetry and prose

CO4: Use proper articles, prepositions and forms of verbs

CO5: Use appropriate tense forms in sentences

CO6: Acquire basic language skills

#### **Unit I: Prose**

1. My Lord the Baby- Rabindranath Tagore
2. Old Love – Jeffery Archer
3. What I Found in My Pocket – G K Cheterton
4. The Beauty Industry – Aldous Huxley

5. The Little Girl – Kathleen Beanchamp Murry

### **Unit II: Poetry**

1. Our Casuarina Tree – Toru Dutt
2. Once Upon a Time – Gabriel Okara
3. A Prayer for my daughter – W B Yeats
4. On His Blindness – John Milton
5. Success is Counted Sweetest – Emily Dickenson

### **Unit III: Grammer**

1. Parts of Speech (With special emphasis on Verbs, Adverbs, adjectives and Prepositions)
2. Use of Articles in English
3. Cloze Test

### **Unit IV**

1. Tenses – (Special emphasis on Simple Present, Present Continuous and Simple Past Tense)
2. Reading Skills – Meaning, Types, Techniques
3. Synonyms and Antonyms

### **Recommended Books:**

1. Text Book: **Rhythmic Composition** An Anthology of Prose and Poetry, Board of Editors: Maruti Publications, Guntur
2. R. P. Singh's *Functional Skills in Language and Literature*, OUP
3. Murphy, Raymond. *Intermediate English Grammar*. Cambridge Univ. Press.
4. Wren and Martin. *High School English Grammar and Composition*

Assessment Occasion/ Type	Marks
InternalAssessmentTest1	15
InternalAssessmentTest2	15
Assignment	10
<b>Total</b>	<b>40</b>
<b>Formative Assessment as per guidelines.</b>	

### **Course Title: 3.2 Art Education (Performing and Visual)**

**Course Code: IBSMT1AB02T**

Type of Course	Theory / Practical	Credits	Formative Assessment Marks	Summative assessment Marks	Total Marks
AE&VAC-2	Theory	2	20	30	50

#### **Learning Outcomes:**

After completion of this course, it is expected that the students will be able to:

- articulate the importance and the role of aesthetics and art in education;
- understand the medium of collage and its versatility;
- design, plan, and create an expressive self-portrait collage by applying a variety of collage techniques;
- design and set up an interactive visual art exhibition to display their artworks;
- understand and appreciate art-based learning experiences;
- develop the ability to reflect and challenge their assumptions and beliefs around art and develop new understandings.

#### **UNIT-1: Understand the Importance of Aesthetics and Art in Education (1 Week)**

Students will collectively view and engage in a series of artworks closely, share their observations, critically analyze their observations, listen to multiple perspectives from peers, suspend judgements, and draw their own understanding of the artwork. They will gain familiarity with the role of art in education and will recognize aesthetic experiences through compare and contrast.

- A. Introduction to Art and Aesthetics.
- B. Visual Thinking Strategy (VTS) Activity.
- C. Learning Art Forms (Warli, Madhubani, Gond Art and Others) - Any One.
- D. Art as Self-Expression and its Application in Education.

### **UNIT-II: Exploring paper collage and its techniques (2 Weeks)**

Students will view and discuss examples of collage artworks; artist process and artist interview videos Students will get a chance to compare and contrast various ways collage as a medium is used and will engage in discussions and dialogues. Students will analyze effective ways of using the medium of collage in educational and other settings.

- A. Introduction to Collage and its Medium (Newspaper, Fabric, Ribbon, Coins, Feathers and others).
- B. Manipulating Paper in Different Ways and Creating 2-D Composition of Paper Collage.
- C. Creating Visual Texture, Physical Texture and Patterns Using Techniques Like (Decoupage, Photomontage, And 3 -D).

### **UNIT-III: Ideating and creating for an Expressive Self-Portrait (7 Weeks)**

Students will engage in art making activities. Students will draw from their previous experiences of using paper for 2D explorations and add more interest to their unique 3D explorations. Students will continuously reflect on their learning through artwork. Students will work independently and collaboratively throughout the course.

- A. Making Paper Stand and Create Paper Sculpture Using 3-D Techniques (Like Paper - Cutting, Paper Folding, Clay, Paper- Mache).
- B. Engaging in Close Observation Sketching and Drawing Activity (Self- Portrait, Poster, Calligraphy).
- C. Expressive Self- Portrait Drawing and Collage

### **UNIT-IV: Designing and setting up an Exhibition (5 Weeks)**

Designing, Planning and Setting Up an Art Exhibition.

### **Pedagogy:**

Students will be planning the various aspects of a visual art exhibition: ways to display artworks, designing the layout of the exhibition space and how the audience will move within the space. Students will divide the tasks among themselves and set up the exhibition space.

**Mode of Transaction:**

The entire syllabus is based on practical exercises. The nature and scope of activities and tasks are explained in each unit.

**Mode of Assessment:**

The examination scheme and mode shall modify and/or evolve as per the guidelines of the Examination Board, Karnatak University Dharwad, from time to time.

<b>Formative Assessment for Theory</b>	
<b>Assessment Occasion/ Type</b>	<b>Marks</b>
InternalAssessmentTest1	<b>5</b>
InternalAssessmentTest2	<b>5</b>
Assignment	<b>10</b>
<b>Total</b>	<b>20</b>
<b>Formative Assessment as per guidelines.</b>	

**References:**

- Veerswar, P. & Sharma, N. (2001). Aesthetics. Krishna Prakashan Media.
- Sharma, L.C. (1980). A brief history of Indian painting. Goal publishing house.
- Chandok, A. (2015). Art and education. Nirmal Publishing House.
- Prasad, D. (1998). Art as the basis of education. NBT.
- Ghosh, S. (2020). Madhubani painting-vibrant folk art of Mithila. Art and Design Review, 8(2), 61-78.
- Mishra, S. (2021). Journey of folk art: The case of Mithila painting of Bihar. Journal of Engineering Technologies and Innovative Research, 8(3), 61-78.

**Resources:**

- Art 21. (2009, Sep 26). Arturo Herrera: artist [Video]. You Tube. [https://www.youtube.com/watch?v=Oagx3\\_NZSHU](https://www.youtube.com/watch?v=Oagx3_NZSHU)
- Easel Stories. (2018, Sep 18). G. Subramanian: Collage artist [Video]. You Tube <https://www.youtube.com/watch?v=ioRRi9R46a0>

- Planning templates for exhibition.
- Handouts out on Collage techniques and artist examples Works of Deborah Roberts, William Kentridge, Wangechi Mutu, etc.

**Course Title: 3.3 Understanding India Part-I (Indian Ethos and Knowledge Systems)**

**Course Code: IBSMT1AB03T**

Type of Course	Theory / Practical	Credits	Formative Assessment Marks	Summative assessment Marks	Total Marks
AE&VAC-3		2	20	30	50

**Learning Outcomes:**

After the completion of the course, it is expected that the students will be able to:

- recognize the vast corpus of knowledge traditions of India, while developing an appreciation for it,
- apply their acquired research and critical thinking skills to multidisciplinary themes, and-appreciate the diverse belief systems and knowledge traditions in India.
- discuss the formation and evolution of knowledge of India through multidisciplinary lens.

**UNIT-1: Introduction to the Knowledge of India (2 Weeks)**

A. Definition & Scope; Relevance of this Knowledge.

- B. Need to revisit our Ancient Knowledge, Traditions, and Culture.

### **UNIT-II: Culture-Art and Literature (4 Weeks)**

- A. Fine Arts (Traditional Art Forms, Contemporary Arts, Arts and Spirituality, Arts Identity, and Art and Globalization): and.
- B. Performing Arts (Indian Dance Systems, Traditional Indian Pieces of Music, Visual Arts, Folk Arts, etc.,)
- C. Literature (Sanskrit Literature, Religious Literature, Indian Poetry, Folk Literature, Indian Fiction, Sangam Literature, Kannada, Malayalam Literature, Bengali Literature, etc.

### **UNIT-III: Polity, Law and Economy (5 Weeks)**

- A. Kingship & Types of Government (Oligarchies, Republics); Local Administration (Village Administration);
- B. Basis of Law: Dharma & its sources; Criminal Justice: Police, and Punishments; Lessons from Chanakya Niti; Lessons for modern-day India: Towards a Tradition-Driven Equitable and Just Polity and Law System.
- C. Overview of the Indian Economy from the Stone Age to the Guptas: The new culture of Urbanization (including Castes, Guilds, and other Economic Institutions; Harappan Civilization Economy; Growth of Agriculture and Proliferation of New Occupations: Growth of Writing);
- D. Internal & External Trade and Commerce, including Trade Routes, Indo-Roman Contacts, and Maritime Trade of South India; Temple Economy.
- E. Land Ownership - Land Grants & Property Rights, Land Revenue Systems.
- F. Understanding Artha shastra: Ideas & Criticism; Locating Relevance of Ancient Indian Economic Thought in Modern-Day Indian Economy.
- G. Understanding Economy, Polity and Law in Contemporary India.

### **UNIT-IV: Environment & Health (4 Weeks)**

- A. Understanding Equilibrium between Society & Environment: Society's Perceptions Natural Resources like Forests, Land, Water, and Animals.
- B. Sustainable Architecture & Urban Planning; Solving Today's Environmental Challenges (Best Practices from Indigenous Knowledge, Tribes and Community-Led Efforts, etc.).
- C. India's Health Tradition: Ayurveda, Siddha, Ashtavaidya, Unani, and other Schools of Thought; Lessons from Sushruta Samhita and Charaka Samhita:
- D. Mental health in Ancient India: Towards Time-Tested Concepts of Mental Wellness (Concept of Mind, Dhyana, Mind-Body Relationship, Ayurveda, Yoga Darshan, Atman, etc.)

### **Practicum:**

The modes of curriculum transaction will include lectures, Tutorials, and Practicum.

Practicum will include organization of day trips that help student teachers watch events relating to visual and performing art; activities that enable student teachers to identify and record through photos, videos, etc. the elements of ancient architecture still existing in the city around them; organization of Individual and group presentations based on themes such as Polity, Law and Economy etc., organization of a 'Knowledge of India' day in the institution to celebrate the culture (food, clothes, etc.) that they would have been explored in lectures and tutorials; interactions with family members, elders, neighbors, and other members of society about the evolution of local systems and economy etc.

### **Mode of Transaction:**

The entire syllabus is based on practical exercises. Classroom interactions will include learner driven participatory sessions, and Guest lectures through experts and practitioners, such as fine arts and performing arts practitioners along with contemporary poets & writers of Indian literature. Also, it will include Screening of documentaries and films followed by a discussion; Learner-driven discussions in the form of focus group discussions (FGDs), Socratic Discussions, etc.; Debate/discussion can be organized to explain India's Vaad tradition: discussion on how some of the ancient methods of teaching are relevant in today's time; discussions that help Identify ethical dilemmas in daily lives and understanding the importance of ancient ethics and values to resolve them.

### **Mode of Assessment:**

The approaches to learning assessment will include:

- Supporting the curiosity and interest of student teachers in the selected themes through a multi-modal approach, including regular assessments and actionable feedback that enable learners to outline and interpret the processes and events of the formation & evolution of knowledge of India through a multidisciplinary lens.
- Enabling the student teachers to demonstrate critical analysis and independent thinking of the processes and events in the formulation & evolution of different traditions that help student teachers evaluate the diverse traditions of India to distinguish its achievements and limitations.
- Use of first-hand or second-hand experiences that enable student-teachers to develop and articulate an ethics-based education rooted in Indian thought to their students in the classroom context.

The examination scheme and mode shall modify and/or evolve as per the guidelines of the Examination Board, Karnatak University Dharwad, from time to time.

<b>Formative Assessment for Theory</b>	
<b>Assessment Occasion/ Type</b>	<b>Marks</b>
InternalAssessmentTest1	<b>5</b>
InternalAssessmentTest2	<b>5</b>
Assignment	<b>10</b>
<b>Total</b>	<b>20</b>
<b>Formative Assessment as per guidelines.</b>	

### **Suggestive Readings Material:**

Teachers may suggest books/readings as per the needs of the learners and learning content.

- Altekar, A.S. (2009). Education in Ancient India. New Delhi: Gyan Publishing House.(Originally published in 1944 by Osmania University. Nand Kishore & Bros.
- Dominik, W. (2001). The roots of ayurveda. Penguin Classics.
- Mahadevan, B., Bhat, R.V. & Nagendra, P.R.N. (2021). Introduction to Indian knowledge system: Concepts and applications. PHI Learning Pvt. Ltd.
- Nehru, J (1946).The Discovery of India. UK:Meridian Books. Reprinted (2008) by Penguin.
- Sinha, A. (1998). Design of settlements in the vaastu shastras. Journal of Cultural Geography, 17(2), 27-41.
- Swami Suparnananda (2016). The Cultural Heritage of India (Vol. 2). The Rama Krishna Mission Institute of Culture.
- Tachikawa, M. (1971). A sixth-century manual of Indian logic: A translation of the Nyayapravesa. Journal of Indian Philosophy, 1(2), 111-145.
- Tripathi, S. (2011). Ancient maritime trade of the eastern Indian littoral. Current Science, 100(7), 1076-1086.

**SEMESTER- II**  
**B.Sc. B. Ed (Mathematics)**

**Courses**

- 1. Discipline Specific Course: DSC**
  - 1.1 Number Theory and Calculus – II
  - 1.2 Number Theory and Calculus – II Practical-I
  - 1.3 Thermal Physics and Fluid Mechanics
  - 1.4 Chemistry 3
  - 1.5 Chemistry 3 Practical
  
- 2. Ability enhancement & Value-Added Courses**
  - 2.1 Language-II /Kannada/Hindi
  - 2.2 Understanding India-II (Indian Ethos & Knowledge systems)
  - 2.3 Teacher And Society

### 1. Discipline Specific Course (DSC)

**Course Title: 1.1 Number Theory and Calculus- II**

**Course Code: IBSMT2DSC01T**

Type of Course	Theory / Practical	Credits	Formative Assessment Marks	Summative assessment Marks	Total Marks
DSC-1	Theory	4	40	60	100

#### **Course Outcomes:**

After completion of course students will be able to:

- Understand the concepts of divisibility and congruence.
- Analyze the applications of Fermat's and Wilson's theorems.
- Study the applications of definite integrals to areas, volumes and surface of revolution.

- Learn maxima and minima of the functions of two variables.
- Find the extreme values of the functions.
- Solve dot and cross product of vectors.
- Understand the concepts of gradient, divergence and curl.

<b>Unit</b>	<b>Title: Number Theory and Calculus – II</b>	<b>60 Hours / Sem</b>
<b>Unit - I</b>	<b>Number Theory:</b>	<b>15 Hrs.</b>
	Divisibility. Properties of divisibility. Division algorithm. GCD. Euclid's algorithm. Relatively prime numbers. Fundamental theorem of arithmetic. The number of positive divisors and sum of all the positive divisors of a number. The theory of congruence. Basic properties of congruence. Euler's theorem, Fermat's theorem. Wilson's theorem.	
<b>Unit - II</b>	<b>Integral Calculus:</b>	<b>15 Hrs.</b>
	Reduction Formulae, application of definite integrals to areas, volumes and surface of revolution. Length of plane curves.	
<b>Unit - III</b>	<b>Multivariate Calculus:</b>	<b>15 Hrs.</b>
	Functions of two or more variables, Partial derivatives of implicit and composite functions, Euler's theorem and its extension, Total differentials, Jacobians and standard properties and illustrative examples. Taylor's and Maclaurin's series for functions of two variables, Maxima-Minima of functions of two variables, Lagrange's method of undetermined multipliers.	
<b>Unit - IV</b>	<b>Vector Calculus:</b>	<b>15 Hrs.</b>
	Dot and cross product of vectors. Ordinary derivatives of vectors. Continuity and differentiability of a vector function. Derivatives of sum, dot product. Cross product and triple products of vectors. Differential of vectors. The vector differential operator $\text{del}$ . The gradient, Divergence and curl. Solenoidal and irrotational vectors.	

#### **Recommended Books:**

1. Elementary Number Theory, D. M. Burton, McGraw Hill, 2023.
2. Number Theory, G. E. Andrews, Dover Publications, 1994.
3. Integral Calculus, Shanti Narayan and P. K. Mittal, S. Chand and Co. Pvt. Ltd., 2005.
4. Integral Calculus, S. K. Pundir and B. Singh, Pragati Prakashan, 2020.
5. Differential Calculus, Shanti Narayan and P. K. Mittal, S. Chand & Company, New Delhi, 2022.
6. Schaum's Outlines of Calculus, E. Mendelson, McGraw Hill, 2021.
7. Vector Calculus, J. N. Sharma and A. R. Vasishtha, Krishna Prakashan, 2020.
8. A Textbook of Vector Calculus, Shanti Narayan and P. K. Mittal, Visionias, 2023.
9. Vector Calculus, R. K. Pandey, Oxford Publications, 2012.

10. A Course in B.Sc. Mathematics-II, S. S. Bhoosnurmath, C. S. Salimath and V. S. Shetiya, EBPB, 2016
11. A Text Book of B.Sc. Mathematics, G. K. Ranganath, S. Chand Publications, 2009.
12. Mathematical Methods, S. K. Pundir and B. Singh, Pragati Prakashan, 2020.
13. A Course in B.Sc. Mathematics - II, C. S. Salimath, EBPB, 2021.
14. Objective Mathematics – Differential Calculus and Integral Calculus, K. B. Pandey, A. K. Singh and V. Yadav, Pragati Prakashan, 2020.

<b>Formative Assessment for Theory</b>	
<b>Assessment Occasion/ Type</b>	<b>Marks</b>
InternalAssessmentTest1	<b>15</b>
InternalAssessmentTest2	<b>15</b>
Assignment	<b>10</b>
<b>Total</b>	<b>40</b>
<b>Formative Assessment as per guidelines.</b>	

**Course Title: 1.2 Number Theory and Calculus – II (Practical-I)**

**Course Code: IBSMT2DSC01P**

<b>Type of Course</b>	<b>Theory / Practical</b>	<b>Credits</b>	<b>Formative Assessment Marks</b>	<b>Summative assessment Marks</b>	<b>Total Marks</b>
<b>DSC-1P</b>	<b>Practical</b>	<b>2</b>	<b>30</b>	<b>20</b>	<b>50</b>

**Course Outcomes:**

After completion of course students will be able to:

- Learn Scilab software, which is free and open-source software for computer programming.
- Solve problems on Number Theory using Scilab language.
- Acquire the knowledge of applications on the concepts of Number Theory.

- Solve reduction formulas.
- Verify Euler's theorem and its extension.
- Analyse dot and cross products.

### List of Experiments

**[Each will have 4rs / Week (Minimum 12 experiments)]**

1. Program to solve examples using Euler's theorem.
2. Program to solve examples using Fermat's theorem.
3. Program to solve examples using Wilson's theorem.
4. Program on reduction formulas for  $\int \sin^n x \, dx$  and  $\int \cos^n x \, dx$  ( for all positive values of n) with suitable examples.
5. Program on reduction formulas for  $\int_0^{\pi/2} \sin^n x \, dx$   $\int_0^{\pi/2} \cos^n x \, dx$  (for all positive odd and even integral values of n)with suitable examples.
6. Program on reduction formulas for  $\int \tan^n x \, dx$  and  $\int \cot^n x \, dx$  ( for all positive values of n) with suitable examples.
7. Program on reduction formulas  $\int \sec^n x \, dx$  and  $\int \operatorname{cosec}^n x \, dx$  ( for all positive values of n) with suitable examples.
8. Program on reduction formulas for  $\int x^m (\log x)^n \, dx$  and  $\int x^n e^{ax} \, dx$  ( for all positive values of m and n) with suitable examples.
9. Program on reduction formulas for  $\int \sin^m x \cos^n x \, dx$  and  $\int_0^{\pi/2} \sin^m x \cos^n x \, dx$  ( for all positive values of m and n) with suitable examples.
10. Program to verify the Euler's theorem and its extension.
11. Programs to construct series using Maclaurin's expansion for functions of two variables.
12. Program to find gradient, divergence and curl.

#### **Recommended Books:**

1. Scilab by Example, M. Affouf, Create Space Independent Publishing Platform, 2012.
2. Scilab (A free software to Matlab), H. Ramchandran and A. S. Nair, S. Chand &Co., 2018.
3. Scilab – A Beginner's Approach, A. K. Verma, Cengage Learning India Pvt. Ltd., 2018.
4. Programming in Scilab, R. Goyal and M. Dhingra, Narosa Publishing, 2019.

5. Computing in Scilab, C. Jain, Cambridge University Press, 2022.
6. Vector Calculus, J. N. Sharma and A. R. Vasishtha, Krishna Prakashan, 2020.
7. Integral Calculus, Shanti Narayan and P. K. Mittal, S. Chand and Co. Pvt. Ltd., 2005.
8. Differential Calculus, Shanti Narayan and P. K. Mittal, S. Chand & Co., New Delhi, 2022.
9. Schaum's Outlines of Calculus, E. Mendelson, McGraw Hill, 2021.
10. A Text Book of B.Sc. Mathematics, G. K. Ranganath, S. Chand Publications, 2009

**Course Title: 1.3 Thermal Physics and Fluid Mechanics**

**Course Code: IBSMT2DSC02T**

<b>Type of Course</b>	<b>Theory / Practical</b>	<b>Credits</b>	<b>Formative Assessment Marks</b>	<b>Summative assessment Marks</b>	<b>Total Marks</b>
<b>DSC-2</b>	<b>Theory</b>	<b>4</b>	<b>40</b>	<b>60</b>	<b>100</b>

## Course Outcome:

At the end of the course, students will be able to:

- Apply the laws of thermodynamics and analyze the thermal system and compare the efficiency and working of steam Otto and Diesel engine.
- Analyze the temperature entropy-diagram with physical significance.
- Study the Maxwell's thermodynamical relations with different applications.
- Analyze the significance of thermodynamic potentials and develop the relation between thermodynamical potential with their variables.
- Understand concept of surface tension and viscosity of liquids and their experimental determination.
- Understand importance of surface tension and viscosity of liquids/fluids in real life situation (everyday life).

Unit	Title: Thermal Physics and Fluid Mechanics	60 Hours / Sem
Unit I	<p><b>Kinetic theory of gases:</b> Maxwell's law of distribution of velocities (with derivation). Expressions for Average, R.M.S. and most probable velocities (with derivation). Qualitative discussions on Mean free path, mention of Clausius and Maxwell's expressions for mean free path. Transport phenomena — Brief discussion on Viscosity, Thermal conductivity and Diffusion. Expressions for Coefficient of Viscosity, Coefficient of Thermal conductivity and Coefficient of Diffusion (with derivations) and relation between them.</p> <p><b>Radiation:</b> Concept of Radiation, Stefan's law and its derivation using radiation pressure. Experimental determination of Stefan's constant. Wein's displacement law (with derivation), Rayleigh-Jeans's law (qualitative), Planck's law of radiation and its derivation.</p>	15hrs
Unit II	<p><b>Thermodynamics-I:</b> Review of basics of thermodynamics. Statement of second law of thermodynamics, Carnot's theorem: statement and proof. Otto engine (Internal combustion engine) and expression for its efficiency. Diesel engine and expression for its efficiency.</p> <p><b>Entropy:</b> Concept of entropy, change of entropy in reversible cycle, change of entropy in irreversible process with examples. Temperature-entropy diagram, physical significance of entropy, entropy of a perfect gas. Second law of thermodynamics in terms of entropy. Entropy of the Universe. Third law of thermodynamics: Nernst's heat theorem statement.</p>	15hrs
Unit III	<p><b>Thermodynamics-II:</b> Maxwell's Thermodynamic Relations: Thermodynamic variables: extensive and intensive variables. Derivation of Maxwell's thermodynamical relations and its applications, specific heat equation for Van der Waals gas, Joule Thomson-cooling and Joule-Thomson coefficient for perfect and real gases. Clausius - Clapeyron's equation (first latent heat equation).</p> <p><b>Thermodynamic Potentials:</b> Internal energy, Enthalpy, Helmholtz free energy, Gibb's free energy. Significance of thermodynamic potentials. Relations of thermodynamical potentials with their variables. First and second order phase transitions.</p>	15hrs

Unit IV	<p><b>Fluid Mechanics:</b></p> <p><b>Surface Tension:</b> Basic concepts. Pressure difference across a liquid surface: excess pressure inside a spherical liquid drop and excess pressure inside a soap bubble. Derivation of relation between radius of curvature, pressure and surface tension. Angle of contact: case of two liquids in contact with each other and with air, case of solid, liquid and air in contact. Experimental determination of surface tension by Jaeger's method with relevant theory. Determination of surface tension and angle of contact of mercury by Quincke's method.</p> <p><b>Viscosity:</b> Basic concepts. Expression for critical velocity, significance of Reynolds's number. Derivation of Poiseuille's equation. Experimental determination of co efficient of viscosity for a liquid by Poiseuille's method. Motion of a spherical body in a viscous medium: expression for co-efficient of viscosity from Stoke's law (derivation).</p>	15hrs
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**Recommended books:**

1. Kinetic Theory of Gases(I-Edition) – V.N. Kelkar – Ideal Book Service, Pune, 1967.
2. Heat & Thermodynamics and Statistical Physics (XVIII-Edition) – Singhal, Agarwal & Satyaprakash – Pragati Prakashan, Meerut, 2006.
3. Heat & Thermodynamics and Statistical Physics (I-Edition) – Brijlal, Subramanyam & Hemne - S. Chand & Company Ltd., New-Delhi, 2008.
4. Heat and Thermodynamics (I-Edition) – D.S.Mathur - S. Chand & Company Ltd., New-Delhi, 1991. A Treatise on Heat – Saha and Srivatsava.
5. A text book of heat - J.B.Rajam.
6. Properties of Matter (XIII-Edition) – Brijlal & Subramanyam, Eurasia Publishing House Pvt. Ltd., New-Delhi, 2001.
7. Elements of Properties of Matter (XXVIII-Edition), D.S.Mathur - S. Chand & Company Ltd., New-Delhi, 2005.
8. Physics, Vol. No.I ( V-Edition)– Resnick, Halliday & Krane – John Wiley & Sons Inc., New-York, Singapore, 2005.
9. Berkely Physics, Vol. No.I – ABC Publications, Bangalore & New-Delhi.
10. University Physics (XI-Edition)- Young & Freedman – Pearson Education, 2004
11. B.Sc. practical Physics – C.L.Arora.
12. Advanced practical Physics – Samir Kumar Ghosh.
13. Advanced practical Physics – Worsnop and Flint.
14. Thermodynamics and Statistical Physics, J.P.Agarwal and Satya Prakash, Pragati Prakashan, 2024.

<b>Formative Assessment for Theory</b>	
<b>Assessment Occasion/ Type</b>	<b>Marks</b>
InternalAssessmentTest1	15

InternalAssessmentTest2	15
Assignment	10
<b>Total</b>	<b>40</b>
<b>Formative Assessment as per guidelines.</b>	

**Course Title: 1.4 Chemistry-3**

**Course Code: IBSMT2DSC03T**

Type of Course	Theory / Practical	Credits	Formative Assessment Marks	Summative assessment Marks	Total Marks
DSC-3T	Theory	4	40	60	100

### Learning Outcomes:

- Explain ionic bond, Born Lande equation, Born Haber cycle and Fajan's rules, VSEPR theory, hybridisation and shapes of various molecules. Understand the concept of resonance and write resonating structures of  $\text{NO}_3^-$  &  $\text{CO}_3^{2-}$
- Explain MO Theory and draw the MO diagrams for homonuclear diatomic molecules and ions and heteronuclear diatomic molecules such as CO, NO, physical properties of metals based on free electron theory, band theory of metals to explain conductors, insulators, extrinsic and intrinsic semiconductors
- Explain the chemistry of aliphatic hydrocarbons & basic Concept in aromaticity.
- Understand the orders of reactions, half-life period, Effect of temperature on reaction rates, temperature coefficient, activation energy and its calculation from Arrhenius equation. Theories of Reaction Rates
- Learn the Law of chemical equilibrium, factors affecting equilibria. Relations between  $K_p$ ,  $K_c$  and  $K_x$  for reactions involving ideal gases. Common ion effect, solubility and solubility product. Ionization of acids and bases, hydrolysis of salts.
- Explain the optical Isomerism, chirality/asymmetric centers, enantiomers. R and S notations, CIP rules with molecules containing one, two or more asymmetric centers, diastereomers, meso compounds, R and S notations, D and L configuration and threo and erythro nomenclature, racemic mixture and racemization, resolution of racemic mixture, formation of diastereomers, biological significance of chirality.
- Explain the preparation of benzene and alkyl benzenes, general mechanism of electrophilic aromatic substitution, examples of halogenation, nitration, sulphonation and Friedel-Craft alkylation and acylation. Oxidation of side chain (Benzene with alkyl groups  $-\text{CH}_3$ ,  $-\text{CH}_2\text{CH}_2\text{CH}_3$  and 1, 4 - dimethyl benzene).
- Learn about relative reactivities of halogen in alkyl halides, vinyl halides, allyl halides, aryl halides and aralkyl halides. Nucleophilic substitution reactions and their mechanisms, Synthesis of aryl halide Aromatic Nucleophilic Substitution reactions, effect of nitro substitution on aromatic nucleophilic substitution reactions.

Unit	Title: Chemistry 3	60 Hours / Sem
Unit I	Unit-I: CHEMICAL BONDING & MOLECULAR STRUCTURE	15hrs

	<p><b>Ionic Bonding:</b> Review of general characteristics of ionic compounds. Lattice energy and solvation energy and their importance in the context of stability and solubility of ionic compounds. Born-Landé equation and calculation of lattice energy. Born-Haber cycle and its applications. Fajan's rules, ionic character in covalent compounds and percentage of ionic character.</p> <p><b>Covalent bonding :</b> VB approach, shapes of inorganic molecules and ions on the basis of VSEPR and hybridization with suitable examples of linear, trigonal planar, square planar, tetrahedral, trigonal bipyramidal and octahedral arrangements. Concept of resonance and resonating structures of <math>\text{NO}_3^-</math> and <math>\text{CO}_3^{2-}</math>. <b>(7 Lectures)</b></p> <p><b>Molecular Orbital Theory:</b> LCAO method, bonding and antibonding, Shapes of molecular orbitals, MO treatment of homo nuclear diatomic molecules <math>\text{H}_2</math>, <math>\text{He}_2</math>, <math>\text{He}_2^+</math>, <math>\text{N}_2</math>, <math>\text{O}_2</math>, <math>\text{O}_2^+</math>, <math>\text{O}_2^-</math> and hetero nuclear diatomic molecules and ion such as CO and NO (Relationship between bond length, bond order, bond energy, magnetic properties). <b>(5 Lectures)</b></p> <p><b>Metallic Bond:</b> Physical properties of metals (conductivity, lustre, malleability &amp; ductility) based on free electron theory. Band theory of metals to explain conductors, insulators, extrinsic and intrinsic semiconductors (including temperature effect). <b>(3 Lectures)</b></p>	
Unit II	<p><b>ALIPHATIC HYDROCARBONS &amp; BASIC CONCEPT IN AROMATICITY</b></p> <p><b>Chemistry of Aliphatic Hydrocarbons:</b> Aliphatic hydrocarbons: Types - alkanes, alkenes, alkynes and alkadienes.</p> <p><b>Alkenes:</b> mechanism of addition of hydrogen halides and bromine, Markovnikoff's Rule, peroxide effect, acid catalyzed hydration of alkenes (mechanism), oxymercuration-oxidation, hydroboration - oxidation, oxidative cleavage of alkenes with <math>\text{KMnO}_4</math> and ozone (ozonolysis).</p> <p><b>Alkadienes:</b> classification, mechanism of addition of halogen and hydrogen halides in 1,3-diene, Diels Alder reaction.</p> <p><b>Alkynes:</b> Mechanism of addition of halogen and halogen halides, hydration of alkynes, Acidic character of acetylenic protons (Acidity of 1-alkynes), Comparison of acidic strength of acetylene, ethylene and ethane. oxidative cleavage of alkynes with <math>\text{KMnO}_4</math> and ozone (ozonolysis), cyclic polymerization. <b>(8 Lectures)</b></p> <p><b>Cycloalkanes:</b> Relative stability of cycloalkanes (Baeyer's Strain theory). Conformational analysis of cyclopropane, cyclobutane, cyclopentane and cyclohexane, axial and equatorial bonds, conformation and stability of monosubstituted cyclohexane. <b>(3 Lectures)</b></p> <p><b>Basic Concept in aromaticity:</b> Criteria for aromaticity: heat of hydrogenation (e.g. benzene), resonance and resonance energy (e.g. benzene). Huckel's rule with examples such as benzene, furan, thiophene, pyridine, naphthalene, non-benzanoid aromatic compounds- cyclopropenyl cation, cyclopentadienyl anion, and cycloheptatrienyl cation. <b>(4 Lectures)</b></p>	15hrs
Unit III	<b>CHEMICAL KINETICS AND CHEMICAL &amp; IONIC EQUILIBRIA</b>	15hrs

	<p><b>Chemical Kinetics:</b> Review of reaction rates. Orders of reactions. Derivation of integrated rate equations for zero, first and second order reactions (both for equal and unequal concentrations of reactants). Half-life period of a reaction for various orders (numerical problems). Methods for determination of order of a reaction by half-life period and van't Hoff's differential method.</p> <p>Effect of temperature on reaction rates, temperature coefficient, Concept of activation energy and its calculation from Arrhenius equation. Theories of Reaction Rates: Collision theory and Activated Complex theory of bimolecular reactions. Comparison of the two theories (qualitative treatment only). <b>(8 Lectures)</b></p> <p><b>Chemical and Ionic Equilibria:</b> Law of chemical equilibrium and its thermodynamic derivation. Factors affecting equilibria (Le Chatelier's principle).</p> <p>Relations between <math>K_p</math>, <math>K_c</math> and <math>K_x</math> for reactions involving ideal gases. Common ion effect, solubility and solubility product and its applications in inorganic qualitative analysis. Ionization of acids and bases, hydrolysis of three types of salts and derivation for determination of pH of their solutions. Numerical problems are to be solved wherever required. <b>(7 Lectures)</b></p>	
Unit IV	<p><b>STEREOISOMERISM-II, AROMATIC HYDROCARBONS AND ALKYL AND ARYL HALIDES</b></p> <p><b>Stereoisomerism-II :</b> Optical Isomerism: optical activity, specific rotation and optical purity, chirality/asymmetric centers, enantiomers. R and S notations (one asymmetric center): CIP rules with molecules containing one, two or more asymmetric centers, diastereomers, meso compounds, D and L configuration and threo and erythro nomenclature, racemic mixture and racemisation, resolution of racemic mixture through mechanical separation, formation of diastereomers. <b>(5 Lectures)</b></p> <p><b>Aromatic Hydrocarbons:</b> Preparation of benzene and alkyl benzenes, General mechanism of electrophilic aromatic substitution, examples of halogenation, nitration, sulphonation and Friedel-Craft alkylation and acylation. Oxidation of side chain (Benzene with alkyl groups—<math>\text{CH}_3</math>, <math>-\text{CH}_2\text{CH}_2\text{CH}_3</math> and 1, 4 - dimethyl benzene). <b>(5 Lectures)</b></p> <p><b>Alkyl and Aryl halides:</b> Alkyl Halides: Relative reactivities of halogen in alkyl halides, vinyl halides, allyl halides, aryl halides and aralkyl halides. Nucleophilic substitution reactions: <math>\text{S}_{\text{N}}1</math> and <math>\text{S}_{\text{N}}2</math> reactions and their mechanisms, stereochemistry and comparison. <math>\text{S}_{\text{N}}1</math> reaction and mechanism.</p> <p><b>Aryl halides:</b> Synthesis of aryl halide from phenols, Sandmeyer's reaction, Gattermann reaction, Raschig Hooker process and Balz-Schiemann reaction. Aromatic Nucleophilic Substitution reactions: <math>\text{S}_{\text{N}}^{\text{Ar}}</math>, via Benzyne intermediate along with mechanisms. Effect of nitro substitution on aromatic nucleophilic substitution reactions. <b>(5 Lectures)</b></p>	15hrs

#### Recommended Books/References:

1. Lee, J.D. Concise Inorganic Chemistry ELBS, 1991.
2. Cotton, F.A., Wilkinson, G. & Gaus, P.L. Basic Inorganic Chemistry, 3 rd Ed., Wiley.
3. Huheey, J. E., Keiter, E.A., Keiter, R.L. & Medhi, O. K. Inorganic Chemistry: Principles of Structure and Reactivity, Pearson Education India, 2006.

4. Rodgers, G. E. Inorganic & Solid State Chemistry, Cengage Learning India Ltd., 2008.
5. Organic Chemistry-P. Y. Bruice, 7th Edition, Pearson Education Pvt. Ltd., New Delhi (2013).
6. Heterocyclic Chemistry- R. K. Bansal, 3rd Edition, New- Age International, New Delhi, 2004.
7. McMurry, J.E. Fundamentals of Organic Chemistry, 7 th Ed. Cengage Learning India Edition, 2013.
8. Morrison, R.T. & Boyd, R.N. Organic Chemistry, Pearson, 2010.
9. Bahl, A. & Bahl, B.S. Advanced Organic Chemistry, S. Chand, 2010.
10. Organic Chemistry Volume-I, II- I. L. Finar, 6th Edition, ELBS London (2004).
11. P.W. Atkins: Physical Chemistry, 2002.
12. Text Book of Physical Chemistry - P. L. Soni, S. Chand & Co., 1993.
13. Principles of Physical Chemistry - B. R. Puri, L. R. Sharma and M. S. Patania, S. L. N. Chand & Co. 1987.
14. A text book of Physical Chemistry- A. S. Negi & S C Anand, 3rd edition 2022
15. Christian, G.D; Analytical Chemistry, VI Ed. John Wiley & Sons, New York, 2004.
16. Skoog, D. A. Holler F.J. & Nieman, T.A. Principles of Instrumental Analysis, Cengage Learning India Ed, 2017.

<b>Formative Assessment for Theory</b>	
<b>Assessment Occasion/ Type</b>	<b>Marks</b>
InternalAssessmentTest1	<b>15</b>
InternalAssessmentTest2	<b>15</b>
Assignment	<b>10</b>
<b>Total</b>	<b>40</b>
<b>Formative Assessment as per guidelines.</b>	

**Course Title: 1.5 Chemistry - 3 Practical****Course Code: IBSMT2DSC03P**

Type of Course	Theory / Practical	Credits	Formative Assessment Marks	Summative assessment Marks	Total Marks
DSC-3P	Practical	2	30	20	50

**Course Outcomes:**

After completion of course (Practical), students will be able to:

- Learn crystallization, fractional crystallization, sublimation, reflux, distillation, fractional distillation, distillation under reduced pressure, steam distillation and determination of melting point of the crystallized solid & boiling point of the liquid.
- Develop the techniques involved in the preparation and determination of organic compounds.

<b>Syllabus- Chemistry 4 (Practical)</b>	<b>56 Hrs</b>
<p>Explanation regarding crystallization, fractional crystallization, sublimation, reflux, distillation, fractional distillation, distillation under reduced pressure, steam distillation and determination of melting point of the crystallized solid &amp; boiling point of the liquid. (Students should write in the journal regarding the above).</p> <p>Preparation of organic compounds:</p> <ol style="list-style-type: none"><li>1. Nitration – Nitration of salicylic acid using calcium nitrate and acetic acid (Green method)</li><li>2. Bromination – Acetanilide to p-bromo acetanilide</li><li>3. Nitration - Acetanilide to p-nitro acetanilide</li><li>4. Hydrolysis – Benzamide to benzoic acid</li><li>5. Oxidation – Benzaldehyde to benzoic acid.</li><li>6 Preparation of urea formaldehyde resin.</li></ol> <p><b>Determination of Organic compounds:</b></p> <ol style="list-style-type: none"><li>7. Determination of phenol by bromination method</li><li>8. Determination of aniline by bromination method.</li><li>9. Determination of acetamide by hydrolysis method.</li><li>10. Determination of ethyl benzoate by hydrolysis method.</li><li>11. Determination of aspirin in the tablet by hydrolysis method.</li><li>12. Determination of formaldehyde using sodium sulphite.</li></ol> <p>Note: In the preparation experiment, student has to write mechanism of reactions, calculation of quantitative yield, determination of melting point and to perform recrystallization.</p>	

**Distribution of marks for preparation experiments: (15 marks.)** Calculation of theoretical yield – 03 marks, observed yield -10 marks, M.P- 02 marks,

**Deduction of marks for observed yield:** Less than 10% - 10 marks, 11-15% - 8 marks, 16-20% - 6 marks, 21-25 % - 4 marks & above 25% - 2 marks.

**Distribution of marks for determination experiments: (15 marks.)** Accuracy - 10(5+5) marks, Technique and presentation - 02 marks, Reactions and Calculations - 03 marks. Journal -05marks, Viva: 05 marks Total = 40 marks

**Deduction of marks for accuracy :**  $\pm 0.2$  CC – 5 marks,  $\pm 0.4$  CC- 04 marks,  $\pm 0.6$  CC- 03 marks,  $\pm 0.8$  CC - 02 marks. Above  $\pm 1.0$  CC -01 mark

**General instructions:**

In the practical examination, minimum two different preparation and determination experiments may be given. In a batch of twenty students, each student will be performing preparation and determination experiments. Selection of experiments may be done by the students based on lots.

Viva questions may be asked on any of the experiments prescribed in the practical syllabus. Manual is not allowed in the examination.

**Books recommended:**

1. Vogel's quantitative Organic Analysis, G.Svehla, 7th Ed, Longman ( 2001).
2. Advanced Practical Chemistry, Jagadamba Singh, Pragathi, Publications (2017).
3. College Practical Chemistry: V K Ahluwalia, Sunitha Dhingra and Adarsh Gulati. University Press-2011.

## 2. Ability Enhancement & Value-Added Course (AE&VAC)

**Course Title: 2.1 Language-II /Kannada**

**Course Code: IBSMT2AB01T**

Type of Course	Theory / Practical	Credits	Formative Assessment Marks	Summative assessment Marks	Total Marks
<b>AE&amp;VAC-1</b>	<b>Theory</b>	<b>4</b>	<b>40</b>	<b>60</b>	<b>100</b>

**Course Outcomes (COs):** At the end of the course students will be able to:

CO1: ವಿಜ್ಞಾನ ವಿದ್ಯಾರ್ಥಿಗೆ ಭಾಷೆಯ ಮಹತ್ವದ ಅರಿವು

CO2: ನಾಡು ನುಡಿ ಚಿಂತನೆಗಳ ಅರಿವು

CO3: ಮೌಢ್ಯಗಳನ್ನು ಮೀರುವ ವೈಜ್ಞಾನಿಕ ಮನೋಭಾವದ ತರಬೇತಿ

CO4: ಸ್ವತಂತ್ರವಾಗಿ ಆಲೋಚಿಸುವ ಸಾಧ್ಯಧಾರಣೆ

CO5: ನಿಸರ್ಗದ ಸಹಜ ಸ್ಥಿತಿಯ ತಿಳುವಳಿಕೆಯ ಧಾರಣೆ

CO6: ಸೂಕ್ಷ್ಮ ವಾಸ್ತವಗಳ ತಿಳುವಳಿಕೆ ಸಾಧ್ಯ

CO7: ಸಾಹಿತ್ಯದ ವಿವಿಧ ಪ್ರಕಾರಗಳ ಅರಿವು ದಕ್ಕುತ್ತದೆ.

Unit	Title: ವಿಸ್ಮಯ ಂ (AECC ಕನ್ನಡ)	60 hrs/sem
Unit I	<p>ಕನ್ನಡ ನಾಡು ನುಡಿ ಚಿಂತನೆ</p> <p>೧. ಕನ್ನಡ ಭಾಷೆ ಮತ್ತು ಸವಾಲು - ಹಂಪನಾ</p> <p>೨. ರಕ್ಷಿಸು ಕರ್ನಾಟಕ ದೇವಿ - ಶಾಂತಕವಿ</p> <p>೩. ಕಲಿಕೆಯ ನುಡಿ; ಗೊಂದಲಗಳ ಹಿಂದಿರುವ ಹುನ್ನಾರಗಳು - ರಂಗನಾಥ ಕಂಟನಕುಂಟೆ</p> <p>೪. ಹೆಸರಾಯಿತು ಕರ್ನಾಟಕ - ಚಿನ್ನವೀರ ಕಣವಿ</p>	15 hrs
Unit II	<p>ವೈಚಾರಿಕತೆ</p> <p>೧. ಬಸವಣ್ಣನವರ ೫ ವಚನಗಳು</p> <p>೨. ವಿಚಾರ ಕ್ರಾಂತಿಗೆ ಆಹ್ವಾನ - ಕುವೆಂಪು</p> <p>೩. ಅವತಾರಗಳು - ಸಿದ್ದಲಿಂಗಯ್ಯ</p> <p>೪. ಜಾತಿಗಳ ಹೆಸರುಗಳ ವಿನಾಶವೋ, ಜಾತಿ ಅಸಮಾನತೆಯ ವಿನಾಶವೋ- ಬಿ. ಎಂ. ಪುಟ್ಟಯ್ಯ</p>	15 hrs

UnitIII	<p>ಪರಿಸರ ಪ್ರಜ್ಞೆ</p> <p>೧. ಮನೋಕಲ್ಪರ ಮಾಯೆಯ ವಿಶ್ವಪ್ರದರ್ಶನ - ಶಿವಾನಂದ ಕಳವೆ</p> <p>೨. ಪರಿಸರ ನಿರ್ವಹಣೆ ಮತ್ತು ಮಹಿಳೆ - ಸತ್ಯ ಎಸ್.</p> <p>೩. ನಿಸರ್ಗವೇ ಘೋಷಿಸುವ ಲಾಕ್‌ಡೌನ್‌ಗಳು - ನಾಗೇಶ ಹೆಗಡೆ</p> <p>೪. ವ್ಯಕ್ತಮಾತೆ ತಿಮ್ಮಕ್ಕ - ಶ್ರೀಧರ ಬನವಾಸಿ</p>	15 hrs
UnitIV	<p>ಬಾಲ್ಯ</p> <p>೧. ಚಾರ್ಲಿ ಚಾಪ್ಲಿನ್ - ಕುಂವೀ</p> <p>೨. ಜೀತ - ಬೆಸಗರಹಳ್ಳಿ ರಾಮಣ್ಣ</p> <p>೩. ಬನ್ನಿ ಗುಬ್ಬಿಗಳೆ ಸಾಲುಗಟ್ಟಿ - ಮಾಲತಿ ಪಟ್ಟಣಶೆಟ್ಟಿ</p> <p>೪. ಕಾಗೆ ಮುಟ್ಟಿದ ನೀರು (ಆತ್ಮಕಥೆ) ಬಾಲ್ಯದ ಭಾಗ - ಪುರುಷೋತ್ತಮ ಬಿಳಿಮಲೆ</p>	15hrs

**Recommended books:**

1. ಮೊದಲು ಮಾನವನಾಗು - ಸಿದ್ದಯ್ಯ ಪುರಾಣಿಕ
2. ಕವಿರಾಜಮಾರ್ಗ - ಶ್ರೀವಿಜಯ
3. ಕರ್ನಾಟಕ ಸಂಸ್ಕೃತಿ ಸಮೀಕ್ಷೆ - ಹೆಚ್. ತಿಪ್ಪೇರುದ್ರಸ್ವಾಮಿ
4. ವಿಚಾರಕ್ರಾಂತಿಗೆ ಆಹ್ವಾನ - ಕುವೆಂಪು
5. ಕಾಗೆ ಮುಟ್ಟಿದ ನೀರು (ಆತ್ಮಕಥೆ) - ಪುರುಷೋತ್ತಮ ಬಿಳಿಮಲೆ

Formative Assessment for Theory	
Assessment Occasion/ Type	Marks
InternalAssessmentTest1	15
InternalAssessmentTest2	15
Assignment	10
<b>Total</b>	<b>40</b>
<b>Formative Assessment as per guidelines.</b>	

**Course Title: 2.1 Language-II Hindi****Course Code: IBSMT2AB01T**

Type of Course	Theory / Practical	Credits	Formative Assessment Marks	Summative assessment Marks	Total Marks
AE&VAC-1	Theory	4	40	60	100

Course Outcomes (COs): At the end of the course students will be able to:

- CO1: साहित्य के प्रति रूचि विकसित होगी ।  
CO2: शब्द, सूक्ति, मुहावरें आदि के भंडार को समृद्ध कर पाएँगे।  
CO3: विवेचन एवं विश्लेषण की क्षमता का विकास होगा ।  
CO4: एकाग्रता विकसित होगी ।  
CO5: आधुनिक संदर्भ में विज्ञान एवं तकनीकी के महत्व को प्राप्त कर सकते हैं ।  
CO6: प्रमुख वैज्ञानिकों के जीवनी या आत्मकथा को पढ़कर खुद के व्यक्तित्व का विकास कर सकते हैं।  
CO7: अनुवाद करने में सक्षम होंगे।  
CO8: अनुवाद के द्वारा अपने रोजगार को प्राप्त कर सकते हैं।

Unit	Title: GADYA SAURABH AUR ANUVAD गद्य सौरभ और अनुवाद	60hrs/sem
Unit I	गद्य सौरभ – सं. डॉ. नागरत्ना एन. राव (राजपाल एण्ड सन्स, दिल्ली) 1. एकलव्य ने गुरु को अंगूठा दिखाया (व्यंग्य) – हरिशंकर परसाई 2. क्या भूलूँ क्या याद करूँ (आत्मकथा) – हरिवंशराय बच्चन 3. प्रेमचंद: लमही में जन्म और अंतिम बीमारी (जीवनी) – अमृत राय	15hrs
Unit II	4. त्यागमूर्ति 'निराला' (संस्मरण) – शिवपूजन सहाय 5. मैं और मैं (रिपोर्ताज) – कन्हैयालाल मिश्र 'प्रभाकर' 6. शांतिनिकेतन में (यात्रावृत्त) – राहुल सांकृत्यायन	15hrs

UnitIII	7. गणशप (चर्चा) – डॉ. नामवर सिंह 8. श्रमदेवता की उपासना (विचार) – विनोबा भावे	15hrs
UnitIV	अनुवाद का सामान्य परिचय कन्नड और अंग्रेजी से हिंदी में परिच्छेद अनुवाद	15hrs

**Recommended books:**

1. गद्य सौरभ – सं. डॉ. नागरत्ना एन. राव, राजपाल एण्ड सन्स, दिल्ली
2. साहित्य सप्तक (गद्य संग्रह)- सं. प्रो. प्रतिभा मुदलियार, अमन प्रकाशन, कानपुर
3. गद्यगरीमा- सं. डॉ. एन्. मोहनन्, डॉ. दीपक के. आर्., राजपाल एण्ड सन्स, दिल्ली.
4. संस्मरण- महादेवीवर्मा, राजपाल एण्ड सन्स, दिल्ली.
5. साहित्यिक निबंध- गणपतिचंद्र गुप्त
6. प्रयोजनमूलक हिंदी-डा-नरेश मिश्र, राजपाल एण्ड सन्स नई दिल्ली ।
7. प्रयोजनमूलक हिंदी-डा-बशीरुद्दीन मदरी, गीता प्रकाशन हैदराबाद
8. सरकारी कार्यालयों में हिंदी का प्रयोग-गोपिनाथ श्रीवास्तव, लोकभारती प्रकाशन।
9. प्रयोजनमूलक हिंदी- राष्ट्राभाषा प्रचार समिति, वर्धा।

<b>Formative Assessment for Theory</b>	
<b>Assessment Occasion/ Type</b>	<b>Marks</b>
InternalAssessmentTest1	15
InternalAssessmentTest2	15
Assignment	10
<b>Total</b>	<b>40</b>
<b>Formative Assessment as per guidelines.</b>	

**Course Title: 2.2 Understanding India Part-II (Indian Ethos and Knowledge Systems)**

**Course Code: IBSMT2AB02T**

Type of Course	Theory / Practical	Credits	Formative Assessment Marks	Summative assessment Marks	Total Marks
AE&VAC- 2	Theory	2	20	30	50

**Learning Outcomes:**

After the completion of the course, it is expected that the students will be able to:

- recognize the vast corpus of knowledge traditions of India, while developing an appreciation for it,
- apply their acquired research and critical thinking skills to multidisciplinary themes, and appreciate the diverse belief systems and knowledge traditions in India.
- discuss the formation and evolution of knowledge of India through a multidisciplinary lens.

**UNIT-I**

**Philosophy, Ethics & Values: Schools of Philosophy (4 Weeks)**

- A. Vaishesika, Nyaya, Samkhya, Yoga, Purva Mimansa and Vedanta or Uttara Mimansa (theory and the major thinkers) - and Jain, Buddhist, and Charvak traditions.
- B. Vedanta: Philosophical Systems (Advaita, Vishishtadvaita, Dvaita).
- C. Ethics, Morality, and Social Dilemma (including Self-Leadership) and their relevance in today's time.
- D. How do Indians value spirituality? Spirituality and Social Responsibility; Importance of Spirituality in current times.
- E. Using Ethics in a Technologically Volatile World: leading an ethical and modern life.
- F. Practical Vedanta for Well-Being (mindfulness, inter-connectedness, society-self relationship, etc.).

## UNIT-II

### Culture-Lifestyle (4 Weeks)

- A. Food (regional cuisines, Ayurvedic Diet, Food and Festival, Food, Hospitality, and Globalization).
- B. Clothes (Traditional Indian Clothing, Textile Arts, Religious Costumes, Clothing Status, Clothing, Gender, Globalization in Clothing).
- C. Sports (Traditional Indian Sports, Martial Arts, Sports and Gender, Sports & Globalization).
- D. The Lifestyle of Yoga; Adapting Ancient Lifestyle - A path towards longevity.

## UNIT-III

### Science & Technology (4 Weeks)

- A. Arithmetic and logic.
- B. Natural Sciences: Mathematics, Physics, Metallurgy, and Chemistry.
- C. Astronomy: India's Contributions to the World
- D. Indian Notions of Time and Space.
- E. Technology in the Economy: Agriculture, Transportation, etc.

## UNIT-IV

### Linguistic Traditions (3 Weeks)

- A. History of Linguistics in India (Conceptualizing Ancient Indian Linguistics, Oral Traditions, etc.).
- B. Language as Culture: Evolution of Languages over the years & Language as Building Blocks to different Cultures and Society
- C. C. Language: Identity, Culture, and History.

### Practicum:

The modes of curriculum transaction will include lectures, Tutorials, and Practicum.

Practicum will include organization of day trips that help student teachers watch events relating to visual and performing art; activities that enable student teachers to identify and record through photos, videos, etc. the elements of ancient architecture still existing in the city around them; organization of Individual and

group presentations based on themes such as Polity, Law and Economy etc., organization of a 'Knowledge of India 'day in the institution to celebrate the culture (food, clothes, etc.) that they would have been explored in lectures and tutorials; interactions with family members, elders, neighbours, and other members of society about the evolution of local systems and economy etc.

### **Mode of Transaction:**

The entire syllabus is based on practical exercises. Classroom interactions will include learner driven participatory sessions, and Guest lectures through experts and practitioners such as fine arts and performing arts practitioners along with contemporary poets & writers of Indian literature. Also, it will include Screening of documentaries and films followed by a discussion; Leamer-driven discussions in the form of focus group discussions (FGDs), Socratic Discussions, etc.; Debate/discussion can be organized to explain India's Vaad tradition; discussion on how some of the ancient methods of teaching are relevant in today's time; discussions that help Identify ethical dilemmas in daily lives and understanding the importance of ancient ethics and values to resolve them.

### **Mode of Assessment:**

The approaches to learning assessment will include:

- Supporting the curiosity and interest of student teachers in the selected themes through a multi-modal approach, including regular assessments and actionable feedback that enable learners to outline and interpret the processes and events of the formation & evolution of knowledge of India through a multidisciplinary lens.
- Enabling the student teachers to demonstrate critical analysis and independent thinking of the processes and events in the formulation & evolution of different traditions that help student teachers evaluate the diverse traditions of India to distinguish its achievements and limitations.
- Use of first-hand or second-hand experiences that enable student-teachers to develop and articulate an ethics-based education rooted in Indian thought to their students in the classroom context.

The examination scheme and mode shall modify and/or evolve as per the guidelines of the Examination Board, Karnatak University Dharwad, from time to time.

<b>Formative Assessment for Theory</b>	
<b>Assessment Occasion/ Type</b>	<b>Marks</b>
InternalAssessmentTest1	<b>5</b>
InternalAssessmentTest2	<b>5</b>

Assignment	10
<b>Total</b>	<b>20</b>
<b>Formative Assessment as per guidelines.</b>	

### **Suggestive Readings Material:**

Teachers may suggest books/readings as per the needs of the learners and learning content.

1. Balasubramanian, R. (2000). Introduction. In Chattopadhyana, D. P. (Ed.), History of science, philosophy and culture in Indian civilization. Advaita Vedanta. [Vol. 2 (II)]. Centre for Studies in Civilizations.
2. Bhagat, G. (1990, April-June). Kautilya revisited and re-visioned. The Indian Journal of Political Science. 31(2), 186-212.
3. Bhattacharya, R. (2002). Carvaka fragments: A new collection. Journal of Indian Philosophy, 30, 597-640.
4. Dharampal (2021). Indian science and technology in the eighteenth century: Some contemporary European accounts. Rashtrottaana Sahitya.
5. Dominik, W. (2001). The roots of ayurveda. Penguin Classics.
6. Kangle, R. P. (2019). Kautiliya Artha sastra. Motilal Banarsidass Publishers Pvt. Ltd.
7. Rangarajan, L. N. (1987). The Artha shastra. Penguin Books.
8. Sen, S. N., & Shukla, K. S. (Eds.). (2000). History of astronomy in India (2 ed.). Indian National Science Academy.
9. Sharma, S. (2023). Significance of ancient Indian sciences in contemporary education.
10. Subbarayapa, B. V. (1982). Glimpses of science and technology in ancient and mediaeval India. Endeavour, 6(4), 177-182. [https://doi.org/10.1016/0160-9327\(82\)90073-4](https://doi.org/10.1016/0160-9327(82)90073-4)

**Course Title: 2.3 Teacher and Society**

**Course Code: IBSMT2AB03T**

Type of Course	Theory / Practical	Credits	Formative Assessment Marks	Summative assessment Marks	Total Marks
AE&VAC- 3	Theory	2	20	30	50

**Learning Outcomes:**

After completion of the course, it is expected that the student teachers will be able to:

- examine the relationship between teacher beliefs, values, character, social and cultural context, and teaching critically.
- conceptualize teacher agency, its individual, contextual, and structural dimensions, and how it gets impacted and in turn shapes education.
- explain the teacher's roles and characteristics; the personal and professional self, the reflective practitioner, and their significant role in shaping self, school, and society,
- demonstrate a critical understanding of the Pedagogy of Ethic of Care in Teacher Education.
- reflect on Individual and collective pedagogical practices so as to improve learning and teaching,

**UNIT-I: Understanding the Teacher: Exploring the Personal and Professional Being  
(5 Weeks)**

- A. Exploring the Social Context of Teacher: Teacher Beliefs, Values and Aspirations, Diverse Identities, Social Contexts and Commitment to Learning and Education.

- B. Teacher as a Professional: Qualifications, Attitude, Aptitude, Experience.
- C. The Reflective Practitioner: Nurturing the Professional Competencies through Collaborative and Collective Engagement with Self, Others, and the Social Context.

**UNIT-II: Nurturing the Teacher: A Dialogue Beyond the Curricular Goals, for Life and Posterity (5 Weeks)**

- A. Teaching: One profession many roles.
- B. Holistic Teacher Development: Nurturing the Panchakoshas.
- C. Developing Pedagogy of Ethic of Care in Education.
- D. Being a Critical Teacher: Role of Teacher in Shaping the Educational Policy, Practice, and Reforms

**UNIT-III: Understanding Teachers' Agency: Shaping Education Systems and Society (5 Weeks)**

- A. Teachers' Agency: Individual, Cultural and Structural Dimensions; Challenges and Issues: Performativity, Non-academic Engagements, Systemic Apathy, Policy and Practices.
- B. Teacher Discourses: Engaging in Critical Education, Dialogues on Power Relations associated with Gender, Ethnicity, Culture, Disability, Caste, Class, Poverty: the Reproduction of Disadvantage, and Realizing the True Human Potential.
- C. Being a Critical Teacher: Raising Debates around Rapid Technological Advancement and Impact on Individual, Family, and Social Life.
- D. Conceptualization of Teacher, Teaching, and Teacher Roles, 'Globalization and the Reconstructed Nationalism Shaping the Socio-Political Milieu and Impact on the Social Psyche, Growing Materialistic Urge, Sensory Drives, and the Gradual Deterioration of the Individual and Societal Character.

**Practicum:**

Following are the suggestive practicals and activities. The teachers may design more tasks based on classroom interactions and discussions.

- Take up a case study of any one teacher education Institution.
- Write a biography of any one of your favorite teachers/ Educationists.

**Mode of Transaction:**

Teacher and Society is a reflection-based course that invites teachers to re-think teachers and teaching. It awakens and inspires teachers to realize broader educational aims through an

action and reflection cycle. The approach therefore would include a blend of lectures, in-class seminars, thinking exercises, critical reflections, group work, case-based approaches, and enquiry-based learning.

- Learners would also be exposed to case studies featuring teachers from a representative cross-section of Schools in India and critically analyse their exercise of agentic force in school improvement and the improvement of teaching practice.
- Situating themselves in the geo-political context, the learners will get to critically engage in some of the policy dialogues.
- Learners would reflect on their practice as pre-service interns, knowledge, skills, and understandings-and identify opportunities to apply course learnings to their school context.

#### **Mode of Assessment:**

The entire syllabus is based on practical exercises. Being a very thought-provoking course, the assessment would largely include critical thinking kind of assignments. The following are some exemplars.

- Write your current teaching philosophy based on your beliefs and values.
- Choose any one area of immediate societal concern like environmental degradation, increasing crime against women, cybercrimes, bullying or any other and draw an action plan that you as a teacher would undertake to mobilize self, school and society towards betterment.
- Critical Reflections on popular debates around power relations associated with Gender, Ethnicity, Culture, Disability, Class. Poverty, and others
- These are just prototypes and institutes may choose either of these or think of other innovative assignments that would inculcate in future teachers a sense of belonging to society.

The examination scheme and mode shall modify and/or evolve as per the guidelines of the Examination Board, Karnatak University Dharwad, from time to time.

<b>Formative Assessment for Theory</b>	
<b>Assessment Occasion/ Type</b>	<b>Marks</b>
InternalAssessmentTest1	<b>5</b>
InternalAssessmentTest2	<b>5</b>
Assignment	<b>10</b>
<b>Total</b>	<b>20</b>

**Suggestive Reading Materials:**

Teachers may suggest books/readings as per the needs of the learners and learning content.

1. Ashton, K. (2021). Novice teacher agency in the multi-level language classroom. *Language, Culture and Curriculum*, 34(3), 242-256.
2. Axline, M.A. (2018). *Dibs: In Search of Self*. Lexington, Massachusetts: Plunkett Lake Press
3. Biesta, G., Priestley, M., & Robinson, S. (2015). The role of beliefs in teacher agency. *Teachers and Teaching: Theory and Practice*, 21(6), 624-640.
4. Bridwell-Mitchell, E. N. (2015). Theorizing teacher agency and reform: How institutionalized instructional practices change and persist. *Sociology of Education*, 88(2), 140-159. <https://doi.org/10.1177/0038040715575559>
5. Dhanraj, S. (2023). In search of compassionate teachers. *Economic and Political Weekly*, Vol. 58, No. 40
6. Kumar, S. (2021). *Reflective practices and professional development in teaching*. Shipra Publication.
7. Kumar, S. (2023, January). Reconceptualizing teacher education from an emancipatory perspective. *Journal of Educational Planning and Administration*. 37(1), 31-45.
8. Lasky, S. (2005). A sociocultural approach to understanding teacher identity, agency and professional vulnerability in a context of secondary school reform. *Teaching and Teacher Education*, 21(8), 899-916.

## **B.Sc. B.Ed. (Physics) Credit Structure**

## B.Sc. B.Ed. (Physics)

### I Semester

Semester Code.No.	I	II	III	IV	V	VI	VII	VIII	Total		
Physics	4+0=4	4+2=6	4+2=6	4+0=4	4+2=6	0+4=4	--	--	16		
				4+2=6	4+2=6	4+2=6	Internal	Theory			
Mathematics	4+0=4	SIP- Two-week student Induction Programme							16		
Chemistry	4+0=4	4+2=6	Foundation Course of Education							16	
IBSPH1EDC01T	Evolution of Indian Education			2	40	60	--	100	16		
Content Cum Pedagogy	Discipline Specific Course										
IBSPH1SC01T	4	Mechanics, Properties of Matter and Sound			4	40	2	60	4	100	30
IBSPH1DSC02T	4	Algebra - I and Calculus - I			4	40	2	60	2	100	28
IBSPH1DSC03T	2	Chemistry-1			4	40	2	60	2	100	
Ability Enhancement & Value-added Courses	Ability enhancement & Value-Added Courses										
IBSPH1AB01T	--	Language-I /English			--	4	2	60	2	100	20
IBSPH1AB02T	--	Art Education (Performing & visual)			--	2	20	10	30	2	50
IBSPH1AB03T	--	Understanding India-I(Indian Ethos & Knowledge systems)			--	2	20	30	2	50	2
Total Credits	24	24	22	24	20	22	20	20	20	176	
Total Credits					24					600	

### II Semester

Code.No.	Course	Credits	Marks		Total Marks
			Internal	Theory	
<b>Discipline Specific Course</b>					
IBSPH2DSC01T	Thermal Physics and Fluid Mechanics	4	40	60	100
IBSPH2DSC01P	Thermal Physics and Fluid Mechanics-Practical	2	30	20	50
IBSPH2DSC02T	Number Theory and Calculus – II	4	40	60	100
IBSPH2DSC03T	Chemistry-3	4	40	60	100
IBSPH2DSC03P	Chemistry-4 Practical	2	30	20	50
<b>Ability Enhancement &amp; Value-Added Courses</b>					
IBSPH2AB01T	Language-II /Kannada/Hindi	4	40	60	100
IBSPH2AB02T	Understanding India-II (Indian Ethos & Knowledge systems)	2	20	30	50
IBSPH2AB03T	Teacher And Society	2	20	30	50

<b>Total Credits</b>	<b>24</b>			<b>600</b>
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**SEMESTER I**  
**B.Sc. B. Ed (Physics)**

**Courses:**

**1. Foundational Course of Education:**

1.1 Evolution of Indian Education

**2. Discipline Specific Course: DSC**

2.1 Mechanics, Properties of Matter and Sound

2.2 Algebra – I and Calculus – I

2.3 Chemistry-1

**3. Ability Enhancement & Value-Added Courses**

3.1 Language-I /English

3.2 Art Education (Performing & visual)

3.3 Understanding India -I (Indian Ethos & Knowledge systems)

## 1. Foundation Course of Education

**Course Title: 1.1 Evolution of Indian Education**

**Course Code: IBSPH1EDC01T**

Type of Course	Theory / Practical	Credits	Formative Assessment Marks	Summative assessment Marks	Total Marks
FCE-1	Theory	4	40	60	100

### Course Outcomes:

After completion of this course, it is expected that the student teachers will be able to:

- discuss and understand the genesis, vision and evolution of education in India from ancient to contemporary times.
- critically revisit colonial education and its impact on the contemporary Indian education system.
- enable them to shape their educational perspective to act as an effective teacher.
- locate themselves in the larger system of education in India while discussing the contribution of Indian thinkers
- develop a road map for futuristic education system in India for addressing the need of local and global context.

### UNIT-1: Ancient Indian Education: Vedic Period (2 Weeks)

A. Vision, Objectives, and Salient Features of the Vedic Education System.

B. Teaching and Learning Process during Vedic Period

C. Forms and Development of Educational Institutions and Organizational Practices.

D. Understanding Guru Shishya Parampara

### **UNIT-II: Ancient Indian Education: Buddhist and Jain Period (2 Weeks)**

- A. Buddhist and Jain Education System: Vision, Objective and Salient Features
- B. Teaching -Learning and Curricular Practices during the Buddhist, Jain and Sangam Periods
- C. Finance and Management of Educational Institutions.
- D. Contribution of Educational Institutions: Nalanda, Taxila, Vikramshila, Vallabhi.

### **UNIT-III: Post-Gupta Period to Colonial Period (2 Weeks)**

- A. Brief Historical Development and Salient Features of Education in this Era
- B. Educational Systems: Nadia, Home-Education, Pathshalas, Tols, Maktab, Chatuspadis and Gurukuls etc.
- C. Pedagogical Inquiry. Community and Its Interface.
- D. Finance and Management: Critical Analysis of the Role of Dynasties with reference to Educational Institutions.

### **UNIT IV: Modern Indian Education (9 Weeks)**

A. Colonial Education in India:

Critical Examination of Wood's Dispatch and Macaulay Minutes; Colonization of Education in India.

B. Swadeshi and Nationalist attempts at Educational Reforms and Contribution of Indian Thinkers (with reference to Objectives of Education, Curriculum and Pedagogy):

Savitribai and Jyotiba Phule, Swami Vivekananda, Pt. Madanmohan Malaviya, Sir Syed Ahmad Khan, Rabindranath Tagore, Mahatma Gandhi, Sri Aurobindo, Gijubhai Badheka, Jiddu Krishnamurti and Dr. Bhim Rao Ambedkar

C. Education in Independent India

- Constitutional Values and Educational Provisions.

- Educational Committees, Commissions and Policies with specific reference to the Kothari Commission, National Policy on Education 1968; National Policy on Education 1986 and its Plan of Action 1992.
- Educational Planning and Organisation Critical review and impact of DPEP, SSA UEE, RMSA, RTE Act 2009.
- NEP 2020: Futuristic Vision for Education in India.

### **Practicum:**

Following are the suggestive practicals and activities. The teachers may design more tasks based on classroom interactions and discussions.

- Prepare a report highlighting the significance of educational reforms in School education in the light of NEP 2020.
- Critically analyze the role of education in understanding the concept of citizenship for democracy.
- Compare the vision, objectives, and salient features of education during different periods.
- Design a plan of action to develop awareness/attitude/practices related Fundamental Rights/Fundamental duties/Democratic Citizenship.
- Sharing of student experiences (in groups) related to establishing Indian constitutional values through School Education and the need for dynamic and vibrant School Ethos.
- Survey of strengths and limitations of educational institutions of one's own locality.
- Visit to places of educational significance.
- Design activities for developing awareness, attitudes, skills, and participatory values to negotiate diversity in the classroom.

### **Mode of Transaction:**

The course content transaction will include the following:

- Planned lectures infused with multimedia/PowerPoint presentations.
- Small group discussion, panel interactions, small theme-based seminars, group discussions, cooperative teaching and team teaching, selections from theoretical readings, case studies, analyses of educational statistics and personal field engagement with educationally marginalized communities and groups, through focus group discussions, surveys, short-term project work, etc,
- Hands-on experience of engaging with diverse communities, children, and schools.

### **Mode of Assessment:**

The examination scheme and mode shall be as prescribed by the Examination Board, Karnatak University, Dharwad from time to time.

### **Suggestive Reading Materials:**

Teachers may suggest books/readings as per the needs of the learners and learning content.

- Arora, P., & Gandhi, H. (2021). National education policy 2020: Paving the ways for transformational reforms. Shipra Publications.
- Dash, B. N. (2009). Thoughts and theories of Indian educational thinkers. Dominant Publishers and Distributors.
- Desai, S. & Amaresh, D. (2011). Caste in the 21st century India: competing narratives. Economic and Political Weekly, Vol. 46, No. 11
- Dutt, M. N. (2008). Mahabharata: Santi parva (Vol. 7). Parimal Publications.
- Dyer, H. S. (2018). Pandita Ramahai. Forgotten Books.
- Ghosh, J. (2016). Inequality in India: drivers and consequences. World Social Science Report. International social science council.
- Jain, P. S. (2000). Collected papers on Jaina studies. Motilal Banarsidass.
- Jayaram, N. (2016). Education and emancipation: The saga and ideology of Dr. B. R. Ambedkar, In A. K. Singh. (Ed.). Education and empowerment in India: Policies and practices. Routledge India.

<b>Formative Assessment for Theory</b>	
<b>Assessment Occasion/ Type</b>	<b>Marks</b>
InternalAssessmentTest1	<b>15</b>
InternalAssessmentTest2	<b>15</b>
Assignment	<b>10</b>
<b>Total</b>	<b>40</b>
<b>Formative Assessment as per guidelines.</b>	

## 2. Discipline Specific Course (DSC)

**Course Title: 2.1 Mechanics, Properties of Matter and Sound**

**Course Code: IBSPH1DSC01T**

Type of Course	Theory / Practical	Credits	Formative Assessment Marks	Summative assessment Marks	Total Marks
DSC-1	Theory	4	40	60	100

### Learning Outcomes:

At the end of the course, students will be able to:

- Analyze data (graphical and analytical), through estimation of errors and their sources in the experimental determination of physical quantities. Also able to fit experimental data to straight-line graph and calculate standard deviation, standard error and probable error.
- Distinguish between inertial, non-inertial and rotational frames of reference. Also able to understand and distinguish real, fictitious and Coriolis force and their importance in real life.
- Distinguish Galilean, Lorentz transformation and their applications. Understand special theory of relativity by studying variation of length, mass and time with relativistic velocity.
- Analyze collision problems through laboratory and center of mass frame of reference, also able to relate these two frames.
- Understand concept of moment of inertia of regular/irregular bodies and its variation with axes through distribution of mass.

- Find Young's modulus, rigidity modulus and their importance in understanding Materials and applications.
- Understand concept of sound and their experimental determination.
- Understand importance of mechanics, properties of matter and sound in real life situations (everyday life).

Unit	Title: <b>Mechanics, Properties of Matter and Sound</b>	<b>60 hrs/ sem</b>
<b>Unit I</b>	<p><b>Frames of References:</b> Inertial frames, Galilean transformation equations (derivation), Invariance of Newton's Laws under Galilean Transformations, Invariance of the laws of conservation of momentum and energy under Galilean transformations, non-inertial frames and fictitious force (in brief), rotating frame of reference(quantitative), concept of the Coriolis force and mention of its expression.</p> <p><b>Special Theory of Relativity:</b> Postulates of special theory of relativity. The Lorentz transformation equations (Derivation), Length contraction, Time dilation, Simultaneity, Twin paradox, Addition of velocities. Mass-Energy Equivalence (with derivation). Space -Time diagram: Minkowski's four-dimensional space-time.</p>	<b>15 hrs</b>
<b>Unit II</b>	<p><b>Collisions:</b> Two-dimensional elastic and inelastic collisions in center of mass and laboratory frames of reference: i) relation between velocities in center of mass system and laboratory system ii) relation between angle of recoil in laboratory system and angle of scattering in center of mass system. Conservation of linear momentum in case of variable mass. <b>Gravitation:</b> Central force, Kepler's laws of Planetary motion(derivation). Newton's Law of Gravitation. Determination of Gravitational constant by Cavendish's method. Density and mass of the Earth. Satellite in circular orbit and Geosynchronous orbits. Weightlessness. Basic idea of global positioning system (GPS). Qualitative discussions on applications of artificial satellites.</p>	<b>15 hrs</b>
<b>Unit III</b>	<p><b>Rotational Dynamics:</b> Angular momentum of a particle and system of particles. Torque, principle of conservation of angular momentum. Rotation about a fixed axis, moment of inertia, theorem of parallel and perpendicular axes(derivation). M.I. of rectangular lamina and circular disc(derivations), hollow and solid cylinders (mention of expressions). Theory of flywheel and experimental determination of radius of gyration. Theory of</p>	<b>15 hrs</b>

	compound pendulum, interchangeability of centers of suspension and oscillation, four points collinear with the C.G. about which the time period is same, conditions for maximum and minimum time periods. Bar pendulum, experimental determination of 'g' using bar pendulum. Bifilar suspension with parallel threads (derivation).	
<b>Unit IV</b>	<b>Elasticity:</b> Relation between elastic constants(derivation), Poisson's ratio in terms of elastic constants(derivation). Twisting couple on a solid cylinder (wire), work done in twisting solid cylinder (wire). Determination of coefficient of rigidity by torsional pendulum and Maxwell needle method. Bending of beams- neutral surface, neutral axis, plane of bending, bending moment. Expression for bending moment(derivation), uniform bending (mention formula). Theory of light cantilever(derivation). Sound: Free, forced and sustained vibrations, resonance with examples. Analytical treatment of damped and forced vibrations. Theory of Helmholtz resonator, condition for resonance: Expressions for amplitude and phase. Effect of damping on the phase of forced vibration.	<b>15 hrs</b>

#### **Recommended books**

1. Mechanics (VI-Edition)-J.C. Upadhyay-Ramprasad & Sons, Agra,2005.
2. Mechanics (XX-Edition)-D.S. Mathur-S. Chand & Company Ltd., New-Delhi,2007.
3. Mechanics & Electrodynamics (XVII-Edition, Course-1&2)- Brijlal, Subramanyam & Jivan Seshan, S. Chand & Company Ltd., New-Delhi,2008.
4. Properties of Matter (XIII-Edition)-Brijlal & Subramanyam, Eurasia Publishing House Pvt.Ltd., New-Delhi,2001.
5. Elements of Properties of Matter (XXVIII-Edition), D.S. Mathur-S. Chand & Company Ltd., New Delhi,2005.
6. Physics, Vol. No. I(V-Edition)-Resnick, Halliday & Krane-John Wiley & Sons Inc., New-York, Singapore,2005.
7. Berkeley Physics, Vol. No. I-ABC Publications, Bangalore & New-Delhi.
8. University Physics (XI-Edition)-Young & Freedman-PearsonEducation,2004.
9. Introduction to Relativity-R. Resnik.
10. Relativistic Mechanics-Gupta and Kumar.
11. Text book of Sound – Brijlal and Subrahmanyam
12. Refresher Course in B.Sc. Physics Volume 1– C. L. Arora, S. Chand & Company
13. Theoretical Mechanics – Spiegel (Schaum Series).

<b>Formative Assessment for Theory</b>	
<b>Assessment Occasion/ Type</b>	<b>Marks</b>
InternalAssessmentTest1	<b>15</b>
InternalAssessmentTest2	<b>15</b>
Assignment	<b>10</b>
<b>Total</b>	<b>40</b>
<b>Formative Assessment as per guidelines.</b>	

**Course Title: 2.2 Algebra-I and Calculus-I**

**Course Code: IBSPH1DSC02T**

<b>Type of Course</b>	<b>Theory / Practical</b>	<b>Credits</b>	<b>Formative Assessment Marks</b>	<b>Summative assessment Marks</b>	<b>Total Marks</b>
<b>DSC-2 Algebra-I and Calculus-I</b>	<b>Theory</b>	<b>4</b>	<b>40</b>	<b>60</b>	<b>100</b>

**Course Outcomes:**

After completion of course students will be able to:

- Learn to solve the system of homogeneous and non-homogeneous linear equations in m variables by using concept of rank of matrix, finding eigenvalues and eigenvectors.
- Thoroughly understand the concepts of continuity and uniform continuity.
- Solve examples related to indeterminate forms.
- Sketch curves in Cartesian, polar and pedal equations.
- Learn geometrical representation of mean value theorem and Rolle's theorem.
- Identify and apply the intermediate value theorem and solve Maclaurin's expansions.
- Trace curves in Cartesian coordinates.

<b>Unit</b>	<b>Title: Algebra - I and Calculus – I</b>	<b>60 Hours / Sem</b>
<b>Unit - I</b>	<b>Matrices:</b>	<b>15 Hrs.</b>
	Rank of a matrix based on row reduction to echelon form, Reduction to normal form, Solution of system of linear equations: Criterion for existence of non-trivial solutions of homogeneous system of linear equations, Solution of system of non-linear equations: Criterion for existence of non-trivial solutions of non-homogeneous system of linear equations, Characteristic equation of matrices, Eigenvalues and Eigenvectors of square matrices, Cayley-Hamilton theorem, Inverse of matrices by Cayley-Hamilton theorem.	
<b>Unit - II</b>	<b>Limits and Continuity:</b>	<b>15 Hrs.</b>
	Definition of limit and continuity of a function in $\varepsilon$ - form. Algebra of limits (with proof) and continuity. Definition of boundedness of continuous function. Properties of continuous function. Intermediate value theorem and its examples, Uniform continuity – definition. Theorems - i) Uniform continuity implies continuity and ii) Continuity on closed interval implies uniform continuity, Differentiability: Definition and problems on differentiability of a function, Indeterminate forms, Evaluation of limits using L-Hospital rule.	
<b>Unit - III</b>	<b>Polar Coordinates:</b>	<b>15 Hrs.</b>
	Polar coordinates, Angle between the radius vector and tangent, Angle of intersection of curves (polar forms), Length of perpendicular from pole to the tangent, Pedal equations, Derivative of an arc length in Cartesian, parametric and polar forms, Concavity, Convexity and points of inflexion, Curvature of plane curve, radius of curvature - Cartesian, Parametric, Polar, Pedal forms. Centre of curvature of plane curves. Asymptotes, Tracing of curves in Cartesian form (standard curves).	
<b>Unit - IV</b>	<b>Successive Differentiation and Mean Value Theorems:</b>	<b>15 Hrs.</b>
	The nth derivatives of standard functions: $e^{ax+b}$ , $(ax + b)^n$ , $\log(ax + b)$ , $\sin(ax + b)$ , $\cos(ax + b)$ , $e^{ax}\sin(bx + c)$ , $e^{ax}\cos(bx + c)$ with examples, Leibnitz theorem and its applications. Rolle's theorem, Lagrange's mean value theorem, Cauchy's mean value theorem and related problems. Taylor's theorem with Schlomitch and Roche form of remainder, Taylor's series, Maclaurin's expansions.	

#### **Recommended Books:**

1. Theory of Matrices, B. S. Vatsa and S. Vatsa, New Age International (P) Ltd., 2010.
2. Matrices, A. R. Vasista and A. K. Vasista, Krishna Prakashan Media (P) Ltd., 2013.
3. Principles of Mathematical Analysis, W. Rudin, McGraw Hill Edu., 2023.
4. Mathematical Analysis, S. C. Malik and Savita Arora, New Age International (P) Ltd., 2021.
5. Introduction to Real Analysis, S. K. Mapa, Leveant Book Publishers, 2022.
6. Differential Calculus, Shanti Narayan and P. K. Mittal, S. Chand & Co., 2022.
7. The Elements of Calculus, D. C. Pavate and G. V. Bhagwat, Popular Prakashan, 1956.
8. Schaum's Outlines of Calculus, E. Mendelson, McGraw Hill, 2021.

9. A Course in B.Sc. Mathematics-I, S. S. Bhoosnurmath, C. S. Salimath and V. S. Shetiya EBPB, 2015.
10. Objective Mathematics – Differential Calculus and Integral Calculus, K. B. Pandey, A. K. Singh and V. Yadav, Pragati Prakashan, 2020.
11. A Course in B.Sc. Mathematics-I, C. S. Salimath, EBPB, 2020.

<b>Formative Assessment for Theory</b>	
<b>Assessment Occasion/ Type</b>	<b>Marks</b>
InternalAssessmentTest1	<b>15</b>
InternalAssessmentTest2	<b>15</b>
Assignment	<b>10</b>
<b>Total</b>	<b>40</b>
<b>Formative Assessment as per guidelines.</b>	

### **Course Title: 2.3 Chemistry-I**

**Course Code: IBSPH1DSC03T**

<b>Type of Course</b>	<b>Theory / Practical</b>	<b>Credits</b>	<b>Formative Assessment Marks</b>	<b>Summative assessment Marks</b>	<b>Total Marks</b>
<b>DSC-3 Chemistry-I</b>	<b>Theory</b>	<b>4</b>	<b>40</b>	<b>60</b>	<b>100</b>

#### **Course Outcome:**

- Describe the dual nature of radiation and matter; dual behaviour of matter and radiation, de Broglie's equations, Heisenberg uncertainty principle and their related problems. Orbital shapes of s, p, d and f atomic orbitals, nodal planes. Electronic configurations of the atoms.
- Define periodicity, explain the cause of periodicity in properties, classify the elements into four categories according to their electronic configuration. Define atomic radii, ionisation energy, electron affinity and electro negativity.
- Explain bond lengths, bond angles, bond energies and dihedral angles, bond polarity, dipole moment and illustrate with examples of organic compounds, factors affecting bond parameters. Localized and delocalized bonds. Linear and crossed conjugation system. Electron displacement effects and their

applications: inductive effect, electrometric effect, resonance effect, hyper conjugation, and steric effect

- Know the meaning of reaction mechanism. Curly arrow rules. Classification of organic reactions with suitable examples. Types of bond fission. Types of reagents. Reactive intermediates.
- Understand the meaning of stereoisomerism, molecular representation, conformational isomers and configurational isomers, geometrical isomerism, E and Z notation, determination of configuration of geometric isomers by dipole moment method and anhydride formation method, Syn and Anti isomers in compounds containing C=N and their significance.
- Understand the molecular velocity, distribution of molecular velocities, Calculation of molecular velocities. Relation between RMS, average and most probable velocities. Distribution of energy amongst molecules. Law of partition of energy. Collision properties and coefficient of viscosity, calculation of  $\sigma$  and variation of viscosity with temperature and pressure. Critical phenomena Relation between critical constants and van der Waals equation, principle of continuity of states, law of corresponding states.
- Know the principles of titrimetric analysis, titration curves, balancing redox equations, titration curves, theory of redox indicators and applications.
- Understand the titration curves, indicators for precipitation titrations involving silver nitrate. Indicators for EDTA titrations - theory of metal ion indicators.
- Understand stages in gravimetric analysis, conditions of precipitation. theories of precipitation, factors influencing precipitation, co-precipitation and post-precipitation. To know about Structure, specificity, conditions and applications of organic reagents. Advantages of organic reagents over inorganic reagents.

Unit	Title: Chemistry 1	60 Hours / Sem
Unit I	<p><b>ATOMIC STRUCTURE &amp; PERIODICITY OF ELEMENTS</b></p> <p><b>Atomic Structure:</b> Review of Rutherford's atomic model, Bohr's theory, Hydrogen atomic spectra. Derivation of radius and energy of an electron in hydrogen atom, limitations of Bohr's theory, dual behavior of matter and radiation, de Broglie's equations, Heisenberg uncertainty principle and their related problems. Schrodinger's wave equation for hydrogen atom and meanings of various terms in it (derivation not required). Significance of <math>\psi</math> and <math>\psi^2</math>. Radial and angular wave functions (atomic orbitals) and their distribution curves for 1s, 2s, 2p, 3s, 3p and 3d orbitals (Only graphical representation). Radial and angular nodes, nodal planes and their significance. Quantum numbers and their significances. Shapes of s, p, d and f atomic orbitals. Rules for filling electrons in various orbitals, electronic configurations of the atoms (atomic number up to 54). Concept of exchange energy. Anomalous electronic configurations.  <b>(11 Lectures)</b></p> <p><b>Periodicity of elements:</b> Brief account on the following properties of elements with reference to s and p-block and trends in groups and periods: Atomic and ionic radii, Effective nuclear charge, screening effect, Slater's rules, ionization enthalpy, electron gain enthalpy, electronegativity, Pauling / Allred Rochow scale .  <b>(4 Lectures)</b></p>	15hrs

	Numerical problems are to be solved wherever applicable.	
<b>Unit II</b>	<b>FUNDAMENTALS OF ORGANIC CHEMISTRY &amp; STEREOCHEMISTRY-I</b>	15hrs
	<p><b>Fundamentals of Organic Chemistry:</b> Review of hybridization (sp<sup>3</sup>, sp<sup>2</sup> and sp). Bond parameters - bond lengths, bond angles, bond energies and dihedral angles, bond polarity, dipole moment and illustrate with examples of organic compounds, factors affecting bond parameters. Localized and delocalized bonds. Electron displacement effects and their applications: inductive effect, electrometric effect, resonance effect, hyper conjugation, and steric effect. <b>(6 Lectures)</b></p> <p><b>Organic reaction Mechanism:</b> Meaning of reaction mechanism. Curly arrow rules. Classification of organic reactions: substitution, addition, elimination, rearrangement, oxidation and reduction reactions with suitable examples (general mechanisms of all the reactions expected), Types of bond fission. Types of reagents: Electrophiles and nucleophiles (all types of examples to be given). Reactive intermediates: Structure, formation, stability and reactions of Carbocations, Carbanions, Free radicals, Carbenes, Nitrenes and Arynes. <b>(5 Lectures)</b></p> <p><b>Stereoisomerism-I:</b> Meaning of stereoisomerism, Molecular representation: Fischer's projection formulae, Newman's formulae, Saw horse formulae. conformational isomers and configurational isomers (distinction between conformation and configuration), Geometrical isomerism: definition, reason for geometrical isomerism, E and Z notation, determination of configuration of geometric isomers by dipole moment method and anhydride formation method, Syn and Anti isomers in compounds containing C=N and their significance. <b>(4 Lectures)</b></p>	
<b>Unit III</b>	<b>GASEOUS &amp; LIQUID STATES</b>	15hrs
	<p>Gaseous state: Review of kinetic theory of gases. Molecular velocity: Distribution of molecular velocities, Calculation of molecular velocities - , most probable, average and root mean square velocities. Relation between RMS, average and most probable velocities. Distribution of energy amongst molecules. Law of equi partition of energy. Collision properties: Collision frequency, collision diameter (<math>\sigma</math>), collision cross-section, collision number and mean free path and coefficient of viscosity, calculation of <math>\sigma</math> and <math>\eta</math>, variation of viscosity with temperature and pressure Critical phenomena: Andrews isotherms of CO<sub>2</sub>, critical constants and their determination. Relation between critical constants and van der Waals equation (Derivation), principle of continuity of states, law of corresponding states. Numerical problems are to be solved wherever applicable. <b>(7Lectures)</b></p> <p><b>Liquid state:</b> Molecular forces and general properties of liquids.</p> <p><b>Surface tension:</b> surface tension, surface energy, shapes of liquid drops and soap bubbles, capillary action, determination of surface tension by capillary rise method, drop weight and drop number methods. Effect of temperature on surface tension. Parachor, Additive and constitutive properties: atomic and structural parachor. Elucidation of structure of benzene and benzoquinone.</p> <p><b>Viscosity:</b> Viscosity coefficient, fluidity, molecular viscosity, relative viscosity and absolute viscosity, determination of viscosity using Ostwald viscometer. Effect of temperature, weight, size and shape of molecules and intermolecular forces.</p>	

	<p><b>Refractive index:</b> Definition, specific and molar refraction. Determination of refractive index using Abbe's refractometer. Additive and constitutive properties: Elucidation of structure of molecules. Numerical problems are to be solved wherever applicable. <b>(8 Lectures)</b></p>	
<b>Unit IV</b>	<p><b>VOLUMETRIC &amp; GRAVIMETRIC ANALYSIS</b></p> <p><b>Volumetric Analysis:</b> Review of normality, molarity, molality, mole fraction, ppm &amp; ppb . Standard solutions.  <b>Acid-base titration:</b> Theory of acid – base indicators. Theory, titration curves for all types of acid – base titrations.  <b>Redox titration:</b> Theory of redox indicators. Theory, types and applications.  <b>Precipitation titration:</b> Theory, indicators for precipitation titrations involving silver nitrate- Volhard's and Mohr's methods and their differences.  <b>Complexometric titration:</b> Theory, titration methods employing EDTA (direct, back, displacement and indirect determinations). Indicators for EDTA titrations - theory of metal ion indicators. Determination of hardness of water. <b>(9 Lectures)</b></p> <p><b>Gravimetric Analysis:</b> Stages in gravimetric analysis, conditions of precipitation, factors influencing precipitation, co-precipitation and post-precipitation. Structure, specificity, conditions and applications of organic reagents such as salicylaldehyde, oxine and dimethylglyoxime in inorganic analysis. Advantages of organic reagents over inorganic reagents. <b>(6 Lectures)</b></p> <p>Numerical problems are to be solved wherever applicable.</p>	15hrs

#### Recommended Books/References:

- Lee, J.D. Concise Inorganic Chemistry ELBS, 1991.
- Cotton, F.A., Wilkinson, G. & Gaus, P.L. Basic Inorganic Chemistry, 3 rd Ed., Wiley.
- Huheey, J. E., Keiter, E.A., Keiter, R.L. & Medhi, O. K. Inorganic Chemistry: Principles of Structure and Reactivity, Pearson Education India, 2006.
- Rodgers, G. E. Inorganic & Solid State Chemistry, Cengage Learning India Ltd., 2008.
- Organic Chemistry-P. Y. Bruice, 7th Edition, Pearson Education Pvt. Ltd., New Delhi (2013).
- Heterocyclic Chemistry- R. K. Bansal, 3rd Edition, New- Age International, New Delhi, 2004.
- McMurry, J.E. Fundamentals of Organic Chemistry, 7 th Ed. Cengage Learning India Edition, 2013.
- Morrison, R.T. & Boyd, R.N. Organic Chemistry, Pearson, 2010.
- Bahl, A. & Bahl, B.S. Advanced Organic Chemistry, S. Chand, 2010.
- Organic Chemistry Volume-I, II- I. L. Finar, 6th Edition, ELBS London (2004).
- P.W. Atkins: Physical Chemistry, 2002.
- Text Book of Physical Chemistry - P. L. Soni, S. Chand & Co., 1993.
- Principles of Physical Chemistry - B. R. Puri, L. R. Sharma and M. S. Patania, S. L. N. Chand & Co. 1987. A text book of Physical Chemistry- A. S. Negi & S C Anand, 3rd edition 2022

Formative Assessment for Theory	
Assessment Occasion/ Type	Marks
InternalAssessmentTest1	15
InternalAssessmentTest2	15
Assignment	10

<b>Total</b>	<b>40</b>
<b>Formative Assessment as per guidelines.</b>	

**3. Ability Enhancement & Value-Added Courses (AE&VAC)**

**Course Title: 3.1 Language 1/ English**

**Rhythmic Voyage**

**Course Code: IBSPH1AB01T**

Type of Course	Theory / Practical	Credits	Formative Assessment Marks	Summative assessment Marks	Total Marks
AE& VAC-1	Theory	4	40	60	100

### Course Outcomes:

At the end of the course students will be able to:

- Acquire the knowledge of English prose and poetry
- Acquire the knowledge of parts of speech
- Appreciate the nuances of English poetry and prose
- Use proper articles, prepositions and forms of verbs
- Use appropriate tense forms in sentences
- Acquire basic language skills

### Unit I: Prose

1. My Lord the Baby- Rabindranath Tagore
2. Old Love – Jeffery Archer
3. What I Found in My Pocket – G K Cheterton
4. The Beauty Industry – Aldous Huxley
5. The Little Girl – Kathleen Beachamp Murry

### Unit II: Poetry

1. Our Casuarina Tree – Toru Dutt
2. Once Upon a Time – Gabriel Okara
3. A Prayer for my Daughter – W B Yeats
4. On His Blindness – John Milton
5. Success is Counted Sweetest – Emily Dickenson

### Unit III: Grammer

1. Parts of Speech (With special emphasis on Verbs, Adverbs, adjectives and Prepositions)

2. Use of Articles in English

3. Cloze Test

#### **Unit IV**

1. Tenses – (Special emphasis on Simple Present, Present Continuous and Simple

Past Tense)

2. Reading Skills – Meaning, Types , Techniques

3. Synonyms and Antonyms

#### **Recommended Books:**

1. Text Book : **Rhythmic Composition** An Anthology of Prose and Poetry, Board of Editors :  
Maruti Publications, Guntur

2. R. P. Singh's *Functional Skills in Language and Literature*, OUP

3. Murphy, Raymond. *Intermediate English Grammar*. Cambridge Univ. Press.

4. Wren and Martin. *High School English Grammar and Composition*

<b>Formative Assessment for Theory</b>	
<b>Assessment Occasion/ Type</b>	<b>Marks</b>
InternalAssessmentTest1	<b>15</b>
InternalAssessmentTest2	<b>15</b>
Assignment	<b>10</b>
<b>Total</b>	<b>40</b>
<b>Formative Assessment as per guidelines.</b>	

**Course Title: 3.2 Art Education (Performing and Visual)**

**Course Code: IBSPH1AB02T**

Type of Course	Theory / Practical	Credits	Formative Assessment Marks	Summative assessment Marks	Total Marks
<b>AE&amp;VAC-2 Art Education (Performing and Visual)</b>	<b>Theory</b>	<b>2</b>	<b>20</b>	<b>30</b>	<b>50</b>

**Course Outcome:**

After completion of this course, it is expected that the students will be able to:

- articulate the importance and the role of aesthetics and art in education;
- understand the medium of collage and its versatility;
- design, plan, and create an expressive self-portrait collage by applying a variety of collage techniques;
- design and set up an interactive visual art exhibition to display their artworks;
- understand and appreciate art-based learning experiences;
- develop the ability to reflect and challenge their assumptions and beliefs around art and develop new understandings.

**UNIT-1: Understand the Importance of Aesthetics and Art in Education (1 Week)**

Students will collectively view and engage in a series of artworks closely, share their observations, critically analyze their observations, listen to multiple perspectives from peers, suspend judgements, and draw their own understanding of the artwork. They will gain familiarity with the role of art in education and will recognize aesthetic experiences through compare and contrast.

- A. Introduction to Art and Aesthetics.
- B. Visual Thinking Strategy (VTS) Activity.
- C. Learning Art Forms (Warli, Madhubani, Gond Art and Others) - Any One.
- D. Art as Self-Expression and its Application in Education.

**UNIT-II: Exploring paper collage and its techniques (2 Weeks)**

Students will view and discuss examples of collage artworks; artist process and artist interview videos Students will get a chance to compare and contrast various ways collage as a medium is used and will engage in discussions and dialogues. Students will analyze effective ways of using the medium of collage in educational and other settings.

- A. Introduction to Collage and its Medium (Newspaper, Fabric, Ribbon, Coins, Feathers and others).
- B. Manipulating Paper in Different Ways and Creating 2-D Composition of Paper Collage.
- C. Creating Visual Texture, Physical Texture and Patterns Using Techniques Like (Decoupage, Photomontage, And 3 -D).

### **UNIT-III: Ideating and creating for an Expressive Self-Portrait (7 Weeks)**

Students will engage in art making activities. Students will draw from their previous experiences of using paper for 2D explorations and add more interest to their unique 3D explorations. Students will continuously reflect on their learning through artwork. Students will work independently and collaboratively throughout the course.

- A. Making Paper Stand and Create Paper Sculpture Using 3-D Techniques (Like Paper - Cutting, Paper Folding, Clay, Paper- Mache).
- B. Engaging in Close Observation Sketching and Drawing Activity (Self- Portrait, Poster, Calligraphy).
- C. Expressive Self- Portrait Drawing and Collage

### **UNIT-IV: Designing and setting up an Exhibition (5 Weeks)**

Designing, Planning and Setting Up an Art Exhibition.

#### **Pedagogy:**

Students will be planning the various aspects of a visual art exhibition: ways to display artworks, designing the layout of the exhibition space and how the audience will move within the space. Students will divide the tasks among themselves and set up the exhibition space.

#### **Mode of Transaction:**

The entire syllabus is based on practical exercises. The nature and scope of activities and tasks are explained in each unit.

#### **Mode of Assessment:**

The examination scheme and mode shall modify and/or evolve as per the guidelines of the Examination Board, Karnatak University Dharwad, from time to time.

<b>Formative Assessment for Theory</b>	
<b>Assessment Occasion/ Type</b>	<b>Marks</b>
InternalAssessmentTest1	<b>5</b>
InternalAssessmentTest2	<b>5</b>
Assignment	<b>10</b>
<b>Total</b>	<b>20</b>
<b>Formative Assessment as per guidelines.</b>	

### **References:**

- Veerswar, P. & Sharma, N. (2001). Aesthetics. Krishna Prakashan Media.
- Sharma, L.C. (1980). A brief history of Indian painting. Goal publishing house.
- Chandok, A. (2015). Art and education. Nirmal Publishing House.
- Prasad, D. (1998). Art as the basis of education. NBT.
- Ghosh, S. (2020). Madhubani painting-vibrant folk art of Mithila. Art and Design Review, 8(2), 61-78.
- Mishra, S. (2021). Journey of folk art: The case of Mithila painting of Bihar. Journal of Engineering Technologies and Innovative Research, 8(3), 61-78.

### **Resources:**

- Art 21. (2009, Sep 26). Arturo Herrera: artist [Video]. You Tube. [https://www.youtube.com/watch?v=Oagx3\\_NZSHU](https://www.youtube.com/watch?v=Oagx3_NZSHU)
- Easel Stories. (2018, Sep 18). G. Subramanian: Collage artist [Video]. You Tube <https://www.youtube.com/watch?v=ioRRi9R46a0>
- Planning templates for exhibition.
- Handouts out on Collage techniques and artist examples Works of Deborah Roberts, William Kentridge, Wangechi Mutu, etc.

**Course Title: 3.3 Understanding India Part-I (Indian Ethos and Knowledge Systems)**

**Course Code: IBSPH1AB03T**

Type of Course	Theory / Practical	Credits	Formative Assessment Marks	Summative assessment Marks	Total Marks
AE&VAC-3	Theory	2	20	30	50

**Course Outcome:**

After the completion of the course, it is expected that the students will be able to:

- recognize the vast corpus of knowledge traditions of India, while developing an appreciation for it,
- apply their acquired research and critical thinking skills to multidisciplinary themes, and appreciate the diverse belief systems and knowledge traditions in India.
- discuss the formation and evolution of knowledge of India through multidisciplinary lens.

**UNIT-1: Introduction to the Knowledge of India (2 Weeks)**

- A. Definition & Scope; Relevance of this Knowledge.
- B. Need to revisit our Ancient Knowledge, Traditions, and Culture.

**UNIT-II: Culture-Art and Literature (4 Weeks)**

- A. Fine Arts (Traditional Art Forms, Contemporary Arts, Arts and Spirituality, Arts Identity, and Art and Globalization): and.
- B. Performing Arts (Indian Dance Systems, Traditional Indian Pieces of Music, Visual Arts, Folk Arts, etc.,)
- C. Literature (Sanskrit Literature, Religious Literature, Indian Poetry, Folk Literature, Indian Fiction, Sangam Literature, Kannada, Malayalam Literature, Bengali Literature, etc.

**UNIT-III: Polity, Law and Economy (5 Weeks)**

- A. Kingship & Types of Government (Oligarchies, Republics); Local Administration (Village Administration);

- B. Basis of Law: Dharma & its sources; Criminal Justice: Police, and Punishments; Lessons from Chanakya Niti; Lessons for modern-day India: Towards a Tradition-Driven Equitable and Just Polity and Law System.
- C. Overview of the Indian Economy from the Stone Age to the Guptas: The new culture of Urbanization (including Castes, Guilds, and other Economic Institutions; Harappan Civilization Economy; Growth of Agriculture and Proliferation of New Occupations: Growth of Writing);
- D. Internal & External Trade and Commerce, including Trade Routes, Indo-Roman Contacts, and Maritime Trade of South India; Temple Economy.
- E. Land Ownership - Land Grants & Property Rights, Land Revenue Systems.
- F. Understanding Artha shastra: Ideas & Criticism; Locating Relevance of Ancient Indian Economic Thought in Modern-Day Indian Economy.
- G. Understanding Economy, Polity and Law in Contemporary India.

#### **UNIT-IV: Environment & Health (4 Weeks)**

- A. Understanding Equilibrium between Society & Environment: Society's Perceptions Natural Resources like Forests, Land, Water, and Animals.
- B. Sustainable Architecture & Urban Planning; Solving Today's Environmental Challenges (Best Practices from Indigenous Knowledge, Tribes and Community-Led Efforts, etc.).
- C. India's Health Tradition: Ayurveda, Siddha, Ashtavaidya, Unani, and other Schools of Thought; Lessons from Sushruta Samhita and Charaka Samhita:
- D. Mental health in Ancient India: Towards Time-Tested Concepts of Mental Wellness (Concept of Mind, Dhyana, Mind-Body Relationship, Ayurveda, Yoga Darshan, Atman, etc.)

#### **Practicum:**

The modes of curriculum transaction will include lectures, Tutorials, and Practicum.

Practicum will include organization of day trips that help student teachers watch events relating to visual and performing art; activities that enable student teachers to identify and record through photos, videos, etc. the elements of ancient architecture still existing in the city around them; organization of Individual and group presentations based on themes such as Polity, Law and Economy etc., organization of a 'Knowledge of India' day in the institution to celebrate the culture (food, clothes, etc.) that they would have been explored in lectures and tutorials; interactions with family members, elders, neighbours, and other members of society about the evolution of local systems and economy etc.

#### **Mode of Transaction:**

The entire syllabus is based on practical exercises. Classroom interactions will include learner driven participatory sessions, and Guest lectures through experts and practitioners, such as fine arts and performing arts practitioners along with contemporary poets & writers of Indian

literature. Also, it will include Screening of documentaries and films followed by a discussion; Learner-driven discussions in the form of focus group discussions (FGDs), Socratic Discussions, etc.; Debate/discussion can be organized to explain India's Vaad tradition: discussion on how some of the ancient methods of teaching are relevant in today's time; discussions that help Identify ethical dilemmas in daily lives and understanding the importance of ancient ethics and values to resolve them.

**Mode of Assessment:**

The approaches to learning assessment will include:

- Supporting the curiosity and interest of student teachers in the selected themes through a multi-modal approach, including regular assessments and actionable feedback that enable learners to outline and interpret the processes and events of the formation & evolution of knowledge of India through a multidisciplinary lens.
- Enabling the student teachers to demonstrate critical analysis and independent thinking of the processes and events in the formulation & evolution of different traditions that help student teachers evaluate the diverse traditions of India to distinguish its achievements and limitations.
- Use of first-hand or second-hand experiences that enable student-teachers to develop and articulate an ethics-based education rooted in Indian thought to their students in the classroom context.

The examination scheme and mode shall modify and/or evolve as per the guidelines of the Examination Board, Karnatak University Dharwad, from time to time.

<b>Formative Assessment for Theory</b>	
<b>Assessment Occasion/ Type</b>	<b>Marks</b>
InternalAssessmentTest1	<b>5</b>
InternalAssessmentTest2	<b>5</b>
Assignment	<b>10</b>
<b>Total</b>	<b>20</b>
<b>Formative Assessment as per guidelines.</b>	

**Suggestive Readings Material:**

Teachers may suggest books/readings as per the needs of the learners and learning content.

- Altekar, A.S. (2009). Education in Ancient India. New Delhi: Gyan Publishing House.(Originally published in 1944 by Osmania University. Nand Kishore & Bros.
- Dominik, W. (2001). The roots of ayurveda. Penguin Classics.
- Mahadevan, B., Bhat, R.V. & Nagendra, P.R.N. (2021). Introduction to Indian knowledge system: Concepts and applications. PHI Learning Pvt. Ltd.

- Nehru, J (1946).The Discovery of India. UK:Meridian Books. Reprinted (2008) by Penguin.
- Sinha, A. (1998). Design of settlements in the vaastu shastras. Journal of Cultural Geography, 17(2), 27-41.
- Swami Suparnananda (2016). The Cultural Heritage of India (Vol. 2). The Rama Krishna Mission Institute of Culture.
- Tachikawa, M. (1971). A sixth-century manual of Indian logic: A translation of the Nyayapravesa. Journal of Indian Philosophy, 1(2), 111-145.

## **II Semester**

### **B.Sc. B.Ed. (Physics)**

#### **Courses:**

#### **1. Discipline Specific Course: DSC**

**1.1** Thermal Physics and Fluid Mechanics

**1.2** Thermal Physics and Fluid Mechanics-Practical

**1.3** Number Theory and Calculus – II

**1.4** Chemistry-3

**1.5** Chemistry-4 Practical

#### **2. Ability enhancement & Value-Added Courses**

**2.1** Language-II /Kannada/Hindi

**2.2** Understanding India -II (Indian Ethos & Knowledge systems)

**2.3** Teacher And Society

### 1. Discipline Specific Course (DSC)

**Course Title: 1.1 Thermal Physics and Fluid Mechanics**

**Course Code: IBSPH2DSC01T**

Type of Course	Theory / Practical	Credits	Formative Assessment Marks	Summative assessment Marks	Total Marks
DSC-1	Theory	4	40	60	100

#### **Course Outcome:**

At the end of the course, students will be able to:

- Apply the laws of thermodynamics and analyze the thermal system and compare the efficiency and working of steam Otto and Diesel engine.
- Analyze the temperature entropy-diagram with physical significance.
- Study the Maxwell's thermodynamical relations with different applications.
- Analyze the significance of thermodynamic potentials and develop the relation between thermodynamical potential with their variables.
- Understand concept of surface tension and viscosity of liquids and their experimental determination.
- Understand importance of surface tension and viscosity of liquids/fluids in real life situation (everyday life).

Unit	Title: Thermal Physics and Fluid Mechanics	60 Hours / Sem
Unit I	<p><b>Kinetic theory of gases:</b> Maxwell's law of distribution of velocities (with derivation). Expressions for Average, R.M.S. and most probable velocities (with derivation). Qualitative discussions on Mean free path, mention of Clausius and Maxwell's expressions for mean free path. Transport phenomena — Brief discussion on Viscosity, Thermal conductivity and Diffusion. Expressions for Coefficient of Viscosity, Coefficient of Thermal conductivity and Coefficient of Diffusion (with derivations) and relation between them.</p> <p><b>Radiation:</b> Concept of Radiation, Stefan's law and its derivation using radiation pressure. Experimental determination of Stefan's constant. Wein's displacement law (with derivation), Rayleigh-Jeans's law (qualitative), Planck's law of radiation and its derivation.</p>	15hrs
Unit II	<p><b>Thermodynamics-I:</b> Review of basics of thermodynamics. Statement of second law of thermodynamics, Carnot's theorem: statement and proof. Otto engine (Internal combustion engine) and expression for its efficiency. Diesel engine and expression for its efficiency.</p> <p><b>Entropy:</b> Concept of entropy, change of entropy in reversible cycle, change of entropy in irreversible process with examples. Temperature-entropy diagram, physical significance of entropy, entropy of a perfect gas. Second law of thermodynamics in terms of entropy. Entropy of the Universe. Third law of thermodynamics: Nernst's heat theorem statement.</p>	15hrs
Unit III	<p><b>Thermodynamics-II:</b> Maxwell's Thermodynamic Relations: Thermodynamic variables: extensive and intensive variables. Derivation of Maxwell's thermodynamical relations and its applications, specific heat equation for Van der Waals gas, Joule Thomson-cooling and Joule-Thomson coefficient for perfect and real gases. Clausius - Clapeyron's equation (first latent heat equation).</p> <p><b>Thermodynamic Potentials:</b> Internal energy, Enthalpy, Helmholtz free energy, Gibb's free energy. Significance of thermodynamic potentials. Relations of thermodynamical potentials with their variables. First and second order phase transitions.</p>	15hrs
Unit IV	<p><b>Fluid Mechanics:</b></p> <p><b>Surface Tension:</b> Basic concepts. Pressure difference across a liquid surface: excess pressure inside a spherical liquid drop and excess pressure inside a soap bubble. Derivation of relation between radius of curvature, pressure and surface tension. Angle of contact: case of two liquids in contact with each other and with air, case of solid, liquid and air in contact. Experimental determination of surface tension by Jaeger's method with relevant theory. Determination of surface tension and angle of contact of mercury by Quincke's method.</p> <p><b>Viscosity:</b> Basic concepts. Expression for critical velocity, significance of Reynolds's number. Derivation of Poiseuille's equation. Experimental determination of coefficient of viscosity for a liquid by Poiseuille's method. Motion of a spherical body in a viscous medium: expression for coefficient of viscosity from Stoke's law (derivation).</p>	15hrs

**Recommended books:**

1. Kinetic Theory of Gases(I-Edition) – V.N. Kelkar – Ideal Book Service, Pune, 1967.

2. Heat & Thermodynamics and Statistical Physics (XVIII-Edition) – Singhal, Agarwal & Satyaprakash – Pragati Prakashan, Meerut, 2006.
3. Heat & Thermodynamics and Statistical Physics (I-Edition) – Brijlal, Subramanyam & Hemne - S. Chand & Company Ltd., New-Delhi, 2008.
4. Heat and Thermodynamics (I-Edition) – D.S.Mathur - S. Chand & Company Ltd., New-Delhi, 1991. A Treatise on Heat – Saha and Srivatsava.
5. A text book of heat - J.B.Rajam.
6. Properties of Matter (XIII-Edition) – Brijlal & Subramanyam, Eurasia Publishing House Pvt. Ltd., New-Delhi, 2001.
7. Elements of Properties of Matter (XXVIII-Edition), D.S.Mathur - S. Chand & Company Ltd., New-Delhi, 2005.
8. Physics, Vol. No.I ( V-Edition)– Resnick, Halliday & Krane – John Wiley & Sons Inc., New-York, Singapore, 2005.
9. Berkely Physics, Vol. No.I – ABC Publications, Bangalore & New-Delhi.
10. University Physics (XI-Edition)- Young & Freedman – Pearson Education, 2004
11. B.Sc. practical Physics – C.L.Arora.
12. Advanced practical Physics – Samir Kumar Ghosh.
13. Advanced practical Physics – Worsnop and Flint.
14. Thermodynamics and Statistical Physics, J.P.Agarwal and Satya Prakash, Pragati Prakashan, 2024.

<b>Formative Assessment for Theory</b>	
<b>Assessment Occasion/ Type</b>	<b>Marks</b>
InternalAssessmentTest1	<b>15</b>
InternalAssessmentTest2	<b>15</b>
Assignment	<b>10</b>
<b>Total</b>	<b>40</b>
<b>Formative Assessment as per guidelines.</b>	

**Course Title: 1.2 Thermal Physics and Fluid Mechanics- (Practical)**

**Course Code: IBSPH2DSC01P**

Type of Course	Theory / Practical	Credits	Formative Assessment Marks	Summative assessment Marks	Total Marks
DSC-1P	Practical	2	30	20	50

**List of second semester Physics Experiments:**

1. Verification of Clausius–Clapeyron equation and determination of specific enthalpy.
2. Specific Heat by cooling.
3. Thermal conductivity of a bad conductor by Lee’s method/Charlton’s method.
4. Thermal conductivity of copper by Searle’s apparatus/Angstrom’s method.
5. Verification of Stefan’s Law (Electrical method).
6. Determination of Stefan’s constant.
7. ‘J’ by continuous flow method.
8. ‘J’ by electrical method.
9. Mechanical equivalent of heat using Callender and Barnes method.
10. To find the ratio of specific heats at constant pressure and constant volume for air using Clement and Desorme’s apparatus.
11. Surface Tension by Jeager’s method.
12. Surface Tension by Quincke’s method.

13. To determine the Coefficient of Viscosity of water by Capillary Flow method (Poiseuille's method).
14. Stokes method to determine the coefficient of viscosity.
15. Problem based learning in physics: Problems on entropy, heat engines, fluid mechanics and statistical physics.

**Note:**

1. Experiments are of four hours duration each.
2. Minimum of Eight experiments to be performed.

**Books recommended:**

1. Physics For Degree Students B. Sc. First Year, S. Chand & Company.
2. B.Sc. practical Physics – C.L. Arora.
3. Advanced practical Physics – Samir Kumar Ghosh.
4. Advanced practical Physics – Worsnop and Flint.
5. Advanced practical Physics-I, S.P.Singh.

**Course Title: 1.3 Number Theory and Calculus- II**

**Course Code: IBSPH2DSC02T**

Type of Course	Theory / Practical	Credits	Formative Assessment Marks	Summative assessment Marks	Total Marks
DSC-2T	Theory	4	40	60	100

**Course Outcomes:**

After completion of course (Theory), students will be able to:

- Understand the concepts of divisibility and congruence.
- Analyse the applications of Fermat's and Wilson's theorems.
- Study the applications of definite integrals to areas, volumes and surface of revolution.
- Learn maxima and minima of the functions of two variables.
- Find the extreme values of the functions.
- Solve dot and cross product of vectors.
- Understand the concepts of gradient, divergence and curl.

<b>Unit</b>	<b>Title: Number Theory and Calculus – II</b>	<b>60 Hours / Sem</b>
<b>Unit - I</b>	<b>Number Theory:</b>	<b>15 Hrs.</b>
	Divisibility. Properties of divisibility. Division algorithm. GCD. Euclid's algorithm. Relatively prime numbers. Fundamental theorem of arithmetic. The number of positive divisors and sum of all the positive divisors of a number. The theory of congruence. Basic properties of congruence. Euler's theorem, Fermat's theorem. Wilson's theorem.	
<b>Unit - II</b>	<b>Integral Calculus:</b>	<b>15 Hrs.</b>
	Reduction Formulae, application of definite integrals to areas, volumes and surface of revolution. Length of plane curves.	
<b>Unit - III</b>	<b>Multivariate Calculus:</b>	<b>15 Hrs.</b>
	Functions of two or more variables, Partial derivatives of implicit and composite functions, Euler's theorem and its extension, Total differentials, Jacobians and standard properties and illustrative examples. Taylor's and Maclaurin's series for functions of two variables, Maxima-Minima of functions of two variables, Lagrange's method of undetermined multipliers.	
<b>Unit - IV</b>	<b>Vector Calculus:</b>	<b>15 Hrs.</b>
	Dot and cross product of vectors. Ordinary derivatives of vectors. Continuity and differentiability of a vector function. Derivatives of sum, dot product. Cross product and triple products of vectors. Differential of vectors. The vector differential operator $\text{del}$ . The gradient, Divergence and curl. Solenoidal and irrotational vectors.	

### **Recommended Books:**

1. Elementary Number Theory, D. M. Burton, McGraw Hill, 2023.
2. Number Theory, G. E. Andrews, Dover Publications, 1994.
3. Integral Calculus, Shanti Narayan and P. K. Mittal, S. Chand and Co. Pvt. Ltd., 2005.
4. Integral Calculus, S. K. Pundir and B. Singh, Pragati Prakashan, 2020.
5. Differential Calculus, Shanti Narayan and P. K. Mittal, S. Chand & Company, New Delhi, 2022.
6. Schaum's Outlines of Calculus, E. Mendelson, McGraw Hill, 2021.
7. Vector Calculus, J. N. Sharma and A. R. Vasishtha, Krishna Prakashan, 2020.
8. A Textbook of Vector Calculus, Shanti Narayan and P. K. Mittal, Visionias, 2023.
9. Vector Calculus, R. K. Pandey, Oxford Publications, 2012.
10. A Course in B.Sc. Mathematics-II, S. S. Bhoosnurmath, C. S. Salimath and V. S. Shetiya, EBPB, 2016
11. A Text Book of B.Sc. Mathematics, G. K. Ranganath, S. Chand Publications, 2009.
12. Mathematical Methods, S. K. Pundir and B. Singh, Pragati Prakashan, 2020.
13. A Course in B.Sc. Mathematics - II, C. S. Salimath, EBPB, 2021.
14. Objective Mathematics – Differential Calculus and Integral Calculus, K. B. Pandey, A. K. Singh and V. Yadav, Pragati Prakashan, 2020.

<b>Formative Assessment for Theory</b>	
<b>Assessment Occasion/ Type</b>	<b>Marks</b>
InternalAssessmentTest1	<b>15</b>
InternalAssessmentTest2	<b>15</b>
Assignment	<b>10</b>
<b>Total</b>	<b>40</b>
<b>Formative Assessment as per guidelines.</b>	

**Course Title: 1.4 Chemistry-3**

**Course Code: IBSPH2DSC03T**

<b>Type of Course</b>	<b>Theory / Practical</b>	<b>Credits</b>	<b>Formative Assessment Marks</b>	<b>Summative assessment Marks</b>	<b>Total Marks</b>
<b>DSC-3</b>	<b>Theory</b>	<b>4</b>	<b>40</b>	<b>60</b>	<b>100</b>

**Learning Outcomes:**

- Explain ionic bond, Born Lande equation, Born Haber cycle and Fajan's rules, VSEPR theory, hybridisation and shapes of various molecules. Understand the concept of resonance and write resonating structures of  $\text{NO}_3^-$  &  $\text{CO}_3^{2-}$
- Explain MO Theory and draw the MO diagrams for homonuclear diatomic molecules and ions and heteronuclear diatomic molecules such as CO, NO, physical properties of metals based on free electron theory, band theory of metals to explain conductors, insulators, extrinsic and intrinsic semiconductors
- Explain the chemistry of aliphatic hydrocarbons & basic Concept in aromaticity.
- Understand the orders of reactions, half-life period, Effect of temperature on reaction rates, temperature coefficient, activation energy and its calculation from Arrhenius equation. Theories of Reaction Rates
- Learn the Law of chemical equilibrium, factors affecting equilibria. Relations between  $K_p$ ,  $K_c$  and  $K_x$  for reactions involving ideal gases. Common ion effect, solubility and solubility product. Ionization of acids and bases, hydrolysis of salts.
- Explain the optical Isomerism, chirality/asymmetric centres, enantiomers. R and S notations, CIP rules with molecules containing one, two or more asymmetric centres, diastereomers, meso compounds, R and S notations, D and L configuration and threo and erythro nomenclature, racemic mixture and racemisation, resolution of racemic mixture, formation of diastereomers, biological significance of chirality.
- Explain the preparation of benzene and alkyl benzenes, general mechanism of electrophilic aromatic substitution, examples of halogenation, nitration, sulphonation and Friedel-Craft alkylation and acylation. Oxidation of side chain (Benzene with alkyl groups  $-\text{CH}_3$ ,  $-\text{CH}_2\text{CH}_2\text{CH}_3$  and 1, 4 - dimethyl benzene).
- Learn about relative reactivities of halogen in alkyl halides, vinyl halides, allyl halides, aryl halides and aralkyl halides. Nucleophilic substitution reactions and their mechanisms, Synthesis of aryl halide Aromatic Nucleophilic Substitution reactions, effect of nitro substitution on aromatic nucleophilic substitution reactions.

Unit	Title: Chemistry 3	60 Hours / Sem
Unit I	<b>Unit-I: CHEMICAL BONDING &amp; MOLECULAR STRUCTURE</b>	15hrs
	<p><b>Ionic Bonding:</b> Review of general characteristics of ionic compounds. Lattice energy and solvation energy and their importance in the context of stability and solubility of ionic compounds. Born-Landé equation and calculation of lattice energy. Born-Haber cycle and its applications .Fajan's rules, ionic character in covalent compounds and percentage of ionic character.</p> <p><b>Covalent bonding :</b> VB approach, shapes of inorganic molecules and ions on the basis of VSEPR and hybridization with suitable examples of linear, trigonal planar,</p>	

	<p>square planar, tetrahedral, trigonal bipyramidal and octahedral arrangements. Concept of resonance and resonating structures of <math>\text{NO}_3^-</math> and <math>\text{CO}_3^{2-}</math>. <b>(7 Lectures)</b></p> <p><b>Molecular Orbital Theory:</b> LCAO method, bonding and antibonding, Shapes of molecular orbitals, MO treatment of homo nuclear diatomic molecules <math>\text{H}_2</math>, <math>\text{He}_2</math>, <math>\text{He}_2^+</math>, <math>\text{N}_2</math>, <math>\text{O}_2</math>, <math>\text{O}_2^+</math>, <math>\text{O}_2^-</math> and hetero nuclear diatomic molecules and ion such as CO and NO (Relationship between bond length, bond order, bond energy, magnetic properties). <b>(5 Lectures)</b></p> <p><b>Metallic Bond:</b> Physical properties of metals (conductivity, lustre, malleability &amp; ductility) based on free electron theory. Band theory of metals to explain conductors, insulators, extrinsic and intrinsic semiconductors (including temperature effect).</p>	
Unit II	<b>ALIPHATIC HYDROCARBONS &amp; BASIC CONCEPT IN AROMATICITY</b>	15hrs
	<p><b>Chemistry of Aliphatic Hydrocarbons:</b> Aliphatic hydrocarbons: Types - alkanes, alkenes, alkynes and alkadienes.</p> <p><b>Alkenes:</b> mechanism of addition of hydrogen halides and bromine, Markovnikoff's Rule, peroxide effect, acid catalyzed hydration of alkenes (mechanism), oxymercuration-oxidation, hydroboration - oxidation, oxidative cleavage of alkenes with <math>\text{KMnO}_4</math> and ozone (ozonolysis).</p> <p><b>Alkadienes:</b> classification, mechanism of addition of halogen and hydrogen halides in 1,3-diene, Diels Alder reaction.</p> <p><b>Alkynes:</b> Mechanism of addition of halogen and halogen halides, hydration of alkynes, Acidic character of acetylenic protons (Acidity of 1-alkynes), Comparison of acidic strength of acetylene, ethylene and ethane. oxidative cleavage of alkynes with <math>\text{KMnO}_4</math> and ozone (ozonolysis), cyclic polymerization. <b>(8 Lectures)</b></p> <p><b>Cycloalkanes:</b> Relative stability of cycloalkanes (Baeyer's Strain theory). Conformational analysis of cyclopropane, cyclobutane, cyclopentane and cyclohexane, axial and equatorial bonds, conformation and stability of monosubstituted cyclohexane. <b>(3 Lectures)</b></p> <p><b>Basic Concept in aromaticity:</b> Criteria for aromaticity: heat of hydrogenation (e.g. benzene), resonance and resonance energy (e.g. benzene). Huckel's rule with examples such as benzene, furan, thiophene, pyridine, naphthalene, non-benzanoid aromatic compounds- cyclopropenyl cation, cyclopentadienyl anion, and cycloheptatrienyl cation. <b>(4 Lectures)</b></p>	
Unit III	<b>CHEMICAL KINETICS AND CHEMICAL &amp; IONIC EQUILIBRIA</b>	15hrs

	<p><b>Chemical Kinetics:</b> Review of reaction rates. Orders of reactions. Derivation of integrated rate equations for zero, first and second order reactions (both for equal and unequal concentrations of reactants). Half-life period of a reaction for various orders (numerical problems). Methods for determination of order of a reaction by half-life period and van't Hoff's differential method.</p> <p>Effect of temperature on reaction rates, temperature coefficient, Concept of activation energy and its calculation from Arrhenius equation. Theories of Reaction Rates: Collision theory and Activated Complex theory of bimolecular reactions. Comparison of the two theories (qualitative treatment only). <b>(8 Lectures)</b></p> <p><b>Chemical and Ionic Equilibria:</b> Law of chemical equilibrium and its thermodynamic derivation. Factors affecting equilibria (Le Chatelier's principle).</p> <p>Relations between <math>K_p</math>, <math>K_c</math> and <math>K_x</math> for reactions involving ideal gases. Common ion effect, solubility and solubility product and its applications in inorganic qualitative analysis. Ionization of acids and bases, hydrolysis of three types of salts and derivation for determination of pH of their solutions. Numerical problems are to be solved wherever required. <b>(7 Lectures)</b></p>	
Unit IV	<p><b>STEREoisomerism-II, AROMATIC HYDROCARBONS AND ALKYL AND ARYL HALIDES</b></p> <p><b>Stereoisomerism-II :</b> Optical Isomerism: optical activity, specific rotation and optical purity, chirality/asymmetric centers, enantiomers. R and S notations (one asymmetric center): CIP rules with molecules containing one, two or more asymmetric centers, diastereomers, meso compounds, D and L configuration and threo and erythro nomenclature, racemic mixture and racemisation, resolution of racemic mixture through mechanical separation, formation of diastereomers. <b>(5 Lectures)</b></p> <p><b>Aromatic Hydrocarbons:</b> Preparation of benzene and alkyl benzenes, General mechanism of electrophilic aromatic substitution, examples of halogenation, nitration, sulphonation and Friedel-Craft alkylation and acylation. Oxidation of side chain (Benzene with alkyl groups – <math>\text{CH}_3</math>, <math>-\text{CH}_2\text{CH}_2\text{CH}_3</math> and 1, 4 - dimethyl benzene). <b>(5 Lectures)</b></p> <p><b>Alkyl and Aryl halides:</b> Alkyl Halides: Relative reactivities of halogen in alkyl halides, vinyl halides, allyl halides, aryl halides and aralkyl halides. Nucleophilic substitution reactions: <math>\text{S}_{\text{N}}1</math> and <math>\text{S}_{\text{N}}2</math> reactions and their mechanisms, stereochemistry and comparison. <math>\text{S}_{\text{N}}1</math> reaction and mechanism.</p> <p><b>Aryl halides:</b> Synthesis of aryl halide from phenols, Sandmeyer's reaction, Gattermann reaction, Raschig Hooker process and Balz-Schiemann reaction. Aromatic Nucleophilic Substitution reactions: <math>\text{S}_{\text{N}}^{\text{Ar}}</math>, via Benzyne intermediate along with mechanisms. Effect of nitro substitution on aromatic nucleophilic substitution reactions. <b>(5 Lectures)</b></p>	15hrs

**Recommended Books/References:**

1. Lee, J.D. Concise Inorganic Chemistry ELBS, 1991.
2. Cotton, F.A., Wilkinson, G. & Gaus, P.L. Basic Inorganic Chemistry, 3 rd Ed., Wiley.
3. Huheey, J. E., Keiter, E.A., Keiter, R.L. & Medhi, O. K. Inorganic Chemistry: Principles of Structure and Reactivity, Pearson Education India, 2006.
4. Rodgers, G. E. Inorganic & Solid State Chemistry, Cengage Learning India Ltd., 2008.
5. Organic Chemistry-P. Y. Bruice, 7th Edition, Pearson Education Pvt. Ltd., New Delhi (2013).
6. Heterocyclic Chemistry- R. K. Bansal, 3rd Edition, New- Age International, New Delhi, 2004.
7. McMurry, J.E. Fundamentals of Organic Chemistry, 7 th Ed. Cengage Learning India Edition, 2013.
8. Morrison, R.T. & Boyd, R.N. Organic Chemistry, Pearson, 2010.
9. Bahl, A. & Bahl, B.S. Advanced Organic Chemistry, S. Chand, 2010.
10. Organic Chemistry Volume-I, II- I. L. Finar, 6th Edition, ELBS London (2004).
11. P.W. Atkins: Physical Chemistry, 2002.
12. Text Book of Physical Chemistry - P. L. Soni, S. Chand & Co., 1993.
13. Principles of Physical Chemistry - B. R. Puri, L. R. Sharma and M. S. Patania, S. L. N. Chand & Co. 1987.
14. A text book of Physical Chemistry- A. S. Negi & S C Anand, 3rd edition 2022
15. Christian, G.D; Analytical Chemistry, VI Ed. John Wiley & Sons, New York, 2004.
16. Skoog, D. A. Holler F.J. & Nieman, T.A. Principles of Instrumental Analysis, Cengage Learning India Ed, 2017.

<b>Formative Assessment for Theory</b>	
<b>Assessment Occasion/ Type</b>	<b>Marks</b>
InternalAssessmentTest1	<b>15</b>
InternalAssessmentTest2	<b>15</b>
Assignment	<b>10</b>
<b>Total</b>	<b>40</b>
<b>Formative Assessment as per guidelines.</b>	

**Course Title: 1.5 Chemistry - 4 Practical****Course Code: IBSPH2DSC03P**

Type of Course	Theory / Practical	Credits	Formative Assessment Marks	Summative assessment Marks	Total Marks
DSC-3P	Practical	2	30	20	50

**Course Outcomes:**

After completion of course (Practical), students will be able to:

- Learn crystallization, fractional crystallization, sublimation, reflux, distillation, fractional distillation, distillation under reduced pressure, steam distillation and determination of melting point of the crystallized solid & boiling point of the liquid.
- Develop the techniques involved in the preparation and determination of organic compounds.

<b>Syllabus- Chemistry 4 (Practical)</b>	<b>56 Hrs</b>
<p>Explanation regarding crystallization, fractional crystallization, sublimation, reflux, distillation, fractional distillation, distillation under reduced pressure, steam distillation and determination of melting point of the crystallized solid &amp; boiling point of the liquid. (Students should write in the journal regarding the above).</p> <p>Preparation of organic compounds:</p> <ol style="list-style-type: none"><li>1. Nitration – Nitration of salicylic acid using calcium nitrate and acetic acid (Green method)</li><li>2. Bromination – Acetanilide to p-bromo acetanilide</li><li>3. Nitration - Acetanilide to p-nitro acetanilide</li><li>4. Hydrolysis – Benzamide to benzoic acid</li><li>5. Oxidation – Benzaldehyde to benzoic acid.</li><li>6 Preparation of urea formaldehyde resin.</li></ol> <p><b>Determination of Organic compounds:</b></p> <ol style="list-style-type: none"><li>7. Determination of phenol by bromination method</li><li>8. Determination of aniline by bromination method.</li><li>9. Determination of acetamide by hydrolysis method.</li><li>10. Determination of ethyl benzoate by hydrolysis method.</li><li>11. Determination of aspirin in the tablet by hydrolysis method.</li><li>12. Determination of formaldehyde using sodium sulphite.</li></ol> <p>Note: In the preparation experiment, student has to write mechanism of reactions, calculation of quantitative yield, determination of melting point and to perform recrystallization.</p> <p><b>Distribution of marks for preparation experiments: (15 marks.)</b> Calculation of theoretical yield – 03 marks, observed yield -10 marks, M.P- 02 marks,</p>	

**Deduction of marks for observed yield:** Less than 10% - 10 marks, 11-15% - 8 marks, 16-20% - 6 marks, 21-25 % - 4 marks & above 25% - 2 marks.

**Distribution of marks for determination experiments: (15 marks.)** Accuracy - 10(5+5) marks, Technique and presentation - 02 marks, Reactions and Calculations - 03 marks. Journal -05marks, Viva: 05 marks Total = 40 marks

**Deduction of marks for accuracy :**  $\pm 0.2$  CC – 5 marks,  $\pm 0.4$  CC- 04 marks,  $\pm 0.6$  CC- 03 marks,  $\pm 0.8$  CC - 02 marks. Above  $\pm 1.0$  CC -01 mark

**General instructions:**

In the practical examination, minimum two different preparation and determination experiments may be given. In a batch of twenty students, each student will be performing preparation and determination experiments. Selection of experiments may be done by the students based on lots. Viva questions may be asked on any of the experiments prescribed in the practical syllabus. Manual is not allowed in the examination.

**Books recommended:**

1. Vogel's quantitative Organic Analysis, G.Svehla, 7th Ed, Longman ( 2001).
2. Advanced Practical Chemistry, Jagadamba Singh, Pragathi, Publications (2017).
3. College Practical Chemistry: V K Ahluwalia, Sunitha Dhingra and Adarsh Gulati. University Press-2011.

## 2. Ability Enhancement & Value-Added Course (AE&VAC)

**Course Title: 2.1 Language-II /Kannada**

**Course Code: IBSPH2AB01T**

Type of Course	Theory / Practical	Credits	Formative Assessment Marks	Summative assessment Marks	Total Marks
AE&VAC-1	Theory	4	40	60	100

**Course Outcomes (COs):Attheend ofthecoursestudentswillbeableto:**

CO1: ವಿಜ್ಞಾನ ವಿದ್ಯಾರ್ಥಿಗೆ ಭಾಷೆಯ ಮಹತ್ವದ ಅರಿವು

CO2:ನಾಡು ನುಡಿ ಚಿಂತನೆಗಳ ಅರಿವು

CO3: ಮೌಢ್ಯಗಳನ್ನು ಮೀರುವ ವೈಜ್ಞಾನಿಕ ಮನೋಭಾವದ ತರಬೇತಿ

CO4: ಸ್ವತಂತ್ರವಾಗಿ ಆಲೋಚಿಸುವ ಸಾರ್ಥ್ಯಧಾರಣೆ

CO5: ನಿಸರ್ಗದ ಸಹಜ ಸ್ಥಿತಿಯ ತಿಳುವಳಿಕೆಯ ಧಾರಣೆ

CO6: ಸೂಕ್ಷ್ಮ ವಾಸ್ತವಗಳ ತಿಳುವಳಿಕೆ ಸಾಧ್ಯ

CO7: ಸಾಹಿತ್ಯದ ವಿವಿಧ ಪ್ರಕಾರಗಳ ಅರಿವು ದಕ್ಕುತ್ತದೆ.

Unit	Title: ವಿಸ್ಮಯ ೧ (AECC ಕನ್ನಡ)	60 hrs/sem
UnitI	ಕನ್ನಡ ನಾಡು ನುಡಿ ಚಿಂತನೆ ೧. ಕನ್ನಡ ಭಾಷೆ ಮತ್ತು ಸವಾಲು - ಹಂಪನಾ ೨. ರಕ್ಷಿಸು ಕರ್ನಾಟಕ ದೇವಿ - ಶಾಂತಕವಿ ೩. ಕಲಿಕೆಯ ನುಡಿ; ಗೊಂದಲಗಳ ಹಿಂದಿರುವ ಹುನ್ನಾರಗಳು - ರಂಗನಾಥ ಕಂಟನಕುಂಟೆ ೪. ಹೆಸರಾಯಿತು ಕರ್ನಾಟಕ - ಚೆನ್ನವೀರ ಕಣವಿ	15 hrs
UnitII	ವೈಚಾರಿಕತೆ ೧. ಬಸವಣ್ಣನವರ ೫ ವಚನಗಳು ೨. ವಿಚಾರ ಕ್ರಾಂತಿಗೆ ಆಹ್ವಾನ - ಕುವೆಂಪು ೩. ಅವತಾರಗಳು - ಸಿದ್ದಲಿಂಗಯ್ಯ ೪. ಜಾತಿಗಳ ಹೆಸರುಗಳ ವಿನಾಶವೋ, ಜಾತಿ ಅಸಮಾನತೆಯ ವಿನಾಶವೋ- ಬಿ. ಎಂ. ಪುಟ್ಟಯ್ಯ	15 hrs

UnitIII	<p>ಪರಿಸರ ಪ್ರಜ್ಞೆ</p> <p>೧. ಮನೋಕಲ್ಪರ್ ಮಾಯೆಯ ವಿಶ್ವಪ್ರದರ್ಶನ - ಶಿವಾನಂದ ಕಳವೆ</p> <p>೨. ಪರಿಸರ ನಿರ್ವಹಣೆ ಮತ್ತು ಮಹಿಳೆ - ಸತ್ಯ ಎಸ್.</p> <p>೩. ನಿಸರ್ಗವೇ ಘೋಷಿಸುವ ಲಾಕ್‌ಡೌನ್‌ಗಳು - ನಾಗೇಶ ಹೆಗಡೆ</p> <p>೪. ವ್ಯಕ್ತಮಾತೆ ತಿಮ್ಮಕ್ಕ - ಶ್ರೀಧರ ಬನವಾಸಿ</p>	15 hrs
UnitIV	<p>ಬಾಲ್ಯ</p> <p>೧. ಚಾರ್ಲಿ ಚಾಪ್ಲಿನ್ - ಕುಂವೀ</p> <p>೨. ಜೀತ - ಬೆಸಗರಹಳ್ಳಿ ರಾಮಣ್ಣ</p> <p>೩. ಬನ್ನಿ ಗುಬ್ಬಿಟ್ಟಿಗಳೆ ಸಾಲುಗಟ್ಟಿ - ಮಾಲತಿ ಪಟ್ಟಣಶೆಟ್ಟಿ</p> <p>೪. ಕಾಗೆ ಮುಟ್ಟಿದ ನೀರು (ಆತ್ಮಕಥೆ) ಬಾಲ್ಯದ ಭಾಗ - ಪುರುಷೋತ್ತಮ ಬಿಳಿಮಲೆ</p>	15hrs

**Recommended books:**

1. ಮೊದಲು ಮಾನವನಾಗು - ಸಿದ್ದಯ್ಯ ಪುರಾಣಿಕ
2. ಕವಿರಾಜಮಾರ್ಗ - ಶ್ರೀವಿಜಯ
3. ಕರ್ನಾಟಕ ಸಂಸ್ಕೃತಿ ಸಮೀಕ್ಷೆ - ಹೆಚ್. ತಿಪ್ಪೇರುದ್ರಸ್ವಾಮಿ
4. ವಿಚಾರಕ್ರಾಂತಿಗೆ ಆಹ್ವಾನ - ಕುವೆಂಪು
5. ಕಾಗೆ ಮುಟ್ಟಿದ ನೀರು (ಆತ್ಮಕಥೆ) - ಪುರುಷೋತ್ತಮ ಬಿಳಿಮಲೆ

<b>Formative Assessment for Theory</b>	
<b>Assessment Occasion/ Type</b>	<b>Marks</b>
InternalAssessmentTest1	<b>15</b>
InternalAssessmentTest2	<b>15</b>
Assignment	<b>10</b>
<b>Total</b>	<b>40</b>
<b>Formative Assessment as per guidelines.</b>	

**Course Title: 2.1 Language-II /Hindi**

**Course Code: IBSPH2AB01T**

Type of Course	Theory / Practical	Credits	Formative Assessment Marks	Summative assessment Marks	Total Marks
AE&VAC-1	Theory	4	40	60	100

**Course Outcomes (COs):** At the end of the course students will be able to:

- CO1: साहित्य के प्रति रूचि विकसित होगी ।  
CO2: शब्द, सूक्ति, मुहावरें आदि के भंडार को समृद्ध कर पाएँगे।  
CO3: विवेचन एवं विश्लेषण की क्षमता का विकास होगा ।  
CO4: एकाग्रता विकसित होगी ।  
CO5: आधुनिक संदर्भ में विज्ञान एवं तकनीकी के महत्व को प्राप्त कर सकते हैं ।  
CO6: प्रमुख वैज्ञानिकों के जीवनी या आत्मकथा को पढ़कर खुद के व्यक्तित्व का विकास कर सकते हैं।  
CO7: अनुवाद करने में सक्षम होंगे।  
CO8: अनुवाद के द्वारा अपने रोजगार को प्राप्त कर सकते हैं।

Unit	Title: GADYA SAURABH AUR ANUVAD गद्य सौरभ और अनुवाद	60hrs/sem
Unit I	गद्य सौरभ – सं. डॉ. नागरत्ना एन. राव (राजपाल एण्ड सन्स, दिल्ली) 1. एकलव्य ने गुरु को अंगूठा दिखाया (व्यंग्य) – हरिशंकर परसाई 2. क्या भूलूँ क्या याद करूँ (आत्मकथा) – हरिवंशराय बच्चन 3. प्रेमचंद: लमही में जन्म और अंतिम बीमारी (जीवनी) – अमृत राय	15hrs
Unit III	4. त्यागमूर्ति 'निराला' (संस्मरण) – शिवपूजन सहाय 5. मैं और मैं (रिपोर्ताज) – कन्हैयालाल मिश्र 'प्रभाकर' 6. शांतिनिकेतन में (यात्रावृत्त) – राहुल सांकृत्यायन	15hrs

UnitIII	7. गपशप (चर्चा) – डॉ. नामवर सिंह 8. श्रमदेवता की उपासना (विचार) – विनोबा भावे	15hrs
UnitIV	अनुवाद का सामान्य परिचय कन्नड और अंग्रेजी से हिंदी में परिच्छेद अनुवाद	15hrs

**Recommended books:**

1. गद्य सौरभ – सं. डॉ. नागरत्ना एन. राव, राजपाल एण्ड सन्स, दिल्ली
2. साहित्य सप्तक (गद्य संग्रह)- सं. प्रो. प्रतिभा मुदलियार, अमन प्रकाशन, कानपुर
3. गद्यगरीमा- सं. डॉ. एन्. मोहनन्, डॉ. दीपक के. आर्., राजपाल एण्ड सन्स, दिल्ली.
4. संस्मरण- महादेवीवर्मा, राजपाल एण्ड सन्स, दिल्ली.
5. साहित्यिक निबंध- गणपतिचंद्र गुप्त
6. प्रयोजनमूलक हिंदी-डा-नरेश मिश्र, राजपाल एण्ड सन्स नई दिल्ली ।
7. प्रयोजनमूलक हिंदी-डा-बशीरुद्दीन मदरी, गीता प्रकाशन हैदराबाद
8. सरकारी कार्यालयों में हिंदी का प्रयोग-गोपिनाथ श्रीवास्तव, लोकभारती प्रकाशन।
9. प्रयोजनमूलक हिंदी- राष्ट्राभाषा प्रचार समिति, वर्धा।

<b>Formative Assessment for Theory</b>	
<b>Assessment Occasion/ Type</b>	<b>Marks</b>
InternalAssessmentTest1	<b>15</b>
InternalAssessmentTest2	<b>15</b>
Assignment	<b>10</b>
<b>Total</b>	<b>40</b>
<b>Formative Assessment as per guidelines.</b>	

**Course Title: 2.2 Understanding India Part-II (Indian Ethos and Knowledge Systems)**

**Course Code: IBSPH2AB02T**

Type of Course	Theory / Practical	Credits	Formative Assessment Marks	Summative assessment Marks	Total Marks
AE& VAC-2	Theory	2	20	30	50

**Learning Outcomes:**

After the completion of the course, it is expected that the students will be able to:

- recognize the vast corpus of knowledge traditions of India, while developing an appreciation for it,
- apply their acquired research and critical thinking skills to multidisciplinary themes, and-appreciate the diverse belief systems and knowledge traditions in India.
- discuss the formation and evolution of knowledge of India through a multidisciplinary lens.

**UNIT-I**

**Philosophy, Ethics & Values: Schools of Philosophy (4 Weeks)**

- A. Vaishesika, Nyaya, Samkhya, Yoga, Purva Mimansa and Vedanta or Uttara Mimansa (theory and the major thinkers) - and Jain, Buddhist, and Charvak traditions.
- B. Vedanta: Philosophical Systems (Advaita, Vishishtadvaita, Dvaita).
- C. Ethics, Morality, and Social Dilemma (including Self-Leadership) and their relevance in today's time.
- D. How do Indians value spirituality? Spirituality and Social Responsibility; Importance of Spirituality in current times.

- E. Using Ethics in a Technologically Volatile World: leading an ethical and modern life.
- F. Practical Vedanta for Well-Being (mindfulness, inter-connectedness, society-self relationship, etc.).

## **UNIT-II**

### **Culture-Lifestyle (4 Weeks)**

- A. Food (regional cuisines, Ayurvedic Diet, Food and Festival, Food, Hospitality, and Globalization).
- B. Clothes (Traditional Indian Clothing, Textile Arts, Religious Costumes, Clothing Status, Clothing, Gender, Globalization in Clothing).
- C. Sports (Traditional Indian Sports, Martial Arts, Sports and Gender, Sports & Globalization).
- D. The Lifestyle of Yoga; Adapting Ancient Lifestyle - A path towards longevity.

## **UNIT-III**

### **Science & Technology (4 Weeks)**

- A. Arithmetic and logic.
- B. Natural Sciences: Mathematics, Physics, Metallurgy, and Chemistry.
- C. Astronomy: India's Contributions to the World
- D. Indian Notions of Time and Space.
- E. Technology in the Economy: Agriculture, Transportation, etc.

## **UNIT-IV**

### **Linguistic Traditions (3 Weeks)**

- D. History of Linguistics in India (Conceptualizing Ancient Indian Linguistics, Oral Traditions, etc.).
- E. Language as Culture: Evolution of Languages over the years & Language as Building Blocks to different Cultures and Society
- F. C. Language: Identity, Culture, and History.

### **Practicum:**

The modes of curriculum transaction will include lectures, Tutorials, and Practicum.

Practicum will include organization of day trips that help student teachers watch events relating to visual and performing art; activities that enable student teachers to identify and record through photos, videos, etc. the elements of ancient architecture still existing in the city around them; organization of Individual and group presentations based on themes such as Polity, Law and Economy etc., organization of a 'Knowledge of India 'day in the institution to celebrate the culture (food, clothes, etc.) that they would have been explored in lectures and tutorials; interactions with family members, elders, neighbours, and other members of society about the evolution of local systems and economy etc.

### **Mode of Transaction:**

The entire syllabus is based on practical exercises. Classroom interactions will include learner driven participatory sessions, and Guest lectures through experts and practitioners, such as fine arts and performing arts practitioners along with contemporary poets & writers of Indian literature. Also, it will include Screening of documentaries and films followed by a discussion; Learner-driven discussions in the form of focus group discussions (FGDs), Socratic Discussions, etc.; Debate/discussion can be organized to explain India's Vaad tradition; discussion on how some of the ancient methods of teaching are relevant in today's time; discussions that help Identify ethical dilemmas in daily lives and understanding the importance of ancient ethics and values to resolve them.

### **Mode of Assessment:**

The approaches to learning assessment will include:

- Supporting the curiosity and interest of student teachers in the selected themes through a multi-modal approach, including regular assessments and actionable feedback that enable learners to outline and interpret the processes and events of the formation & evolution of knowledge of India through a multidisciplinary lens.
- Enabling the student teachers to demonstrate critical analysis and independent thinking of the processes and events in the formulation & evolution of different traditions that help student teachers evaluate the diverse traditions of India to distinguish its achievements and limitations.
- Use of first-hand or second-hand experiences that enable student-teachers to develop and articulate an ethics-based education rooted in Indian thought to their students in the classroom context.

The examination scheme and mode shall modify and/or evolve as per the guidelines of the Examination Board, Karnatak University Dharwad, from time to time.

<b>Formative Assessment for Theory</b>	
<b>Assessment Occasion/ Type</b>	<b>Marks</b>
InternalAssessmentTest1	<b>5</b>
InternalAssessmentTest2	<b>5</b>
Assignment	<b>10</b>
<b>Total</b>	<b>20</b>
<b>Formative Assessment as per guidelines.</b>	

### **Suggestive Readings Material:**

Teachers may suggest books/readings as per the needs of the learners and learning content.

- Balasubramanian, R. (2000). Introduction. In Chattopadhyana, D. P. (Ed.), History of science, philosophy and culture in Indian civilization. Advaita Vedanta. [Vol. 2 (II)]. Centre for Studies in Civilizations.
- Bhagat, G. (1990, April-June). Kautilya revisited and re-visioned. The Indian Journal of Political Science. 31(2), 186-212.
- Bhattacharya, R. (2002). Carvaka fragments: A new collection. Journal of Indian Philosophy, 30, 597-640.
- Dharampal (2021). Indian science and technology in the eighteenth century: Some contemporary European accounts. Rashtrtthaana Sahitya.
- Dominik, W. (2001). The roots of ayurveda. Penguin Classics.
- Kangle, R. P. (2019). Kautiliya Artha sastra. Motilal Banarsidass Publishers Pvt. Ltd.
- Rangarajan, L. N. (1987). The Artha shastra. Penguin Books.
- Sen, S. N., & Shukla, K. S. (Eds.). (2000). History of astronomy in India (2 ed.). Indian National Science Academy.
- Sharma, S. (2023). Significance of ancient Indian sciences in contemporary education.
- Subbarayapa, B. V. (1982). Glimpses of science and technology in ancient and mediaeval India. Endeavour, 6(4), 177-182. [https://doi.org/10.1016/0160-9327\(82\)90073-4](https://doi.org/10.1016/0160-9327(82)90073-4)
- Tschurenev, J. (2019). Empire, Civil Society, and the Beginnings of Colonial Education in India, Cambridge University Press DOI: <https://doi.org/10.1017/9781108653374>

**Course Title: 2.3 Teacher and Society**

**Course Code: IBSPH2AB03T**

Type of Course	Theory / Practical	Credits	Formative Assessment Marks	Summative assessment Marks	Total Marks
AE& VAC-3	Theory	2	20	30	50

**Learning Outcomes:**

After completion of the course, it is expected that the student teachers will be able to:

- examine the relationship between teacher beliefs, values, character, social and cultural context, and teaching critically.
- conceptualize teacher agency, its individual, contextual, and structural dimensions, and how it gets impacted and in turn shapes education.
- explain the teacher's roles and characteristics; the personal and professional self, the reflective practitioner, and their significant role in shaping self, school, and society,
- demonstrate a critical understanding of the Pedagogy of Ethic of Care in Teacher Education.
- reflect on Individual and collective pedagogical practices so as to improve learning and teaching,

## **UNIT-I: Understanding the Teacher: Exploring the Personal and Professional Being**

### **(5 Weeks)**

- A. Exploring the Social Context of Teacher: Teacher Beliefs, Values and Aspirations, Diverse Identities, Social Contexts and Commitment to Learning and Education.
- B. Teacher as a Professional: Qualifications, Attitude, Aptitude, Experience.
- C. The Reflective Practitioner: Nurturing the Professional Competencies through Collaborative and Collective Engagement with Self, Others, and the Social Context.

## **UNIT-II: Nurturing the Teacher: A Dialogue Beyond the Curricular Goals, for Life and Posterity (5 Weeks)**

- A. Teaching: One profession many roles.
- B. Holistic Teacher Development: Nurturing the Panchakoshas.
- C. Developing Pedagogy of Ethic of Care in Education.
- D. Being a Critical Teacher: Role of Teacher in Shaping the Educational Policy, Practice, and Reforms

## **UNIT-III: Understanding Teachers' Agency: Shaping Education Systems and Society (5 Weeks)**

- A. Teachers' Agency: Individual, Cultural and Structural Dimensions; Challenges and Issues: Performativity, Non-academic Engagements, Systemic Apathy, Policy and Practices.
- B. Teacher Discourses: Engaging in Critical Education, Dialogues on Power Relations associated with Gender, Ethnicity, Culture, Disability, Caste, Class, Poverty: the Reproduction of Disadvantage, and Realizing the True Human Potential.
- C. Being a Critical Teacher: Raising Debates around Rapid Technological Advancement and Impact on Individual, Family, and Social Life.
- D. Conceptualization of Teacher, Teaching, and Teacher Roles, 'Globalization and the Reconstructed Nationalism Shaping the Socio-Political Milieu and Impact on the Social Psyche, Growing Materialistic Urge, Sensory Drives, and the Gradual Deterioration of the Individual and Societal Character.

### **Practicum:**

Following are the suggestive practicals and activities. The teachers may design more tasks based on classroom interactions and discussions.

- Take up a case study of any one teacher education Institution.
- Write a biography of any one of your favourite teachers/ Educationists.

**Mode of Transaction:**

Teacher and Society is a reflection-based course that invites teachers to re-think teachers and teaching. It awakens and inspires teachers to realize broader educational aims through an action and reflection cycle. The approach therefore would include a blend of lectures, in-class seminars, thinking exercises, critical reflections, group work, case-based approaches, and enquiry-based learning.

- Learners would also be exposed to case studies featuring teachers from a representative cross-section of Schools in India and critically analyse their exercise of agentic force in school improvement and the improvement of teaching practice.
- Situating themselves in the geo-political context, the learners will get to critically engage in some of the policy dialogues.
- Learners would reflect on their practice as pre-service interns, knowledge, skills, and understandings-and identify opportunities to apply course learnings to their school context.

**Mode of Assessment:**

The entire syllabus is based on practical exercises. Being a very thought-provoking course, the assessment would largely include critical thinking kind of assignments. The following are some exemplars.

- Write your current teaching philosophy based on your beliefs and values.
- Choose any one area of immediate societal concern like environmental degradation, increasing crime against women, cybercrimes, bullying or any other and draw an action plan that you as a teacher would undertake to mobilize self, school and society towards betterment.
- Critical Reflections on popular debates around power relations associated with Gender, Ethnicity, Culture, Disability, Class. Poverty, and others
- These are just prototypes and institutes may choose either of these or think of other innovative assignments that would inculcate in future teachers a sense of belonging to society.

The examination scheme and mode shall modify and/or evolve as per the guidelines of the Examination Board, Karnatak University Dharwad, from time to time.

<b>Formative Assessment for Theory</b>	
<b>Assessment Occasion/ Type</b>	<b>Marks</b>
InternalAssessmentTest1	<b>5</b>
InternalAssessmentTest2	<b>5</b>
Assignment	<b>10</b>
<b>Total</b>	<b>20</b>
<b>Formative Assessment as per guidelines.</b>	

### **Suggestive Reading Materials:**

Teachers may suggest books/readings as per the needs of the learners and learning content.

1. Ashton, K. (2021). Novice teacher agency in the multi-level language classroom. *Language, Culture and Curriculum*, 34(3), 242-256.
2. Axline, M.A. (2018). *Dibs: In Search of Self*. Lexington, Massachusetts: Plunkett Lake Press
3. Biesta, G., Priestley, M., & Robinson, S. (2015). The role of beliefs in teacher agency. *Teachers and Teaching: Theory and Practice*, 21(6), 624-640.
4. Bridwell-Mitchell, E. N. (2015). Theorizing teacher agency and reform: How institutionalized instructional practices change and persist. *Sociology of Education*, 88(2), 140-159. <https://doi.org/10.1177/0038040715575559>
5. Dhanraj, S. (2023). In search of compassionate teachers. *Economic and Political Weekly*, Vol. 58, No. 40
6. Kumar, S. (2021). *Reflective practices and professional development in teaching*. Shipra Publication.
7. Kumar, S. (2023, January). Reconceptualizing teacher education from an emancipatory perspective. *Journal of Educational Planning and Administration*. 37(1), 31-45.
8. Lasky, S. (2005). A sociocultural approach to understanding teacher identity, agency and professional vulnerability in a context of secondary school reform. *Teaching and Teacher Education*, 21(8), 899-916.
9. National Council for Teacher Education (2022). *National professional standards for teachers*.
10. Rajan, K. M. (1997, January-March). Teachers' role in three organizational models. *New Frontiers in Education*, 27(1), 63-68.
11. Schon, D. A. (1983). *The reflective petitioner: How professionals think in action*. Basic Books.
12. Sharma, G. (2019). Policy and Regulatory Changes in Teacher Education in India: Concerns, Debates and Contestations. *Economic and Political Weekly (Engage)*, Vol. 54, Issue No. 9, 02 Mar, 2019.

13. Smyth, J. (1987). Teachers as intellectuals in a critical pedagogy of teaching. *Education and Society*, 5, 11-28