

# **ARTS**

## **ENGLISH**

**Class: F.Y.B.A.**

**Course: Indian Writing in English.**

Course outcomes: At the end of the Course, the students will be able to:

1. Explain in brief the history of Indian writing in English.
2. Identify the features of Modernism in Indian writing in English.
3. Identify and explain the features and themes of Pre and Post Independence Indian writers.
4. Explain and critically appreciate the prescribed texts with reference to their themes, social context, plot, characterization and message.

**Class : F.Y.B.A.**

**Course: Ability Enhancement Course Compulsory -1 English communication.**

Course Outcomes: Upon completion of the course, the students will be able to:

- 1) Explain the theory, fundamentals and tools of communication and its effect on giving and receiving information.
- 2) Identify the basic and essential concepts of communication such as the communication process, the types and modes of communication (verbal and non-verbal), the barriers to communication and the strategies to overcome those barriers.
- 3) Communicate effectively in their personal, social and professional interactions.
- 4) Effectively engage in professional communication such as interviews, public speaking, group discussions, office-communication and in important writing skills such as report writing, note making, letter writing, etc.
- 7) Summarise and paraphrase the given passages and poems.
- 8) Close read given prose passages and poems.
- 10) Do a basic translation from Hindi to English and vice versa.

**Class : F.Y.B.A.**

**Course : English 1 – Compulsory English - Communicative English 1.2**

Course Outcomes: Upon completion of the course, the students will be able to:

- 1) Write using the narrative, descriptive, argumentative and discursive styles of writing
- 2) Identify the basics of feature writing and write a feature story.
- 3) Identify the related vocabulary and write book and movie reviews.
- 4) Interpret simple technical data like graphs, bar charts, maps, diagrams, pie charts, pictures,  
directions and other graphic representation.
- 5) Reconstruct passages logically.

**Class: F.Y.B.Com.**

**Course: Business Communication ( AECC 3)( Modern Communication Skills )**

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

1. Independently create and present digital stories.
2. Make speeches on various topics.
3. Create and make power point presentations
4. Use social media for communication.
5. Create and use blogs or free websites.
6. Use the e-mail and instant messaging for business communication.
7. Conduct effective meetings.

**Class: S.Y.B.A.**

**Course: MIL - Advanced Communicative English 2.2**

Course Outcomes: By the end of the Course, the students will be able to:

1. Demonstrate their ability to draft Reports and make digital presentations;(Level 1)
2. Interpret, appreciate and critically evaluate poetry; (Level 2)
3. Edit prose passages using their enhanced knowledge of grammar and vocabulary.  
(Level 3)

**Class: SYBA****Course: English Core – British Poetry and Drama: 17th and 18th Centuries**

By the end of the Course the students will be able to:

1. Explain and discuss the historical, social, political, religious and literary trends of 17<sup>th</sup> and 18<sup>th</sup> Century Britain. (Level 1)
2. Explain the formal, thematic and figurative aspects of the prescribed works; (Level 2)
3. Identify, analyse and assess the contribution of the Poets/Authors whose works are prescribed for study. (Level 3)

**Class: SYBA****Course: SEC - Media Studies and Communication Skills**

Course Outcomes: By the end of the Course, the students will be able to:

1. Describe the various types of Mass Media with respect to their evolution, form, function and trends. (Level 1)
2. Interpret and discuss the humanistic, social and ethical aspects of Mass Media . (Level 2)
3. Design/develop/compose and present their original/creative works in the classroom or in public. (Level 3)

**Class: TYBA****Course: XI - New Literatures in English**

Course Outcomes: By the end of the Course, the students will be able to:

1. Explain the distinctive features of some of the major movements like Harlem Renaissance and Feminism, The Black Panthers, and Commonwealth Themes. (Level 1)
2. Recognise and distinguish between Mainstream (Canonical literature) and Alternative (Marginalised) literature. (Level 1)
3. Explain the formal, thematic and figurative aspects of the prescribed works. (Level 2)
4. Identify, analyse and assess the contribution of the Poets/Authors whose works are prescribed for study. (Level 3)

**Class: T.Y.B.A.**

**Course: XII - Twentieth Century British Literature.**

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

1. Explain the distinctive features of Modern British literature.
2. Identify the features of the important movements like Theatre of the Absurd, Imagism, Surrealism, Existentialism, Modernism and Stream of Consciousness Technique in the novel.
3. Analyse the impact of the world wars on the British literature.
4. Explain and critically appreciate the prescribed texts with reference to their themes, social context, plot, characterization and message.

**Class: T.Y.B.A.**

**Course: XIII – Indian Literature in English**

Course outcomes: At the end of the Course, the students will be able to:

1. Explain and appreciate poetic sensibilities, styles of writing, themes (in the Indian context) and techniques used in poetic writing.
2. Describe the socio- cultural scenario of the 1940s, 50s, 60s and 70s.
3. Critically evaluate the recent trends in gender studies and analytically accept the challenges in reversal of roles.
4. Explain and appreciate the breaking of stereotypes and non-conformist patterns of thinking.
5. Explain and appreciate the subtleties of diverse poetry of an eminent poet like R. Tagore.

## HINDI (UG)

### HNC : 102 आधुनिक हिन्दी कथा साहित्य एवं व्याकरण

इस पाठ्यक्रम के अध्ययन के उपरांत छात्र :

1. कथागत सामाजिक, आर्थिक, राजनैतिक, धार्मिक तथा सांस्कृतिक स्थितियों के परिप्रेक्ष्य में वर्तमान परिवेश का **विश्लेषण कर पायेगा** ।
2. कहानीगत अर्थ के विविध आयामों को **व्याख्यायित कर पायेगा** ।
3. कहानी तथा उपन्यास विधा के **तुलनात्मक अध्ययन में सक्षम होगा** ।
4. वाक् कला तथा लेखन कला में **प्रभावी सिद्ध होगा** ।
5. कहानी, नाटक तथा सिनेमा के लिए **संवाद लेखन का कार्य कर पायेगा** ।

### HNA : 101 संप्रेषण कला

इस पाठ्यक्रम के अध्ययन के उपरांत छात्र :

1. वाक् कला तथा लेखन कला में **प्रभावी सिद्ध होगा** ।
2. संप्रेषण कला में निपुणता हासिल करते हुए वैयक्तिक, सामाजिक तथा व्यावसायिक स्तर पर **सही तालमेल बिठा पायेगा** ।
3. संप्रेषण की चुनौतियों का सामना करते हुए अपने विचार स्पष्ट रूप से **अभिव्यक्त कर पायेगा** ।
4. कल्पनाशीलता के माध्यम से **सर्जनात्मकता के द्वार खोल पायेगा** ।
5. चर्चा, विवेचन, विवाद, तर्कसंगत विश्लेषण आदि के आधार पर **साहित्य का मूल्यांकन कर पायेगा** ।

### HNG : 102 जनसंचार माध्यम : इलेक्ट्रॉनिक माध्यम

इस पाठ्यक्रम के अध्ययन के उपरांत छात्र :

1. रेडिओ लेखन तथा दूरदर्शन लेखन में **सक्षम होगा** ।
2. पटकथा लेखन में **सहयोग दे पायेगा** ।
3. संगणक का व्यावहारिक प्रयोग करते हुए अपने काम को **गति प्रदान कर सकेगा** ।

4. समाचार पत्र तथा पत्रिकाओं के व्यवसाय में अपने **अध्ययन का उपयोग कर पायेगा** ।
5. इलैक्ट्रॉनिक माध्यमों के नकारात्मक प्रभावों को परखते हुए उनसे **बचाव के उपाय सुझा पायेगा** ।
6. इलैक्ट्रॉनिक माध्यमों की **चुनौतियों को दूर करने में समर्थ होगा** ।

#### **HNC : 104 आधुनिक हिन्दी गद्य साहित्य : परिचयात्मक अध्ययन (1850 से 1960 तक)**

इस पाठ्यक्रम के अध्ययन के उपरान्त छात्र :

1. आधुनिक हिन्दी गद्य साहित्य का **परिचय दे पायेगा** ।
2. आधुनिक हिन्दी गद्य की विविध विधाओं के अंतर को **रेखांकित कर पायेगा** ।
3. साहित्यगत विषयवस्तु के तहत तत्कालीन परिवेश का **विश्लेषण कर पायेगा** ।
4. गद्य की विविध विधाओं का **तुलनात्मक अध्ययन कर पायेगा** ।
5. सर्जनात्मक लेखन में **योगदान दे पायेगा** ।

#### **HGC : 102 आधुनिक हिन्दी पद्य**

इस पाठ्यक्रम के अध्ययन के उपरान्त छात्र :

1. हिन्दी कविता की आंतरिक संरचना का **विश्लेषण कर पायेगा** ।
2. हिन्दी कविता के विषय-वैविध्य के तहत तत्कालीन परिवेश को **रेखांकित कर पायेगा** ।
3. हिन्दी कविताओं का **तुलनात्मक अध्ययन कर पायेगा** ।
4. काव्य-सृजन में **योगदान दे पायेगा** ।
5. काव्य-भाषा तथा शैली का **मूल्यांकन कर पायेगा** ।

#### **HNG : 104 साहित्य और सिनेमा**

इस पाठ्यक्रम के अध्ययन के उपरान्त छात्र :

1. सिनेमा -निर्माण में **कुशलता का परिचय दे पायेगा** ।
2. साहित्य तथा सिनेमा के अंतःसंबंध को समझते हुए एक बेहतर **कृति या सिनेमा का निर्माण कर सकेगा** ।

3. फिल्म की **समीक्षा करने में सक्षम होगा ।**
4. साहित्य के सिनेमा में **रूपांतरण की चुनौतियों** को ध्यान में रखते हुए उक्त **समस्या के निदान की दृष्टि से पहल कर पायेगा ।**
5. साहित्य तथा सिनेमा का **तुलनात्मक अध्ययन कर पायेगा ।**

### **HNS : 102 समाचार संकलन और लेखन**

इस पाठ्यक्रम के अध्ययन के उपरांत छात्र :

1. समाचारों का **संकलन कर पायेगा ।**
2. समाचार लेखन में **प्रभावशाली सिद्ध होगा ।**
3. समाचारों को **वर्गीकृत कर पायेगा ।**
4. संवाददाता की भूमिका को **बखूबी निभा पायेगा ।**
5. इलैक्ट्रॉनिक माध्यमों से प्राप्त समाचारों का **पुनर्लेखन कर पायेगा ।**
6. समाचारों का **वस्तुपरक विश्लेषण कर पायेगा ।**

### **HNM : 11 हिन्दी साहित्य : रीतिकाल**

इस पाठ्यक्रम के अध्ययन के उपरांत छात्र :

1. तत्कालीन परिवेश के साहित्य पर पड़े प्रभाव को **रेखांकित कर पायेगा ।**
2. रीतिकालीन काव्यधाराओं का **तुलनात्मक दृष्टि से समीक्षा कर पायेगा ।**
3. छंदों तथा अलंकारों के काव्य पर पड़े सकारात्मक तथा नकारात्मक प्रभाव का **विवेचन कर पायेगा ।**
4. रीतिकाव्य के काव्य-सौंदर्य को **उद्घाटित कर पायेगा ।**
5. काव्य की प्रामाणिकता के तत्व **खोज पायेगा ।**

### **HNM : 12 आधुनिक हिन्दी गद्य**

इस पाठ्यक्रम के अध्ययन के उपरांत छात्र :

1. आधुनिक हिन्दी गद्य की विधाओं का **तुलनात्मक अध्ययन कर पायेगा ।**
2. आधुनिक हिन्दी रचनाकारों का **विश्लेषण कर पायेगा ।**
3. साहित्य की सोद्देश्यता को **रेखांकित कर पायेगा ।**

4. आधुनिक हिन्दी गद्य की सीमाओं तथा संभावनाओं को व्याख्यायित कर पायेगा ।
5. हिन्दी गद्य के विकास हेतु दिशा-निर्देश कर पायेगा ।

### **HNM : 13 निबंध एवं जनसंचार माध्यम लेखन**

इस पाठ्यक्रम के अध्ययन के उपरांत छात्र :

1. निबंधों का वर्गीकरण कर पायेगा ।
2. प्रूफ-पठन कर पायेगा ।
3. साक्षात्कार लेखन की दिशा में पहल कर सकेगा ।
4. पुस्तकों की समीक्षा कर पायेगा ।
5. समाचार लेखन में योगदान दे पायेगा ।
6. वृत्तचित्रों का निर्माण कर पायेगा ।

### **HNM : 14 साहित्य शास्त्र भाग - 2**

इस पाठ्यक्रम के अध्ययन के उपरांत छात्र :

1. साहित्य की विभिन्न विधाओं के स्वरूप को रेखांकित कर पायेगा ।
2. साहित्य की विविध विधाओं का तुलनात्मक अध्ययन कर पायेगा ।
3. गद्य की प्रकीर्ण विधाओं की अवधारणाओं का विश्लेषण कर पायेगा ।
4. साहित्य-शास्त्र को समझते हुए शास्त्रयुक्त साहित्य की रचना कर पायेगा ।
5. साहित्य-शास्त्र के आधार पर साहित्य की समीक्षा कर पायेगा ।

### **HNM : 15 हिन्दी व्याकरण**

इस पाठ्यक्रम के अध्ययन के उपरांत छात्र :

1. शुद्ध हिन्दी का मौखिक तथा लिखित प्रयोग कर पायेगा ।
2. व्याकरण की ईकाइयों का उचित प्रयोग कर पायेगा ।
3. शब्द-विज्ञान के क्षेत्र में अनुसंधान कर पायेगा ।
4. विराम चिह्नों का उचित प्रयोग करते हुए अपनी भाषा को प्रभावशाली बना पायेगा ।
5. मुहावरों तथा लोकोक्तियों का अपनी भाषा में सार्थक प्रयोग कर पायेगा ।



## **HNM : 16 रचनाकार का विशेष अध्ययन**

इस पाठ्यक्रम के अध्ययन के उपरांत छात्र :

1. साहित्य के परिवेश तथा युगीन प्रवृत्तियों का विश्लेषण कर पायेगा ।
2. साहित्यिक दृष्टि को व्याख्यायित कर पायेगा ।
3. कृतियों का समीक्षात्मक अध्ययन कर पायेगा ।
4. साहित्यकार की साहित्यिकता तथा रचनाओं की रचनात्मकता को उजागर कर पायेगा।
5. साहित्य की परंपरा एवं प्रयोग के स्तर पर निर्धारित साहित्यकार का स्थान निश्चित कर पायेगा ।

## **HINDI (PG)**

### **HNC 203 आधुनिक काव्य : व्यावहारिक समीक्षा**

इस पाठ्यक्रम के अध्ययन के उपरांत छात्र :

1. विज्ञान एवं तकनीकी विकास के संदर्भ में आधुनिक परिवेशगत परिवर्तित जीवन एवं समाज की परख कर पायेगा ।
2. राष्ट्रीय एवं सांस्कृतिक चेतना के उभार को समझते हुए साहित्य का विश्लेषण कर पायेगा।
3. कविता की मूलभूत पहचान को उजागर कर पायेगा ।
4. आधुनिक काव्य के परिवर्तित कथ्य एवं शिल्प को रेखांकित कर पायेगा ।
5. आधुनिक काव्य की प्रासंगिकता एवं सार्थकता का विवेचन कर पायेगा ।

### **HNC 204 हिंदी भाषा, लिपि एवं व्याकरण**

इस पाठ्यक्रम के अध्ययन के उपरांत छात्र :

1. हिन्दी भाषा में आ रहे नये परिवर्तन को रेखांकित कर पायेगा ।
2. देवनागरी लिपि में किये जा रहे बदलाव का विश्लेषण कर पायेगा ।
3. शुद्ध हिन्दी का प्रयोग कर पायेगा ।
4. हिन्दी भाषा का अन्य भारतीय आर्य भाषाओं से तुलनात्मक अध्ययन कर पायेगा ।
5. भाषा तथा लिपि की वैज्ञानिकता को स्पष्ट कर पायेगा ।

## **HNO 206 हिन्दी कहानी**

इस पाठ्यक्रम के अध्ययन के उपरान्त छात्र :

1. हिन्दी कहानी में आये बदलान को **रेखांकित कर पायेगा ।**
2. हिन्दी कहानी से संबंधित विभिन्न आंदोलनों का **विश्लेषण कर पायेगा ।**
3. हिन्दी के बदलते परिवेश को **उद्घाटित कर पायेगा ।**
4. हिन्दी कहानी की आंतरिक संरचना का **अध्ययन कर पायेगा ।**
5. हिन्दी कहानी के कथ्य, भाषा-शैली एवं शिल्प का **विवेचन कर पायेगा ।**
6. हिन्दी कहानी के अंतर्गत तत्कालीन परिवेश की उपयोगिता को **स्पष्ट कर पायेगा ।**

## **HNO 209 अनुवाद**

इस पाठ्यक्रम के अध्ययन के उपरान्त छात्र :

1. अनुवाद का **सैद्धांतिक अध्ययन कर पायेगा ।**
2. अनुवाद का **व्यावहारिक प्रयोग कर पायेगा ।**
3. अनुवाद से संबंधित सामग्री के महत्व का **रेखांकन कर पायेगा ।**
4. अनुवाद की **चुनौतियों का विश्लेषण कर पायेगा ।**
5. अनुवाद की **संभावनाओं को उजागर कर पायेगा ।**

## KONKANI

पयलें वर्स कला

पेपर क्र. KOD- 002

माथाळो- कोंकणी कथा: आस्वादन आनी निर्मिती अभ्यास

हो अभ्यास पुराय केले उपरांत विद्यार्थी सकयल नमूद केल्लीं उद्दिष्टां पुराय करपाक शकतलो—

- 1- कोंकणी कथेचो इतिहास जाणा जातलो.
- 2- कोंकणी कथाकारांची तांच्या लेखना सयत ताका म्हायती कळटली.
- 3- कोंकणी भास शुध्दलेखनाचे नदरेंतल्यान बरोवपाक शकतलो.
- 4- तंत्राचे नदरेंतल्यान साहित्य प्रकार समजतलो.
- 5- परके भाशेंतल्यान कोंकणींत अणकार करपाचें गिन्यान मेळयतलो.
- 6- कांय मुखेल कथाकारांच्या योगदानाची मोलावणी करतलो.

पयलें वर्स कला

पेपर क्र. KOA- 002

माथाळो- मौखीक कोंकणी- भाशीक कौशल्यांचें अध्ययन

हो अभ्यास पुराय केले उपरांत विद्यार्थी सकयल नमूद केल्लीं उद्दिष्टां पुराय करपाक शकतलो—

- 1- भाशीक कौशल्यांचेर प्रभुत्व मेळयतलो
- 2- भाशेचो दिसपट्टे जीणेंत वापर करपाक लागतलो.
- 3- बोलीचे नदरेंतल्यान भाशेचो अभ्यास आकलन करतलो.
- 4- तत्काळ अनुवाद करपाचें कौशल्य समजतलो.
- 5- पार्श्व आवाज वा डबींग करपाची कला निर्माण करतलो.
- 6- नव्या आनी पर्यायी उतरांचें संकलन करपाक शकतलो.
7. निजाची उतरावळ मोलावणी करून उपेगांत हाडपाचें कौशल्य मेळयतलो.

पयलें वर्स कला

पेपर क्र. KOG- 002

माथाळो- मौखीक कोंकणी- भाशीक कौशल्यांचें अध्ययन

हो अभ्यास पुराय केले उपरांत विद्यार्थी सकयल नमूद केल्लीं उद्दिष्टां पुराय करपाक शकतलो—

- 1- प्रवास वर्णन करपाचें तंत्र समजतलो.

- 2- दिसाळें आनी टी.व्ही खातीर जायरात लेखनाचे कलेचेर प्रभुत्व मेळयतलो.
- 3- टी.व्ही आनी रेडिओ खातीर बातमी लेखनाची कला आत्मसात करतलो.
- 4- सुचोवण्यो, घोशणा लेखन करपाची कला आत्मसात करतलो.
- 5- परके भाशेंतल्यान कोंकणींत अणकार करपाची कला जाणा जातलो.
- 6- कोंकणी भास शुध्दलेखनाचे नदरेंतल्यान बरोवपाक प्राविण्य मेळयतलो.
- 7- संबंदीत विशयांत वाचन लेखन करून आपल्याक आवड निर्माण करूंक पावतलो.

### दुसरें वर्स कला

पेपर क्र. KOC- 004

माथाळो- कोंकणी रंगमाची: तियात्र

हो अभ्यास पुराय केले उपरांत विद्यार्थी सकयल नमूद केल्लीं उद्दिष्टां पुराय करपाक शकतलो—

- 1- तियात्र ह्या रंगमाची प्रकाराची संकल्पना समजतलो.
- 2- तियात्र आनी खेळ तियात्र हांचे मदलो फरक करपाक शिकतलो.
- 3- विंगड विंगड तियात्रीस्तांची योगदाना सयत वळख करपाक पावतलो.
- 4- तियात्राची सद्याची स्थिती तशेंच वेवसायीक रंगमाचयेची वाटचाल समजतलो.
- 5- तियात्राची संकल्पना आनी साहित्यीक नदरेन प्रकाराची वळख जाल्ल्यान तियात्र रचपाचो येत्त करतलो.

### दुसरें वर्स कला

पेपर क्र. KOD- 004

माथाळो- कोंकणी रंगमाची: नाटक

हो अभ्यास पुराय केले उपरांत विद्यार्थी सकयल नमूद केल्लीं उद्दिष्टां पुराय करपाक शकतलो—

- 1- नाटक ह्या रंगमाची प्रकाराची संकल्पना समजतलो.
- 2- नाटक ह्या प्रकाराचे सादरीकरण आनी लेखनाचे नदरेंतल्यान घटक जाणा जातलो.
- 3- विंगड विंगड नाटककारांची योगदाना सयत वळख जाणा जातलो.
- 4- नाटकाची आदली आनी सद्याची स्थिती समजतलो.
- 5- नाटकाची संकल्पना समजल्ल्यान एक नाटक निर्माण करपाचो येत्त करपाक शकतलो.

दुसरें वर्स कला

पेपर क्र. – KOG-004

माथाळो- गोंयचें लोकसांस्कृतीक दायज

हो अभ्यास पुराय केले उपरांत विद्यार्थी सकयल नमूद केल्लीं उद्दिष्टां पुराय करपाक शकतलो—

1. गोंयचे लोकसंस्कृतायेची वळख आनी प्रकार विस्तारान समजतलो.
2. हिन्दू, क्रिस्तांव समाजांतल्या लोक उत्सवाचें स्वरूप जाणा जातलो.
3. लोक परंपरेचो अभ्यास करतना तातूंतले वेगळे वेगळे घटक समजतलो.
4. गोंयांतल्या विंगड विंगड पारंपारीक वेवसायांचो खोलायेन अभ्यास करून तांचेर लेखन करपाक शकतलो.
5. विंगड विंगड वाठारांत जावपी लोक उत्सव पळोवन ते सादरीकरणाचे नदरेन समजतलो आनी आपुणय वेवसायीक मळार आयोजीत करपाक लागतलो.

दुसरें वर्स कला

पेपर क्र. KOS- 004

माथाळे फिल्म निर्मिती परिच्य

हो अभ्यास पुराय केले उपरांत विद्यार्थी सकयल नमूद केल्लीं उद्दिष्टां पुराय करपाक शकतलो—

1. लघू फिल्म वा शोर्ट फिल्माची संकल्पना आनी घटक समजतलो.
2. तंत्राच्या नदरेंतल्यान लघू फिल्मा पासत पटकथा लेखनाच्या नदरेंतल्यान अभ्यास करतलो.
3. म्हायती पट वा डॉक्युमेंटरी तयार करपाचे नदरेंतल्यान विंगड विंगड घटकांचो अभ्यास करतलो.
4. फिल्म चित्रीकरणाच्या नदरेंतल्यान दिर्गदर्शक, कलाकार आनी सहकारी तंत्रज्ञान हांच्या आदारान तयार केल्या पट कथेचें चित्रीकरण करपाक शिकतलो.
5. जायरात पट वा अँड फिल्मा विशीं लेखन करपाक विंगड विंगड घटकांचो अभ्यास करतलो.
6. जायरात पटाचे विंगड विंगड घटक नदरे मुखार दवरून चित्रीकरण करपाची कला आत्मसात करतलो.
7. काव्य पटाविशीं लेखन करपाक विंगड विंगड घटकांचो अभ्यास करतलो.
8. काव्य पटाचे विंगड विंगड घटक नदरे मुखार दवरून चित्रीकरण करपाची कला

आत्मसात करतलो.

9. फिल्म निर्मितीचे नदरेंतल्यान एक म्हायती पट वा जायरात पट वा काव्य पट तयार करपाचो यत्न करपाक शकतल.
10. वेवसायीक नदरेन हे विशय स्वतंत्र नदरेन हाताळपाक शकतलो.

### पेपराचें नांव- कोंकणी भास आनी साहित्याचो इतिहास

हो अभ्यास पुराय केले उपरांत विद्यार्थी सकयल नमूद केल्लीं उद्दिष्टां पुराय करपाक शकता.

1. विद्यार्थ्यांक कोंकणी अस्मितायेची वळख घडटली. कोंकणी भास, वाठार, मनीस, संस्कृताय हे बाबतींत ताचें गिन्यान वाडटलें.
2. शणै गोंयबाब हांणीं कोंकणी चळवळ कशी मुखार व्हेली तें विद्यार्थ्यांक समजतलें.
3. कोंकणी नाटक आनी एकांकी शिकले उपरांत कोंकणी भाशेंत विद्यार्थी नाटक वा एकांकी रचपाक शकतले. हातूंतल्यान साहित्य निर्मणीय जातली.
4. पत्रकारितेचो इतिहास शिकले उपरांत विद्यार्थी आदली पत्रकारिता आनी सद्याचे कोंकणी पत्रकारितेची तुळा तशेंच मोलावणी करपाक शकतले.
5. कोंकणी भाशेच्यो वेगवेगळ्यो मोडी शिकले उपरांत ते अदीक खोलायेन तुळा करपाक शकतले आनी फुडाराक ते संदर्भात तांकां त्या विशयाचेर संशोधन करपाकूय वाव मेळटलो.
6. भाशीक चळवळ शिकतकच विद्यार्थी गोंयच्या इतिहासा बाबतींत सांगपाक शकतलो. आदले फुडारी तशेंच चळवळींतल्या संस्थांची तांकां वळख घडटली.
7. कोंकणींतल्या आर्विल्ल्या साहित्याची तुळा आनी मोलावणी करपाक शकतलें तशेंच तांचें गिन्यान वाडटलें. अणकाराच्या मळार वाव आसा तेंय तांकां समजतलें.

## MARATHI

**Class: F.Y.B.A.**

**Paper Code & Name: MRCC-02, Drama : A Form of Literature**

हा अभ्यास पूर्ण केल्यानंतर विद्यार्थी खालील उद्दिष्ट्ये पूर्ण करू शकेल.

1. नाटक या वाङ्मयप्रकाराची संकल्पना व स्वरूप यांचा परिचय होईल.
2. नाटक: विकास आणि परंपरा व नाटकाच्या पूर्वप्रकारांची ओळख होईल .
3. नाटकाचे विविध घटक, उपघटकानुसार नाटकांचा अभ्यास होईल.
4. नाटकाचे प्रयोजन, नाटकाचे प्रकार व वैशिष्ट्ये यांची माहिती मिळेल.
5. मराठी संगीत नाटकाची परंपरेची माहिती मिळेल.
6. आधुनिक मराठी नाटककारांची नाटके, वैशिष्ट्ये व कार्य स्पष्ट होईल.
7. पुरवणी वाचनासाठी लावलेल्या नाटकांची ओळख होऊन वैशिष्ट्ये समजतील .

**Class: F.Y.B.A.**

**Paper No. & Name: MRGE-02, Title: News Writing for Media**

हा अभ्यास पूर्ण केल्यानंतर विद्यार्थी खालील उद्दिष्ट्ये पूर्ण करू शकेल.

1. बातमीची संकल्पना, स्वरूप, व्याप्ती आणि मर्यादा याची माहिती होईल.
2. बातमीच्या व्याख्या, वैशिष्ट्ये व कौशल्य समजून घेता येईल .
3. बातमीचे क्षेत्र, बातमीची मूल्ये, घटक स्पष्ट होईल.
4. बातमी लेखनाची पद्धती किंवा तंत्र व भाषा समजेल.
5. मुद्रित, दृक श्राव्य -, आकाशवाणी या माध्यमातील बातमीचे वेगळेपण स्पष्ट होईल.
6. आकाशवाणीसाठी व दूरदर्शनसाठी प्रत्यक्ष बातमीचे लेखन होईल.
7. स्वतंत्रपणे या लेखनकौशल्यामुळे विद्यार्थ्यांच्या ठिकाणी रोजगारक्षमता कशी प्राप्त होऊ शकते ते ध्यानात येईल .

**Class: F.Y.B.A.**

**Paper No. & Name: MRAECC-01, Communications Skills: Comparing**

हा अभ्यास पूर्ण केल्यानंतर विद्यार्थी खालील उद्दिष्ट्ये पूर्ण करू शकेल.

1. सूत्रसंचालनाची संकल्पना, स्वरूप, तंत्र, आवश्यकता आणि मर्यादा यांचा परिचय होईल.
2. भाषण सारांश लेखनाचे स्वरूप, तंत्र व पद्धती समजेल.
3. प्रत्यक्ष कार्यक्रम नियोजन करण्याचे कौशल्य माहिती होईल.
4. विद्यार्थ्यांचा व्यक्तिगत विकास होईल.
5. विविध विषयांवर आधारित कार्यक्रमाचे सूत्रसंचालन करण्याची क्षमता निर्माण होईल.
6. नोकरी व्यवसाय सांभाळूनही फावल्या वेळात या लेखन कौशल्यामुळे अर्थप्राप्ती होऊ शकेल.
7. या क्षेत्रामध्ये रोजगाराची संधी उपलब्ध होईल.

**Class: S.Y.B.A.**

**Paper No. & Name: MRC 104,  
Literature**

**Poetry : A Form of**

हा अभ्यास पूर्ण केल्यानंतर विद्यार्थी खालील उद्दिष्ट्ये पूर्ण करू शकेल.

1. कविता या वाङ्मयप्रकाराची व्याख्या, संकल्पना आणि स्वरूप समजेल.
2. कवितेचे घटक समजल्यानंतर कविता अभ्यासणे सोपे होईल.
3. आशयानुसार व रचनेनुसार कवितेच्या प्रकारांचे वर्गीकरण करता येईल.
4. कविता या साहित्यप्रकाराची वैशिष्ट्ये व प्रयोजन स्पष्ट होईल.
5. कवितेचे मूल्यमापन करण्याची क्षमता विद्यार्थ्यांमध्ये निर्माण होईल .
6. कविता लेखनाविषयीची आवड निर्माण होईल .
7. परीक्षण कवितेचं ,अध्यापन कसे करावे याची ओळख होईल.



**Class: S.Y.B.A.**

**Paper No. & Name: MRS 102,**

**Reading Skills**

**हा अभ्यास पूर्ण केल्यानंतर विद्यार्थी खालील उद्दिष्ट्ये पूर्ण करू शकेल.**

1. वाचनाबरोबरच विविध लेखनकौशल्यांची ओळख होईल.
2. विद्यार्थ्यांमध्ये लेखनकौशल्याची क्षमता निर्माण होईल.
3. सर्व घटकांचा व माध्यमांचा सविस्तर परिचय होईल.
4. प्रत्यक्ष वाचनाचे आजच्या संदर्भातील महत्त्व समजेल.
5. वैयक्तिक पातळीवर वाचनसंस्कृती विकसित होईल.
6. वाचनसंस्कृतीतून वैयक्तिक ग्रंथसंपदा वाढेल.
7. अर्थप्राप्तीच्या दृष्टीने ही लेखनकौशल्ये अत्यंत उपयुक्त ठरतील.

**Class: S.Y.B.A.**

**Paper No. & Name: MRG 104,**

**Study of Translation**

**हा अभ्यास पूर्ण केल्यानंतर विद्यार्थी खालील उद्दिष्ट्ये पूर्ण करू शकेल.**

1. भाषांतराचे स्वरूप व उद्दिष्टे समजून घेता येईल.
2. भाषांतराचे महत्त्व समजेल.
3. भाषांतराचे विविध प्रकार व आवश्यक कौशल्यांचे ज्ञान होईल.
4. भाषांतर म्हणजे काय व आजच्या काळातील भाषांतराची उपयुक्तता समजेल.
5. भाषांतर करताना येणाऱ्या समस्यांवर मात करण्याची क्षमता निर्माण होईल.
6. प्रत्यक्ष अनुवाद करण्याची क्षमता निर्माण होईल.

**Class: S.Y.B.A.**

**Paper No. & Name: MGC 102,  
Literature**

**Travelogue: A Form Of**

हा अभ्यास पूर्ण केल्यानंतर विद्यार्थी खालील उद्दिष्ट्ये पूर्ण करू शकेल.

1. प्रवासवर्णन या वाङ्मयप्रकाराची ओळख होईल.
2. प्रवासवर्णन या वाङ्मयप्रकाराची गुणवैशिष्ट्ये व मराठी प्रवासवर्णनांचा स्थूल परिचय होईल.
3. प्रवासवर्णनांचे अध्ययन केल्यामुळे, मूल्यमापन करण्याची क्षमता विद्यार्थ्यांमध्ये निर्माण होईल.
4. मराठी प्रवासवर्णनांचे लेखन करणाऱ्या महत्वाच्या लेखकांचा परिचय होईल.
5. या वाङ्मयप्रकारातील बदलते प्रवाह समजून घेता येईल.
6. या वाङ्मयप्रकाराचे बदलते स्वरूप समजून घेता येईल.
7. प्रवासवर्णन वाचन व लेखनाची आवड निर्माण होईल.

**Class: T.Y.B.A.**

**Paper No. & Name: XI, History of Marathi Literature - 1651 to 1818**

हा अभ्यास पूर्ण केल्यानंतर विद्यार्थी खालील उद्दिष्ट्ये पूर्ण करू शकेल.

1. पंडिती काव्याचे स्वरूप, परंपरा व कार्याची ओळख होईल .
2. शाहिरी कवितेचे स्वरूप व प्रकार समजेल .
3. संत, पंत आणि तंत लेखनात फरक करू शकेल .
4. कालखंडानुसार बखर वाङ्मयाचे स्वरूप, प्रेरणा याची माहिती मिळेल.
5. इतिहासकालीन घटनांचा अभ्यास करून परस्परसंबंध सांगता येईल (मराठे व पेशवे)
6. आरंभीचे गोमंतकीय मराठी वाङ्मयाचे स्वरूप व परंपरा याची माहिती मिळेल.
7. शिलालेख, ताम्रपट, टकालेख याचा परिचय होऊन वेगवेगळ्या ठिकाणी सापडलेल्या शिलालेखांचा अभ्यास करता येईल.

**Class: T.Y.B.A.**

**Paper No. & Name: XII, 'Rasa' Theory and Literary Criticism**

हा अभ्यास पूर्ण केल्यानंतर विद्यार्थी खालील उद्दिष्ट्ये पूर्ण करू शकेल.

1. रससिद्धान्त रसाचे स्वरूप, रसनिष्पत्ती व रससंख्या यांची माहिती मिळेल.
2. रसाची ओळख होऊन प्रत्यक्ष रसग्रहण करता येईल.
3. साहित्यसमीक्षेचे स्वरूप व उद्दिष्ट्य समजेल .
4. साहित्यसमीक्षेच्या विविध पद्धतींची ओळख होऊन त्यानुसार विविध विचार मांडता येईल.
5. साहित्यसमीक्षेच्या पद्धतींचे उपयोजन करून मूल्यमापन करता येईल .
6. साहित्यसमीक्षेचा अभ्यास होऊन प्रत्यक्ष समीक्षात्मक लेखन करता येईल .

**Class: T.Y.B.A.**

**Paper No. & Name: XIII, Writing Skills for Media**

हा अभ्यास पूर्ण केल्यानंतर विद्यार्थी खालील उद्दिष्ट्ये पूर्ण करू शकेल.

1. ग्रंथ, नाट्य व चित्रपट परीक्षणाचे स्वरूप समजून प्रत्यक्ष परीक्षण करू शकतील .
2. पत्रव्यवहारातून आपले विचार, मत वाचकांसमोर मांडू शकतील.
3. पत्रलेखनाचा व्यावहारिक वापर करता येईल.
4. मुद्रितशोधन ही संकल्पना समजून प्रत्यक्ष उपयोजन करता येईल.
5. नियतकालिके, विशेषांक यांच्या संपादनाचे स्वरूप कळेल.
6. पटकथा लेखनाचे तंत्र व कौशल्य समजून प्रत्यक्ष पटकथा लेखन करू शकतील.
7. भाषान्तराची तात्विक व व्यावहारिक माहिती मिळेल.

# ECONOMICS (UG)

## F.Y.B.A. MICROECONOMICS-II

Upon the completion of the course the students will be able to :

1. Identify and differentiate the various market structures.
2. Describe the functioning of each market structure.
3. Estimate the price of the products for the given market structure.
4. Design and develop appropriate wage structure for the given firm.
5. Compute the cost and revenue of a firm.
6. Evaluate the merits of various market structures.

## F.Y.B.A. (GE4) Demography and Population Studies

Upon the completion of the course the students will be able to :

1. To understand demography of India.
2. To analyse size growth and distribution of India's population.
3. To point out characteristic and structure of India's population
4. To outline the trend of fertility and mortality rate in India.
5. To illustrate the migration rate in India
6. To evaluate population policy in India and economic development in India

## S.Y.B.A. MACROECONOMICS-II (ECC04)

Upon the completion of the course the students will be able to :

1. Identify and differentiate between goods market and money market as well as equilibrium of the same.
2. Determine the concept of aggregate demand and supply and analyse its effects.
3. To evaluate the relationship between inflation and unemployment in short run and long run.
4. List out the determinants of inflation and types of unemployment.
5. Describe the various phases of business cycle.
6. Analyse the role of fiscal and monetary policy in economic stabilisation.

### **T.Y.B.A. PUBLIC FINANCE-II**

Upon the completion of the course the students will be able to :

1. Describe the objectives and distinguish the cannons of public expenditure.
2. To assess the effects of public expenditure on the economy.
3. To estimate the effect of taxes on production and distribution.
4. To describe the different central and state taxes and to outline the tax reforms in India.
5. To differentiate shifting and incidence of taxes and to examine the tax rates and tax yield.
6. To measure the size and growth of public debt in India.

### **T.Y.B.A. LABOUR WELFARE AND INDUSTRIAL RELATIONS-II**

Upon the completion of the course the students will be able to :

1. Evaluate the nature, structure and functions of trade unions.
2. Understand the history of trade union movement in United Kingdom, USA, and India and outline the global trends.
3. Describe the various types of strikes and classify the methods of agitation.
4. Illustrate the methods of settlement of industrial disputes.
5. To create an industrial relations system, grievance functions in industrial relations.
6. Interpret the goals and forms of workers participation in management.

### **T.Y.B.A. Contemporary Indian Economy**

Upon the completion of the course the students will be able to :

1. Understand the performance of agricultural sector in Indian economy.
2. To evaluate the role of various sectors in Indian economy.
3. Associate the performance of various sectors with respect to five year plan.
4. To illustrate the growth and structural changes under Indian banking system.
5. To understand working of infrastructure in economic development.
6. To identify the structure and composition of Indian capital market.

### **T.Y.B.A. International Trade**

Upon the completion of the course the students will be able to :

1. To understand the role of international trade and the importance of trade policy in the current global scenario.
2. Breakdown the different forms of economic integration.
3. Identify the different modes of foreign investment.
4. To estimate exchange rate and its use in international trade.
5. List out the composition of foreign exchange market.
6. To outline the structure of balance of payment.
7. To point out various international institutions.

### **T.Y.B.A. Growth and Development**

Upon the completion of the course the students will be able to :

1. To appraise the students with the role of human resource, institution and technology in development.
2. To identify the economic system and understand working of market mechanism.
3. To list out institutional reforms and assess the role of economic freedom.
4. To understand international aspect of economic development.
5. To evaluate different theories of economic growth and development.
6. To understand the role of institution and economic system.

### **T.Y.B.A. Environmental economics**

Upon the completion of the course the students will be able to :

1. To understand environmental policies.
2. To discuss different environmental strategies to prevent emission.
3. To describe incentive based strategies and to apply to reduce emission.
4. To study different environmental policy in India.
5. Differentiate between developed and developing country with regard to environmental issues.

### **F.Y.B.COM. Managerial Economics**

Upon the completion of the course the students will be able to :

1. To identify various pricing methods, strategies and policies.
2. To understand the concept of profit and analyse its role in business decision making,
3. To compute break even analysis.
4. To break down the process of capital budgeting and steps involved in capital project evaluation.
5. List out the different sources of fund for capital financing.
6. To analyse the business decision making and risk involved in it.
7. To identify decision under uncertainty.

### **S.Y.B.Com. Indian Economy**

Upon the completion of the course the students will be able to :

1. To discuss the measures of development and underdevelopment and India's position in world economy.
2. To illustrate the human development index and rank of India in it as compare to the world.
3. To understand Indian Economy and its various components.
4. To analyse the planning process in India for various sectors.
5. To point out Economic reforms of 1991 on various sectors.
6. To outline the structure composition performance and reforms of various sectors in Indian Economy.

### **T.Y.B.Com. Indian Economy**

Upon the completion of the course the students will be able to :

1. Outline the present status of Indian economy with various macroeconomic variables.
2. Pointout demography of Indian.
3. Interpret value and rank of India with respect to Human Development Index.
4. Evaluate the role agriculture industry and service sector in Indian economy.
5. To identify different sources of agricultural finance.

6. Detect the defects of agricultural marketing and to assess its corrective measures.
7. Categories the role of industry services and external sector in economic development.
8. Examine the composition of all the sector and challenges.

#### **F.y.b.a. (ge4) demography and population studies**

1. To understand demography of india.
2. To analyse size growth and distribution of india's population.
3. To point out characteristic and structure of india's population
4. To outline the trend of fertility and mortality rate in india.
5. To illustrate the migration rate in india
6. To evaluate population policy in india and economic development in india

## **ECONOMICS (PG)**

**Course Code: ECC 116**

**Title of the Course: Statistics for Economic Analysis**

#### **Course Learning Outcomes**

On completion of the course the students would be in a position to:

1. Use the basic concepts of probability and Bayes Theorem and apply them correctly to carry out the appropriate statistical analysis.
2. Understand the concepts and applications of hypothesis Testing and select an appropriate method for testing Hypotheses.
3. Able to use Correlation and Regression in economic analysis.
4. Identify suitable statistical technique to apply to economic data sets.



5. Use Excel for statistical calculations.
6. Would have a foundation for learning Econometrics.

On the whole at the end of the course, the students would have a fair idea about the statistical techniques and concepts that aid economic analysis and would be comfortable in applying those techniques in economic research.

### **Course Code: ECC 211**

### **Title of the Course: Microeconomics-II**

#### **Course Learning Outcome:**

On completion of the course the students would be in a position to :

1. Understand the models of oligopoly concerned with the strategic interaction that arise in an industry with a small number of firms. They also would know to use the apparatus of Game theory for strategic interaction.
2. Understand the alternative goals of Firms and decisions making in real market situations.
3. In a case setting, would know to use appropriate techniques like Linear Programming to analyse business problems and find solutions.
3. Understand how the income / revenue of the firms distributed among different factors of production and how the decisions pertaining to factor pricing can be taken.
5. Know the role of information and how non-informed might get affected.

On the whole the students would be equipped with the modern extensions and modifications of the competitive model.

### **Course Code: ECO 117**

### **Title of the Course: Labour Economics**

#### **Course Learning Outcome**

On the completion of the course the students would be in a position to :

1. Acquire knowledge of the issues related to Supply and Demand for labour.
2. Understand the functioning of labour markets.

3. Know various aspects of employment.
4. Understand wage determination under different types of market conditions.
5. Understand the issues related to labour productivity.

**Course Code: ECO 124    Title of the Course: Theories of Economic Growth**

**Course Learning Outcome** On completion of the course the students would be in a position to

1. Have an idea of Choice of techniques.
2. Understand and evaluate the theories and models of economic growth.
3. Assess the implications of the alternative approaches to growth.

**Course Code: ECO 125    Title of the Course: Environmental Economics**

**Course Learning Outcome:** On the completion of the course the students would be in a position to integrate environmental concerns with economic development. Specifically, the students would be in a position to

1. Recognise the role of economic activity on environment and understand the contemporary environmental issues.
2. Identify the externalities in the use of resources.
3. Understand the optimum utilisation of renewable and non-renewable resources for sustainable development.
4. Know the Issues pertaining to valuation of projects having environmental impact.
5. Use economic techniques to analyse environmental problems and to assess environmental policies.

## **HISTORY**

### **FYBA**

#### **HSC 102: History of India (From Earliest times up to 8<sup>th</sup> century C.E.)**

On completion of the four units the student will be able to:

1. Discuss the political history of India from the Pre-historic period to the end of the Early Medieval period.
2. Throw light on the contributions of the various dynasties.
3. Describe the evolution of Early societies through the centuries.
4. Analyse the reasons for changes in early historic society.
5. Correlate the political, social, religious changes with the economic changes.
6. Comment on the reasons for extension of Indian institutions abroad particularly to Southeast Asia.

### **SYBA**

#### **HSC 104: Social Formation and Cultural Patterns of the Medieval World**

On completion of the four units the student should be able to:

1. Comprehend and analyse the causes for the Decline of the Roman Empire in the West and account for the Rise of the Byzantine Empire. The student will also be able to give a sweeping account of the history of the Byzantine Empire, its extent, achievements, and the reasons for its collapse.
2. Account for the political and monopoly religious role of the Universal Church, the reasons for the Crusades and their impact on Europe.
3. Discuss the pre- Islamic Arabia, tribal structure of society and the events before, during and after the rise of Islam.
4. Describe the political institutions endorsed by Islam.
5. Reason the religious developments and the impact.
6. Estimate the typical European institutions- Feudalism, Nation States, urbanisation, economy.

**TYBA****Paper VIII History of the Marathas**

After the completion of the course the student should be able to:

1. Have a moderately detailed knowledge of the political history from the rise of Shivaji to downfall of the Marathas.
2. Identify the factors for the establishment of the Maratha Kingdom and its distinctive institutions.
3. Describe the strategies employed by the Marathas to retain independence.
4. Estimate the important personalities and their contribution to consolidate, revive the Maratha Empire.
5. Develop insight into society, economy of the Marathas.
6. Analyse causes and consequences of the Third Battle of Panipat.
7. Assess the causes for the decay and downfall of the Marathas.

**Paper IX: Towards Freedom 1905- 1947**

At the end of the course the student should be able to:

1. Comprehend concepts like Nationalism, Swadeshi, Communalism, Satyagraha.
2. Identify the four principal movements within the freedom struggle.
3. Estimate the role of Moderates, Extremists, Militants and Revolutionaries.
4. Correlate British policies with events leading to freedom as also division of the country.
5. Trace the growth of Indian Industry and Enterprise from the Swadeshi and Boycott movements.
6. Assess the role of the British politicians in promoting divisive forces, and establishment of Democratic, Liberal, Socialist structures through representative institutions.

**Paper X: History of Modern Europe 1815- 1945**

After the completion of the course the student should be able to:

1. Comprehend the reasons for statesmen wanting to re-establish the pre revolution Europe.
2. Analyse the causes for the continuing revolutions in Europe.
3. Estimate the role of statesmen from Metternich to Churchill.
4. Comment on the aspiration for glory, greatness, power, status, wealth among nations as causes for imperialism and wars.
5. Develop insight in the clash of Western Liberal political values and denial of the same in New Imperialism.
6. Identify the change in values, morals after the First World War, again after Second World War.

# **GEOGRAPHY**

**Class: F.Y.B.A.**

**Course: Geography Core (GPSC-IB Theory) - Social and Cultural Geography**

Course outcomes: At the end of the Course, the students will be able to:

1. Identify spatial variations in social and cultural features of the world and India.
2. Examine the social relations, cultural identity and social inequality.
3. Identify social and cultural problems in the society
4. Develop skills to critically analyse the social and cultural issues in the society
5. Use the knowledge to develop sensitivity towards social and cultural issues
6. Encourage creation of an effective individual healthy opinion

**Class: F.Y.B.A.**

**Course: Geography Core (GPSC-IB Practical-II) – Practicals in Social and Cultural Geography**

Course outcomes: At the end of the Course, the students will be able to:

1. Apply cartographic techniques to display and analyse social and cultural information
2. Acquire knowledge and skill of drawing graphs and maps
3. Analyse and evaluate geographical data with the help of statistical methods

**Class: S.Y.B.A.**

**Course: Geography Core (GPSC-ID Theory) – Geography of Secondary and Tertiary Activities**

Course outcomes: At the end of the Course, the students will be able to:

1. Explain importance of various manufacturing theories
2. Review location and distribution of manufacturing industries in the world
3. Evaluate the global nature of industrialization
4. Comprehend the significance of service sector in the development of economy
5. Assess modes of transport network and their advantages and disadvantages
6. Acquire knowledge of retailing and wholesaling
7. Examine the role of trade blocks in development of trade

8. Evaluate growth and development of cities

**Class: T.Y.B.A.**

**Course: Geography Core (GP: 08) – Climatology and Oceanography**

Course outcomes: At the end of the Course, the students will be able to:

1. Distinguish between weather and climate,
2. Explain the components and structure of atmosphere and its significance
3. Examine insolation and heat budget
4. Explain spatio-temporal aspects of temperature distribution and dynamics of atmosphere
5. Describe the properties and assess the causes and consequences of cyclones
6. Acquire knowledge of ocean configuration, characteristics
7. Grasp factors of ocean currents, tides and explain theories of tidal formations

**Class: T.Y.B.A.**

**Course: Geography Core (GP: 09) – Regional development of India**

Course outcomes: At the end of the Course, the students will be able to:

1. Identify the need and concepts of regional development
2. Make out physical and cultural bases of regional disparity
3. Examine problems and prospects of major developmental projects in India
4. Evaluate the contemporary regional development issues
5. Develop an idea about future vision for regional development

**Class: T.Y.B.A.**

**Course: Geography Core (GP: 10 Practicals) – Remote sensing and GIS**

Course outcomes: At the end of the Course, the students will be able to:

1. Assess and appreciate weather maps
2. Develop a skill in methods of weather forecasting
3. Know the latest technologies in mapmaking by using open source soft wares
4. Examine the concepts of GIS and appreciate Satellite imageries
5. Acquire knowledge of data modelling

**CLASS: FYBA**

**SUBJECT: GEOGRAPHY GENERIC ELECTIVE- GPGE-II**

**COURSE: GEOGRAPHY OF RESOURCE UTILIZATION IN GOA**

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

1. Draw the examples of comparison from national and regional issues.
2. Update with latest information of current events of local, regional and national interests.
3. Appreciate physical, social, economic and cultural resources utilization in the state of Goa.
4. Illustrate the available natural resources of Goa and examine the economic activities associated with it.

**CLASS: SYBA**

**SUBJECT: GEOGRAPHY PRACTICAL - IV**

**COURSE: DATA COLLECTION AND STATISTICAL METHODS IN GEOGRAPHY**

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

1. Illustrate and study the different techniques of data collection.
2. Collect the field data and field survey.
3. Learn the ways of classification and tabulation of data and portray.
4. Appreciate & interpret the data and diagrams

**CLASS: SYBA**

**SUBJECT: GEOGRAPHY GENERIC ELECTIVE- IV**

**COURSE: APPLIED/APPLICATION OF TOURISM GEOGRAPHY**

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

1. Compare and contrast the tourism issues at national and regional levels.
2. Update with latest information of current events of local, regional and national interests.
3. Analyse and synthesize the tourism resources of Goa.
4. Identify and observe the factors affecting tourism.
5. Inculcate the interest in tourism field and will focus on its sustenance



6. Seek for the various career options in the field of tourism.

**CLASS: SYBA**

**SUBJECT: GEOGRAPHY SKILL ENHANCEMENT COURSE-II**

**COURSE: APPLICATION OF FIELD STUDY AND SURVEY TECHNIQUES IN GEOGRAPHY**

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

1. Act as dedicated employees in field job sector.
2. Develop skill in data collection and appreciation.
3. Will acquire confidence of taking up field based studies and offer services.

## **ENVIRONMENTAL STUDIES**

**FYBA/FYBCOM/FYBSC**

On the completion of the course the students will be able to

1. Multidisciplinary nature of environmental studies.
2. Resources and their optimum utilisation.
3. Ecosystem, biodiversity and its conservation.
4. Control environmental pollution.
5. Social issues and environmental ethics.

To conclude we say it aims at acquaint the students with knowledge regarding the environment and its protection and control pollution. To sensitise and create an awareness about the environment and interdependence between man and environment and emphasize the concept of environment ethics.

# POLITICAL SCIENCE

## **FYBA- Political Science**

### **Semester II**

#### **Paper: PSCC1B: Politics and Political Ideas**

#### **Paper Code DSC1B**

Upon the completion of this course the students will be able to:

1. Explain the essentially contested concepts such as Liberty, Equality, and Justice.
2. Explain freedom as the quality and condition of Human Being.
3. Explain the scope of Liberty.
4. Differentiate between Liberty and Authority, Liberty and Legitimacy, Liberty and Licence.
5. Explain different dimensions of Liberty.
6. Explain the meaning of Equality.
7. Describe Equality as a Modern Concept.
8. Explain Equality as a Social Change.
9. Define Equality of Opportunity.
10. Describe legal equality, political equality and socio-economic equality, simple and complex equality.
11. Explain the meaning of Justice.
12. Explain legal justice, political justice, socio-economic justice.
13. Illustrate the difference between Redistributive and Distributive Justice, Procedural and Substantive Justice.
14. Explain the meaning of Liberalism.
15. Explain the broad streams of Liberalism.
16. Describe Neo-Liberalism.
17. Highlight the contributions of Liberalism.
18. Define Socialism.
19. Illustrate Evolutionary and Revolutionary Socialism.
20. Define and differentiate between Democratic Socialism and Fabian Socialism.

21. Analyse Syndicalism and Guild Syndicalism.
22. Define the meaning of Conservatism.
23. Define the meaning of Citizenship.
24. Illustrate different components of citizenship such as civil, political, and social rights.
25. Distinguish between citizen and alien, citizen and national, citizen and voter, citizen and subject.
26. Illustrate different methods of acquiring citizenship.
27. Describe the meaning of Naturalisation.
28. Evaluate the loss of citizenship.
29. Define qualities of a good citizen.
30. Explain the meaning of rights.
31. Define various characteristics of rights.
32. Describe the classification of rights such as: Natural Rights, Moral Rights, Legal Rights, Civil Rights, Political Rights, Economic Rights and Fundamental Rights.
33. Illustrate the methods of safeguarding rights.
34. Explain the meaning of Democracy.
35. Differentiate between classical notion of democracy and liberal democracy.
36. Analyse the Elitist Theory of Democracy, Pluralist Theory of Democracy and Marxist Theory of Democracy.
37. Highlight the meaning of Nationalism.
38. Illustrate the historical development of nationalism.
39. Mention different factors for growth of nationalism.
40. Illustrate features of nationalism.
41. Analyse merits and demerits of nationalism.
42. Explain the meaning of Multiculturalism.
43. Define Feminism.
44. Define Ecologism.
45. Explain the reasons for the emergence of Feminism and Ecologism.
46. Highlight the role of Feminism and Ecologism.

**FYBA- Political Science****Semester II****Paper: GE-1B Contemporary Global Affairs- World****Paper Code: GE 1B**

Upon the completion of this course the students will be able to:

1. Illustrate and analyse different important international political and social issues and events and its relevance to India and World.
2. Explain the concept of Rise of Asia.
3. Analyse the Politics and instability in the Middle East.
4. Describe the concept if New Cold War.
5. Highlight the emergence and role of major powers such as the United States of America and China.
6. Explain the concept of emerging economic order.
7. Discuss US led Trans-Pacific Partnership Agreement.
8. Describe China's initiative in establishing New Development Bank, Asian Investment Infrastructure Bank.
9. Discuss the structure and role of International Monetary Fund and World Bank.
10. Analyse the establishment of different multilateral institutions such as World Trade Organisation, Group of 20 (G20), European Union and the United Nations Organisation.
11. Highlight and analyse different global challenges such as : Terrorism, different types of terrorism.
12. Illustrate the measures undertaken to tackle terrorism and rise of Islamic State.
13. Describe the threats faced by environmental degradation.
14. Evaluate the objectives of Paris Summit 2015.
15. Highlight major objectives enshrined in the Sustainable Development Goals.
16. Explain the context of rising global inequality and its impacts.
17. Analyse refugee crisis in Europe and its impacts.

**SYBA- Political Science****Semester IV****Paper: TSCC-2B: Constitutional and Social Issues in India****Paper Code: DSC2B**

Upon the completion of this course the students will be able to:

1. Explain Federal structure and features of the Indian Constitution.
2. Discuss unitary structure and features of the Indian Constitution.
3. Explain the significance of the Federal structure of Indian Constitution.
4. Analyse centre-state relations with special reference to: legislative relations, administrative relations and financial relations.
5. Explain the significance of Panchayati Raj system in Indian.
6. Define meaning and features of Political Parties in India.
7. Analyse the basis of classifications of political parties in India.
8. Critically analyse the difference between regional and national political parties.
9. Discuss the significance of political parties coalition in Indian context.
10. Explain the election procedure in India.
11. Discuss the defect & electoral reforms in Indian election system.
12. Critically analyse the criminalization of Politics.
13. Explain the relevance of Electoral System in India.
14. Critically analyse the major issues in Indian Politics with reference to Religion, Caste, Gender, Languages and reservation.
15. Analyse the relevance of different identities such as Religion, Caste, Gender, Languages and reservation in the Indian Political System.
16. Discuss the importance of Right to Education, Work and Food.

**SYBA- Political Science****Semester IV****Paper: Human Rights Movements in India****Paper Code: PSGE- 4B**

Upon the completion of this course the students will be able to:

1. Explain Human Rights Movements in India.
2. Evaluate different ideologies such as Feminism, Liberalism, and Socialism.
3. Highlight the meaning, types, importance of Leadership.
4. Describe national and international organization.
5. Illustrate post-independence human rights movements in India.
6. Explain and analyse various civil liberty movements in India such as PUCL, PUDR, Dalit Movement, Tribal Movement, LGBT Movement (Lesbian, Gay, Bisexual, Transgender)
7. Analyse the emergence of Chipko Movement.
8. Describe Niyamgiri Movement.
9. Explain the role of state and judiciary in Silent Valley Movement.
10. Highlight various human rights movements in Goa. Movement in Goa in the context of Human Rights.
11. Evaluate the Nylon 6'6 movement in Goa.
12. Critically analyse the cause and demands of UTAA movement in Goa.
13. Evaluate Anti-Mining movement in the current context.
14. Explain the role of Goa Human Rights Commission.
15. Analyse the importance of Goa State Commission for Protection of Child Rights.
16. Explain the functions of Goa Commission for SC/ST.

## **SYBA- Political Science**

### **Semester IV**

#### **Paper: Public Opinion and Survey Research**

#### **Paper Code: PSSEC 3**

Upon the completion of this course the students will be able to:

1. Illustrate the definitions and characteristics of Public Opinion.
2. Explain the role of Public Opinion in a democratic political system.
3. Critically analyse the meaning and procedure for opinion poll.
4. Define the meaning and purpose of sampling in the survey method.
5. Explain the principles of sampling.
6. Discuss the sample design.
7. Explain the types of sampling methods in survey.
8. Highlight the meaning of Sampling.
9. Discuss the meaning of Representation.
10. Explain the meaning and functions of Interview.
11. Illustrate the types of interviews.
12. Describe Interviews techniques pitfalls.
13. Describe Questionnaire.
14. Explain format and clarity in Questionnaire.
15. Discuss Pitfalls in Question construction.
16. Discuss Data Processing
17. Critically analyse Data and its interpretation.
18. Explain Report Writing.
19. Discuss Diagrammatic Representation.
20. Explain basic concepts such as Correlation Research, Causation, Prediction, Descriptive and Inferential Statistics.
21. Explain how to conduct an Opinion Poll.
22. Analyse Opinion Poll and Data Analysis.
23. Explain how to write a Report.
24. Explain prediction in Polling Research, such as Possibilities and Pitfalls.
25. Analyse politics of Interpreting Polling.

**TYBA- Political Science****Semester VI****Paper: Indian Administration****Paper Code: PS 8**

Upon the completion of this course the students will be able to:

1. Explain the meaning of Integrity.
2. Illustrate the role of Transparency and Accountability in Indian Administration.
3. Analyse corruption.
4. Enumerate different forms of corruption.
5. Explain the causes of corruption.
6. Highlight different institutional remedies (CBI, CVC) for curbing corruption.
7. Explain the role of Lokpal and Lokayukta.
8. Analyse the role of RTI act 2005 and Citizen Charter.
9. Highlight the meaning and importance of Planning Commission.
10. Critically analyse the role of Planning Commission.
11. Critically evaluate Planning Commission.
12. Differentiate between Centralisation and Decentralisation.
13. Highlight the importance of socio-economic objectives of Planning in India.
14. Explain National Development Council.
15. Evaluate the role of Niti Aayog.
16. Explain the meaning of Social Welfare Development.
17. Explain the history of Social Welfare Development in India.
18. Elaborate the various agencies of Social Welfare with reference to Organisation and Agencies of Social Welfare, Women and Child Development, Rural Development Agency.
19. Discuss the Agency of Women and Child Development.
20. Discuss Rural Development Agency.
21. Explain the importance of basic Public Services with special reference to Education, Health, Sanitation and Housing.
22. Explain the meaning of Budget.
23. Enumerate different types of Budgets.



24. Highlight the principles of Budget.
25. Analyse the process of Budget making in India.
26. Discuss the voting on Finance Bill.
27. Explain the importance of Financial Committees with special reference to Public Account Committee, Estimate Committee and Comptroller and Auditor General of India (CAG).

### **TYBA- Political Science**

#### **Semester VI**

#### **Paper: India's Foreign Policy**

#### **Paper Code: PS 9**

Upon the completion of this course the students will be able to:

1. Explain the determinant (Internal & External) factors in making of India's foreign Policy.
2. Discuss the objective of NAM.
3. Explain the evolution of NAM.
4. Critically analyse the relevance of NAM.
5. Analyse the relationship between India and UNO.
6. Discuss the relationship between India and WTO.
7. Critically analyse relationship between India and SAARC.
8. Explain the relationship between India and BRICS.
9. Explain the relationship between India and US.
10. Critically analyse the relationship between India and China.
11. Critically analyse relationship between India and Pakistan.
12. Discuss the relationship between India and Sri Lanka.
13. Explain the relationship between India and Bangladesh.
14. Differentiate between challenges and prospects of India in south Asia.
15. Critically analyse evolution and rise of terrorism.
16. Explain the energy security of India.
17. Discuss the nuclear threat and policy response.
18. Critically analyse the growing challenges to India's National Security.
19. Explain India's evolving challenges with special reference to Nuclear Threat.

## **TYBA- Political Science**

### **Semester VI**

#### **Paper: Western Political Thinkers (Rousseau to Marx)**

##### **Paper Code: PS10**

Upon the completion of this course the students will be able to:

1. Highlight the life, time and works of Jean Jacques Rousseau.
2. Explain political philosophy defined by Rousseau.
3. Describe different stages of Human Development as explained by Rousseau.
4. Highlight Rousseau's analysis on equality and inequality.
5. Analyse Social Contract Theory of Rousseau.
6. Explain the meaning of General Will.
7. Highlight Rousseau's views on Education.
8. Describe Rousseau's views on concept of Popular Sovereignty.
9. Critically evaluate Rousseau's contribution to western political theories.
10. Highlight the life, time and works of Edmund Burke.
11. Explain Burke's idea on State.
12. Illustrate Burke's views on Natural Law, Natural Rights.
13. Evaluate Burke's views on Revolution and Liberty.
14. Critically analyse Burke's views on Political Conservatism.
15. Critically evaluate Burke as a western political thinker and his contribution to political theories.
16. Describe life, time and works of John Stuart Mill.
17. Analyse Mill's contribution to Utilitarianism.
18. Highlight the Mill's views on Individualism.
19. Analyse Mill's views on Liberty, and o Representative Government.
20. Describe Mill's views on emancipation of women.
21. Critically evaluate Mill's contribution to western political theory.
22. Illustrate life, time, and works of George Wilhelm Friedrich Hegel.
23. Analyse Hegel's idea of Dialectics.
24. Describe Hegel's ideas on History.
25. Evaluate Hegel's views on State.

26. Explain Hegel's concept of Geist.
27. Highlight Hegel's concept of Freedom
28. Analyse Hegel's views on war and international law.
29. Critically evaluate Hegel's contribution to western political theory.
30. Highlight Life, time and works of Karl Marx.
31. Explain the meaning of Marx's Dialectical Materialism.
32. Analyse Marx's Materialistic Interpretation of History.
33. Evaluate Marx's views on Surplus Value.
34. Explain Marx's Theory of Class War.
35. Describe Marx's views on Dictatorship of the Proletariat.
36. Analyse Marx's views on establishment of Classless Society.
37. Critically evaluate Karl Marx's contribution to western political theory.

# SCIENCE

## PHYSICS

**Class T. Y. B. Sc.**

**Paper- I Solid State Devices and Instrumentation**

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

- 1) Describe Two terminal devices with respect to their Characteristics and its applications.
- 2) Discuss, and Draw the basic structure and symbol of various Industrial Devices.
- 3) Point out the applications of industrial devices in industry.
- 4) Analyze the Image Capture Devices.
- 5) Design and Modify the measuring Instruments i.e. VOLTMETER, AMMETER and OHMMETER.
- 6) Describe Cathode Ray Oscilloscope and Signal Generator.
- 7) Explain different types of Transducers available and its use.

**Class T. Y. B. Sc.**

**Paper- IV Electromagnetic Theory-II (Magnetostatics and Relativity)**

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

- 1) Describe the magnetic field of steady currents using the appropriate laws.
- 2) Explain the magnetic field in a different media.
- 3) Discuss the Microscopic theory of magnetism.
- 4) Determine the magnetic energy of magnetic circuits, Energy density

in magnetic field and Hysteresis loss.

- 5) Explain Maxwell's Equation with respect to electromagnetic energy.
- 6) Discuss and Defend the theory of relativity.

### **Class S. Y. B. Sc. Paper (Core) and Section- I and Section-II**

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

#### **SECTION-I**

- 1) Describe Interference by division and formation of colours in thin films.
- 2) Explain interferometry and its application to determine wavelength and the difference between the two wavelengths.
- 3) Discuss diffraction, types of diffraction and resolving power of a Telescope.
- 4) Explain polarization by various crystals.
- 5) Analyze the polaroid and retardation plates.

#### **SECTION-II**

- 1) Explain motion of a charged particle in electric and magnetic field.
- 2) Determine the ratio of charge to the mass of an electron.
- 3) Discuss Accelerators, various mass spectrographs, Frank-Hertz experiment and atomic energy levels.
- 4) Demonstrate properties of electromagnetic radiation and the crystal structure.
- 5) Explain production, properties and applications of X-rays.

**CLASS : F.Y.B.Sc. (GE)**

**PAPER : PYG102 : Optics and Instrumentation**

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

- 1) Describe the cardinal points of an optical system, optical property of lenses and aberrations.
- 2) Discuss construction of eyepieces and their image formation with the help of optical ray diagrams.
- 3) Describe interference, diffraction and polarization of light.
- 4) Discuss properties of LASERS and their applications in medical science.
- 5) Analyze crystal structure on the basis of diffraction of X-rays.
- 6) Differentiate between Liquid Crystal Display (LCD) and Light Emitting Diode (LED) displays with respect to their properties. Point out their applications in various fields.
- 7) Describe the types of microscopes available and its uses in Infra Red (IR) spectroscopy and Ultra Violet (UV) spectroscopy.
- 8) Explain and analyze the techniques used in medical imaging devices.

**Class: F.Y.B.Sc**

**Paper: Properties of matter and Acoustics**

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

- 1) Identity and describe various physical properties of matter.
- 2) Describe modulus of elasticity and relationship between elastic constants.
- 3) Discuss theory of loaded Pillars.
- 4) Discuss molecular theory of surface tension and experimental determination of surface tension.
- 5) Define streamline flow, turbulent flow , coefficient of viscosity and obtain Poiseuille's formula.
- 6) Analyze the concepts of acoustics, doppler effect and ultrasonics and discuss their applications.
- 7) Apply knowledge of these concepts to explain natural physical processes and phenomena.

## COURSE OUTCOME FOR SKILLED ENHANCED COURSE

**TITLE OF THE PAPER: COMPUTATIONAL PHYSICS USING 'C'****CODE: PYS103**

At the end of this course students will be able to-

- 1) Explore the domain of computational physics and numerous applications in various fields
- 2) Acquire all intricacies of grammar of 'C' language that is required for developing algorithms & syntax
- 3) Adapt to new mathematical techniques suited for programming
- 4) Lay Hands on experience on linux operating system, beginning with installing OS on PC/LAPTOP
- 5) Write, debug and run programs in 'C' to some phenomenon of Physics
- 6) Develop simple programs for interacting with hardware interface

## COURSE OUTCOME FOR SKILLED ENHANCEMENT COURSE

## SEMESTER –VI

**TITLE OF THE PAPER: Atomic and Molecular Physics****Paper: II**

At the end of this course students will be able to

- 1) Know the limitation of classical mechanics in the realm of microscopic world.
- 2) Grasp in totality the quantum mechanical concepts and tools
- 3) Appreciate the role of Schrodinger wave equation in exploring properties of atoms & molecules
- 4) Acquire expertise in solving differential equation in spherical polar coordinates
- 5) Realize role of spectroscopy as it provides experiment for testing models developed by quantum mechanics
- 6) Solve problems in molecular physics- rotational, vibrational and Raman spectroscopy
- 7) Deliver power point presentation on Prof. C.V. Raman's contribution to molecular spectroscopy.

**Class F. Y. B. Sc.****Paper (core) Section I and Section II**

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

- 1) Apply kinetic theory of gases to calculate the pressure exerted by a gas.
- 2) Define the terms degrees of freedom, Brownian motion and mean free path
- 3) Distinguish between real and ideal gas.
- 4) Discuss the results of Andrew's experiment on Carbon di-Oxide .
- 5) Establish relation between Boyle temperature and Critical temperature.
- 6) Apply laws of thermodynamics to calculate work done in Isothermal and Adiabatic processes.
- 7) Discuss the concept of entropy.

**Class T. Y. B. Sc.****Paper- III Thermodynamics and Statistical Mechanics**

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

- 1) Describe the Internal Combustion Engines and define different terms involved in it.
- 2) Explain various cooling methods of gases.
- 3) Apply various cooling methods in machines.
- 4) Discuss different methods of liquefaction of gases.
- 5) Apply rules of probability to determine the result.
- 6) Define the terms involved in study of statistics.
- 7) Apply different methods involved in probability distribution.



# ZOOLOGY

## Paper code: ZOSE 2 Wildlife and Ecotourism

### Learning outcome:

On completion of this course, the students will be able to:

1. **Identify** the current scenario and conservation strategies of wildlife conservation in India.
2. **Identify** the root causes of wildlife depletion.
3. **Outline** the centrally sponsored schemes for wildlife conservation.
4. **Analyze** the prospects and challenges of wildlife tourism in India.
5. **Analyze** the impacts of wildlife tourism in India.
6. **Outline** the strategies of visitor planning and stakeholder involvement.
7. **Identify** the protocols for visitor monitoring.

## Paper code: ZP XV Environmental Biology and Toxicology

### Learning outcome:

On completion of this course, the students will be able to:

1. **Identify** the distribution of natural resources.
2. **Assess** the nature of renewable and non-renewable resources.
3. **Outline** the reasons for wildlife depletion in India.
4. **Analyze** the role of Government and NGO's in wildlife conservation.
5. **Outline** the principal aspects and scope of toxicology
6. **Explain** the different environmental toxicants, radioactive materials in the environment.
7. **Identify** the hazards of toxicants.
8. **Assess** the risk and facilitate risk management process.

## Diversity of Chordates & Genetics (F.Y.BSc.)

On completion of this course, the students will be able to:

1. Identify and classify the Chordates.
2. Learn about the various facets of parental care and migration in Fishes, Amphibians and Reptiles and Origin of mammals.
3. Identify venomous and non venomous snakes.
4. Enlist various species of Aves.

5. Know about the abnormalities of the Chromosomes.
6. Analyze pattern of inheritance of genetic traits.
7. Emphasize on Mendelian Genetics and its extension.
8. Describe various Genetic disorders.

**Degree : B.Sc. Zoology**

**Title of the Paper : Animal Behaviour**

**Learning Objective:** To understand stereotyped and social behaviours of animals and to know about the biological rhythms governing the animal behaviours.

**Learning Outcomes:**

On completion of this course, the student will be able to:

1. **Describe** the basic principles of Ethology.
2. **List** the various important historical events of Ethology.
3. **Discuss** the various methods of reading animal behavior.
4. **Interpret** different patterns of behaviour in animals.
5. **Describe** and **discuss** social and sexual behaviours.
6. **Contrast** and **compare** between social and sexual behaviours.
7. **Explains** biological rhythms.
8. **Relate** the behavioural patterns to the biological clocks.
9. **Identify** the different types of animal behaviours in their surroundings.

**DEGREE: B.Sc ZOOLOGY**

**SEMESTER: IV**

**PAPER CODE: ZOCC 4**

**TITLE: ANIMAL PHYSIOLOGY & BIOCHEMISTRY**

**Learning Objective:**

To understand the physiology of the different processes of the body systems and the micromolecules and macromolecules of the cells.

**Learning Outcome:**

On completion of the course the student should be able to:

- Know the fundamental principles of animal physiology and biochemistry.
- Explore the basic knowledge of chemistry of biomolecules.

- List out the vital functions of animal at the level of cells, tissues, organs and whole organisms.
- Describe the theoretical paradigms of physiology such as adaptation, regulation and evolution.
- Explain how changes in one system may affect other systems in the body of animals.
- Examine and analyze different hematological parameters.
- Estimate different biomolecules.

**DEGREE: B.Sc. ZOOLOGY**

**SEMESTER: VI**

**PAPER CODE: ZP 13**

**TITLE: DEVELOPMENTAL BIOLOGY**

***Learning Objective:***

To understand the mechanisms involved in growth and development of complex organisms.

***Learning Outcome:***

On completion of the course the student should be able to:

- Know the scope and fundamental principles of developmental biology.
- List out the types of characteristics that make an organism ideal for the study of developmental biology.
- Know the broad phylogenetic relationships of animal phyla and some of the traits used to support our current understanding of these evolutionary relationships (e.g. diploblasts vs triploblasts, radial vs bilateral symmetry).
- Discuss the events that comprise the process of fertilization and the critical contributions of the sperm and the egg to the zygote.
- Describe the biochemical events taking place during fertilization and post fertilization events.
- Know how the planes of cell division relate to cell fate specification.
- Label macromeres, mesomeres, and micromeres and know which cell types are derived from each of these cell layers in the early embryo (e.g. primary and secondary mesenchyme, ectoderm, endoderm, mesoderm).

- Describe the Spemann Mangold organizer in frog development and the experiments that demonstrate the inductive functions of these tissues.
- Describe the stages and cellular mechanisms (ingression, invagination, convergent extension) of gastrulation in the chick embryo and functions of gastrulation.
- Explore the knowledge of extra embryonic membranes of chick embryo.
- Identify the developmental stages of chick embryo.
- Know how placenta in mammals contributes to maternal-fetal interrelationships.
- Know regenerative ability in different animal groups and the mechanism of regeneration.

# **BOTANY**

**CLASS: F. Y. B. Sc.**

**PAPER NO. AND TITLE: BOC102 (BIODIVERSITY II - VASCULAR PLANTS)**

At the end of the course students will be able to

1. Outline the classification of Pteridophytes, Gymnosperms & Angiosperms.
2. Explain morphology, anatomy, and reproduction in Pteridophyte & Gymnosperms of selected groups.
3. Define the terms Identification, Classification, Nomenclature & different levels under taxonomic hierarchy.
4. List important herbaria and Botanical Gardens & functions of Herbarium.
5. Learn to document Flora & Construct keys for identification.
6. List the principles & explain rules of ICBN.
7. Apply Natural System of classification to classify selected families.
8. Distinguish between taxonomic groups by using phytochemical, cytological, palynological & molecular data.
9. Measure and analyze the relationship between different taxa using modern techniques.

**CLASS: S. Y. B. Sc.**

**PAPER NO AND TITLE: BOC104 (PLANT PHYSIOLOGY)**

At the end of the course students will be able to

1. Recall the importance of water & explain plant water relations.
2. List out micro and macro nutrients in plants & discuss their role.
3. Generalise the action of enzyme activity.
4. Explain photosynthesis & respiration in plants
5. Demonstrate the process of translocation in plants.
6. Discuss the role of plant growth regulators.
7. Determine plant response to light and temperature.
8. Explain nitrogen metabolism in plants.

# CHEMISTRY

## CHC- 102 (Physical and Organic Chemistry)

At the end of the course **student will be able to:**

- 1) **Elucidate** the Laws of thermodynamics.
- 2) **Predict** and **determine** the feasibility of chemical reactions using thermodynamic parameter.
- 3) **Explain** the terms involved in ionic equilibrium.
- 4) **Investigate** the relative strength for hydrolysis reactions.
- 5) **Differentiate** organic compounds, based on structural features and the characteristic reactions associated with these features.
- 6) **Outline** mechanisms of organic reactions and associate the type of mechanism to the structure and reagents.
- 7) **Complete** the reactions by predicting the reagents and/or products.
- 8) **Synthesise** pure organic compounds.

## CHC- 104 Physical and Inorganic Chemistry

At the end of the course **student will be able to:**

- 1) **Differentiate** between phases of matter.
- 2) **Compute** the effect of various physical parameters on matter.
- 3) **Study** the kinetics of different of reactions and propose reaction mechanism.
- 4) **Compare** characteristics of lanthanides and actinides.
- 5) **Write** names of complexes using IUPAC system of nomenclature.
- 6) **Explain** bonding and structures of some metal complexes.
- 7) **Use** crystal field theory to **explain** stability of some complexes.
- 8) **Analyse** qualitatively and quantitatively metal ions in samples.
- 9) **Use** instrumental methods to **analyse** metal compounds.

## CHS- 107 SKILL ENHANCEMENT COURSE) ADVANCES IN ENERGY TECHNOLOGY

At the end of the course **student will be able to:**

- 1) **Explain** the primary and secondary energy resources.
- 2) **Differentiate** conventional and non conventional fuels.
- 3) **Describe** the various sources of energy and its conversion products

- 4) **Classify** the batteries with cell reactions.
- 5) **Justify** how fuel cell differ from primary and secondary batteries
- 6) **Investigate** kinetics of photochemical reaction between iodine and oxalate.
- 7) **Verify** Freundlich adsorption isotherm.
- 8) **Analyze** the moisture, sulphur and ash content in the sample of coal/charcoal.

### Organic chemistry –III

At the end of this course student will be able to:

1. **Outline** the structure, synthesis, reactions and reactivity of natural products, Synthetic chemicals and Reagents.
2. **Give** examples of structure and reactions of natural products, Synthetic chemicals and reagents.
3. **Discuss** and **explain** the applications of various chemical compounds, such as natural products, Synthetic polymers, Synthetic drugs, synthetic dyes etc.
4. **Classify** the natural products, synthetic chemicals, and reagents based on their structures, reactions and synthetic utility
5. **Explain** theory of reactions which includes Photochemical reactions and Sulphur and Phosphorous Ylides .
6. **Discuss** several name reactions with respect to mechanisms and applications.
7. **Apply** the chemical methods Interpret the structure of natural products.
8. **Develop** synthetic methods for certain types of compounds.

### Laboratory Course in Organic chemistry

At the end of this course student will be able to:

1. **Classify** different types of organic mixtures based on physical nature.
2. **Discriminate** different types of mixtures based on chemical nature, elemental composition, functional types etc.
3. **Examine** methods required to separate organic mixture
4. **Extend** the knowledge to separate the various types of chemical mixture.
5. **Develop** customized methods to separate organic mixtures.
6. **Compare** and judge the methods learnt with advanced chromatographic-spectroscopic methods of analysis.

### Analytical chemistry –IV

At the end of this course student will be able to:

1. **Describe** some analytical instrumental techniques
2. **Explain** some components of the analytical instrument / electronic devices
3. **Distinguish** different types of analytical technique.

4. **Apply** the knowledge to select a instrument for different sample
5. **Derive** the results using analytical data
6. **Interpret** the data of analysis
7. **Outline** the instrumentation and application of different analytical instrument
8. **Design** the technique for a particular sample

#### Analytical chemistry-IV( Practicals)

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

1. **Explain** the principles of spectrophotometric, chromatographic and conductometric techniques.
2. **Compute** the stoichiometry of coordination complexes by different spectrophotometric methods.
3. **Determine** metals and ions in supplied samples by spectrophotometer and ion exchange chromatography.
4. **Analyze** pharmaceutical drugs by using classical methods.
5. **Generate** the statistical data from the results obtained.

#### PHYSICAL CHEMISTRY - I

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

1. **Extrapolate** Molecular Orbital Theory in diatomic and polyatomic molecules.
2. **Identify** the major components of a nuclear reactor, fuel elements, control rods, moderator and cooling liquid.
3. **Identify** the principles important for application of electrochemistry in research, industry and chemical analysis.
4. **Explain** electrochemical events in nature.
5. **Illustrate** Jablonsky diagram of energy.
6. **Demonstrate** the effect of excitation of organic molecules by irradiation.
7. Qualitatively **examine** which signals are to be observed in the rotational and vibrational spectrum of various molecules.
8. **Apply** radiotracer methodology in various fields.
9. **Design** the reactions and materials for next generation rechargeable batteries.

#### CH – 302 (EXPERIMENTS IN PHYSICAL CHEMISTRY)

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

1. **Measure** hydrolysis, dissociation constants for acid – base, complexation reactions.
2. **Interpret** the data from an instrumental experiment, including the construction of appropriate graphs and the evaluation of errors.



3. **Compute** activation energy and its effects on the rates of chemical reaction.
4. **Integrate** theoretical concepts with practical measurement.
5. **Explain** safety requirements and lab skills to perform physico – chemical experiment.
6. **Develop** skills needed to undertake appropriate further professional training.

## PAPER II CH-322: INORGANIC CHEMISTRY

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

- **Explain** different types of electronic transitions in Transition metal complexes.
- **Interpret** electronic spectra of complexes to **explain** colour of complexes.
- **Differentiate** between various gaseous fuels and **explain** their use in industry.
- **Explain** physico-chemical principles in manufacture of nitric acid and ammonia in the industry.
- **Classify** various air pollutants and suggest remedial measures for pollution control.
- **Determine** magnetic susceptibility of transition metal complexes.
- **Use** information on nanomaterials, superconductors and inorganic polymers for research.
- **Determine** stability of metal complexes using thermodynamics and kinetic factors.
- **Prepare** various transition metal complexes and **analyse** quantitatively metals in compounds.
- **Determine** quality of water samples using volumetric methods.

## COURSE OUTCOME: B.Sc. CHEMISTRY, SEMESTER VI

### PAPER II CH-322: INORGANIC CHEMISTRY

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

- **Explain** different types of electronic transitions in Transition metal complexes.
- **Interpret** electronic spectra of complexes to **explain** colour of complexes.
- **Differentiate** between various gaseous fuels and **explain** their use in industry.
- **Explain** physico-chemical principles in manufacture of nitric acid and ammonia in the industry.
- **Classify** various air pollutants and suggest remedial measures for pollution control.
- **Determine** magnetic susceptibility of transition metal complexes.
- **Use** information on nanomaterials, superconductors and inorganic polymers for research.
- **Determine** stability of metal complexes using thermodynamics and kinetic factors.
- **Prepare** various transition metal complexes and **analyse** quantitatively metals in compounds.
- **Determine** quality of water samples using volumetric methods.

# COMPUTER SCIENCE

F.Y.B.Sc. Sem - II

## CSC102 : Data Structures ( GENERAL )

### Course Outcome:

Upon completion of this course, the students will be able to:

1. Explain the basic data structures like ARRAYS, LINKED LISTS, STACK, QUEUE, BINARY TREE and HASH tables.
2. Perform operations like creation, insertion, deletion, conversions, searching and sorting on each data structure.
3. Perform storage and retrieval of data on different data structures.
4. Work on Projects which implement these data structures.

## **DSC4P : Data Structures (Lab)**

### **Practical's : 60 lectures**

Suggested list of Practicals:

1. Write a program to search an element from a list. Give user the option to perform Linear or Binary search. Use Template functions.
2. WAP using templates to sort a list of elements. Give user the option to perform sorting using Insertion sort, Bubble sort or Selection sort.
3. Implement Linked List using templates. Include functions for insertion, deletion and search of a number, reverse the list and concatenate two linked lists (include a function and also overload operator +).
4. Implement Doubly Linked List using templates. Include functions for insertion, deletion and search of a number, reverse the list.
5. Implement Circular Linked List using templates. Include functions for insertion, deletion and search of a number, reverse the list.
6. Perform Stack operations using Linked List implementation.
7. Perform Stack operations using Array implementation. Use Templates.
8. Perform Queues operations using Circular Array implementation. Use Templates.
9. Create and perform different operations on Double-ended Queues using Linked List implementation.
10. WAP to scan a polynomial using linked list and add two polynomial.
11. WAP to calculate factorial and to compute the factors of a given no. (i) using recursion, (ii) using iteration
12. (ii) WAP to display fibonacci series (i) using recursion, (ii) using iteration
13. WAP to calculate GCD of 2 number (i) with recursion (ii) without recursion
14. WAP to create a Binary Search Tree and include following operations in tree:
  - a) Insertion (Recursive and Iterative Implementation)
  - b) Deletion by copying
  - c) Deletion by Merging
  - d) Search a no. in BST
  - e) Display its preorder, postorder and inorder traversals Recursively

- f) Display its preorder, postorder and inorder traversals Iteratively
- g) Display its level-by-level traversals
- h) Count the non-leaf nodes and leaf nodes
- i) Display height of tree
- j) Create a mirror image of tree
- k) Check whether two BSTs are equal or not

15 WAP to convert the Sparse Matrix into non-zero form and vice-versa.

16 WAP to reverse the order of the elements in the stack using additional stack.

17 WAP to reverse the order of the elements in the stack using additional Queue.

18 WAP to implement Diagonal Matrix using one-dimensional array.

19 WAP to implement Lower Triangular Matrix using one-dimensional array.

20 WAP to implement Upper Triangular Matrix using one-dimensional array.

21 WAP to implement Symmetric Matrix using one-dimensional array.

22 WAP to create a Threaded Binary Tree as per inorder traversal, and implement operations like finding the successor / predecessor of an element, insert an element, inorder traversal.

23 WAP to implement various operations on AVL Tree.

Second Year B. Sc.	Semester IV
<b>Computer Science -CSC104: Computer Organization and Operating Systems</b>	
(Credits: Theory-04, Practicals-02)	Theory : 60 Lectures      Practicals : 60 Lectures
<b>Learning Objectives:</b> To give knowledge about fundamentals of Computer System Architecture and different types of Operating Systems.	
<b>Course Outcome:</b>  Upon completion of this course, the students will be able to: <ol style="list-style-type: none"> <li>1. Explain the Logic gates, Boolean algebra, combinational circuits, circuit simplification, registers, counters and memory units.</li> <li>2. Represent data using binary number system and perform computer arithmetic operations.</li> <li>3. Describe the structure and functioning of a digital computer, including its overall system architecture and digital components.</li> <li>4. Explain the Input / Output Organization</li> <li>5. Compare the various types of Operating Systems</li> <li>6. Explain Process Management including scheduling algorithms, concurrent processes and deadlocks</li> <li>7. Explain Memory Management, File, I/O Management, Protection and Security</li> <li>8. Write 8086 assembly language programs</li> <li>9. Install Operating Systems</li> <li>10. Execute basic and advanced Linux commands</li> <li>11. Write shell scripts for Linux</li> <li>12. Write C programs for printing system related information/to implement calls to system functions.</li> </ol>	

### **T.Y.B.Sc.**

#### **CS 5: Network Security**

##### **Objective:**

To make the students learn the principles and practices of Cryptography, Network Security and to enable the students understand the various methods of encryption and authentication .

##### **Course Outcome:**

Upon completion of this course, the students will be able to:

- 1) Explain and analyze different concepts of network security and encryption techniques.
- 2) Apply the principle and practices of cryptography.
- 3) Identify network attacks and analyze defence techniques.
- 4) Describe the methods of authentication
- 5) Define digital signature standards.

**CS 6: Multimedia Techniques****Objective:**

To make aware the students about image, video & audio, colors models used and compression of data.

**Course outcomes:**

Upon completion of this course, the students will be able to:

- 1) Explain the fundamentals of creating vector and bitmap images and compression techniques.
- 2) Explain different transformations on vector graphics
- 3) Differentiate between device resolution and image resolution.
- 4) Explain CMYK and RGB color models
- 5) Use video standards and compression techniques
- 6) Explain Digitization of sound

**CS 7: Server Side Web development****Objective:**

To give an understanding the web software development: how it is different, issues involved in it.

**Course Outcome:**

Upon completion of this course, the students will be able to:

1. Explain the basic principles used in Web technologies
2. Write PHP scripts to create dynamic web pages
3. Explain and provide solutions to various security issues in Web Development
4. Create asynchronous web pages
5. Write scripts for authentication, cookies, sessions and file uploads



## CS 8: Embedded Systems

### Objective:

To understand how to model the real world in computers and design & test the solution before implementing.

### Course Outcome:

Upon completion of this course, the students will be able to:

1. Describe the difference between general computing systems and Embedded Systems.
2. Explain how to model the real world on computers.
3. Design and test the solutions for models before implementations.
4. Application, Classification of Embedded systems in various areas.
5. Explain architecture of an Embedded Systems.
6. Design real time Embedded systems using RTOS.

Second Year B. Sc.	Semester IV
<b>Computer Science -CSS104: Web Application Development using Flask</b>	
(Credits: Theory-03, Practicals-01)	Theory : 45 Lectures      Practicals : 30 Lectures
<b>Pre-requisites :</b> 1) Should be able to write code in Python 2) Knowledge of object oriented concepts and databases	
<b>Course Objectives:</b> 1). To learn how to create a basic web page using HTML and CSS. 2). To perform basic database operations using Python Flask Framework  <b>Course Outcomes:</b> Upon completion of this course, the students will be able to:  7) Create a basic web page that includes paragraphs, links, tables and forms using stylesheets 8) Design the layout of a website. 9) Use Javascript for form validations	

10) Create a responsive website using Bootstrap Framework

11) Create web forms using Flask-Wtf extension

12) Use SQLAlchemy to model relational databases

### **Generic Electives Syllabus**

(Numbers on right indicate number of lectures of 1 hour duration)

<b>Computer Science -CSG108 : Multimedia Technology</b>		
(Credits: Theory-03, Practicals-01)	Theory : 45 Lectures	Practicals : 30 Lectures
<b>Pre-requisites:</b> Basic working knowledge of Computers and Internet.		
<p><b>Course Objectives:</b></p> <p>To make the students aware of</p> <ul style="list-style-type: none"> <li>▪ Color Models and color harmony,</li> <li>▪ Raster and Vector Graphics formats &amp; basic Graphic editing,</li> <li>▪ Font types, selection of fonts</li> <li>▪ Audio formats, codecs, basic audio editing, filters</li> <li>▪ Video formats, codecs, basic video editing, filters and transitions</li> <li>▪ Data compression.</li> </ul> <p><b><u>Course Outcome:</u></b></p> <p>Upon completion of this course, the students will be able to:</p> <ul style="list-style-type: none"> <li>▪ Explain basic concepts of multimedia.</li> <li>▪ Identify and use multimedia tools and terminologies.</li> <li>▪ Demonstrate different audio, video editing, animation techniques.</li> <li>▪ Distinguish between different computer graphics and related file formats.</li> </ul>		

## **GEOLOGY**

### **B.Sc. (Geology), GEC 110: Principles of Stratigraphy & Paleontology (Credits: Theory-4; Practical-2)**

**On completion of the Course, the students will be able to:**

1. Describe the process of origin of the earth.
2. Explain the principle of 'Radiometric Dating' in determining age of the rock / age of the Earth.
3. Explain the aims and objectives of the Stratigraphy
4. Explain the concept of units in Stratigraphy Viz. Time Unit, Rock Unit, Litho-stratigraphic Units, Bio-stratigraphic Units etc.
5. Use the technique of relative dating using the laws of Stratigraphy and establish the equivalence of rock sequence in geographically distant area using the methods of correlation.
6. Explain the process of fossilization and identify the fossils and make their use in relative dating, palaeo-geography, paleo-environment, evolution of life etc.
7. Associate the factors limiting the distribution of organisms and extend the knowledge of it in deciphering the paleo-environment based on the fossil content.
8. Use the technique of plotting geological formations on the map.
9. Write/document the field report.

### **TITLE OF THE PAPER GEC 104: INTRODUCTION TO PETROLOGY**

**LEARNING OUTCOME:**

On completion of the course, the students will be able to:

1. Describe and identify the rocks in field.
2. Explain the process of rock formation.
3. Associate the rocks with the geological history based on their mode of occurrence.
4. Associate the rocks with the geological history based on their textures.
5. Use the knowledge for exploration of oil, gas and groundwater.
6. Document findings in field.

**TITLE OF THE PAPER GEG 103: PHYSICAL GEOLOGY**

SEMESTER II

LEARNING OUTCOME:

On completion of the course, the students will be able to:

1. Identify various geological features on the continents.
2. Describe processes that lead to formation of various geologic features.
3. Explain the concept of contours, beds and various geological structures.
4. Draw and describe topography using contours.

## MATHEMATICS (UG)

### Course: Commercial Arithmetics-II(FYBCom CC8)

At the end of this course students will able to:

- i. **Formulate** Linear Programming Problem
- ii. **Apply** Linear Programming methods to **find** best economical solution to given problems .
- iii. **Find** derivative of the functions.
- iv. **Determine** whether the given function is increasing or decreasing function.
- v. **Find** total revenue, marginal revenue.
- vi. **Find** Area under curve
- vii. **Find** Consumer and producer surplus
- viii. **Determine** Minimum and maximum output

### Course: Metric Spaces (TYBSc)

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

- i. **Identify** different types of metric spaces.
- ii. **Determine** whether given sets are open/ closed or/ and has limit points.
- iii. **Utilize** the concept of convergence of a sequence in metric spaces in various examples.
- iv. **Classify** subspaces.
- v. **Determine** continuity of functions using epsilon delta definition.
- vi. **Explain** the idea of complete metric space and its various properties.
- vii. **Classify** metric spaces as connected or not.

### Course: Operations Research-II (TYBSc)

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

- i. **Identify** Queuing system and its characteristics.
- ii. **Determine** time estimates, CPM calculation, PERT calculations in networking.
- iii. **Classify** between transportation and assignment problems.
- iv. **Determine** solutions of transportation problems
- v. **Find** optimum assignment schedule.
- vi. **Interpret** inventory cost and other factors.
- vii. **Solve** linear programming problem using dynamic programming.

**Course: Analytical Geometry (S Y B Sc SEC.02)**

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

- i. **Construct** the equations of lines in plane.
- ii. **Classify** conics.
- iii. **Determine** equations of plane and lines in 3D.
- iv. **Translate** one coordinate system into another & vice versa.
- v. **Distinguish** between Cones, Cylinders and Conicoids.
- vi. **Find** equations of spheres.

**Course: Numerical Computations (F Y B Sc GE.02)**

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

- i. **Construct** difference tables (Forward and Backwards).
- ii. **Classify** leading terms, leading differences and operators.
- iii. **Compute** numerical functional values using Newton's Interpolation Formulae
- iv. **Find** various order derivatives at the beginning and end of table.
- v. **Determine** values of definite Integrals using trapezoidal rule, Simpson's  $1/3^{\text{rd}}$  rule and  $3/8^{\text{th}}$  rule, Weddle's rule.
- vi. **Solve** algebraic and transcendental equations.

**T.Y. B.Sc. : Complex Analysis**

1. **Explain** and **Deduce** the Properties of Complex Plane
2. **Prove** Theorems on Continuity, Differentiability etc. And **Analyse** Functions of Complex Variables in Order to **Determine** if the Function Is Continuous, Differentiable, Analytic, Harmonic etc
3. **Define** Elementary Functions and **Deduce** the Properties of Elementary Functions.
4. **Prove** Theorems in Contour Integration and **Apply** the Theorems to **Solve** Contour Integrals.
5. **Find** the Taylor/Laurent Series Expansions and **Identify** the Different Types of Singularities
6. **Prove** Theorems in Residue Theory and **Apply** the Theorems to **Solve** Contour Integrals.

**T.Y. B.Sc. : Analysis III**

1. **Understand** and **Prove** Weierstrass Approximation Theorem
2. **Prove** and **Apply** Theorems on Power Series In R
3. **Define** Elementary Functions Using Power Series and **Deduce** Their Properties
4. **Define** and **Deduce** Properties of Inner Product and Norm

5. **Analyse** Orthogonal Systems in an Inner Product Space
6. **Define** Fourier Series and **Construct** the Fourier Series of Various Functions.
7. **Prove** Theorems on Fourier Series
8. **Find** and **Analyse** norms in  $C[a,b]$ .

#### **S.Y. B.Sc. :Analysis and Operations Research**

1. **Prove** Theorems on Infinite Series and **Apply** Theorems to **Determine** Convergence
2. **Prove** Theorems and **Apply** Theorems to **Solve** Problems on Integrability.
3. **Prove** Theorems on Sequences and Series of Functions and **Apply** Theorems to **Determine** Convergence
4. **Solve** Linear Programming Problems
5. **Solve** Assignment and Transportation Problems
6. **Solve** Problems in Inventory Control
7. **Solve** Problems in Queueing Theory

#### **F.Y.B.Sc.**

##### **Course: Matrices and Linear Algebra**

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

- (1) **Identify** different types of matrices.
- (2) **Solve** system of linear equations.
- (3) **Determine** whether the given vectors are linearly independent or not.
- (4) **Determine** the dimension of the given Vectorspace.
- (5) **Represent** a given linear map by a matrix.
- (6) **Construct** orthonormal basis for given Inner product space.
- (7) **Determine** whether the given linear map is diagonalisable or not.

#### **T.Y.B.Sc.**

##### **Course: Differential Equation**

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

- (1) **Identify** and **Solve** different types of differential equations.



- (2) **Determine** whether the solution of given differential equation are linearly independent or not.
- (3) **Solve** differential equations by applying Laplace transformation.
- (4) **Convert** given nth order differential equation into system of first order differential equation.
- (5) **Solve** system of first order differential equations with constant coefficients.
- (6) **Apply** numerical methods to solve given initial value problem.
- (7) **Obtain** power series solution for given differential equation.

**T.Y.B.Sc.**

**Course: Linear Algebra**

1. **Determine** whether the given vectors are linearly independent or not.
2. **Determine** the dimension of the given Vectorspace.
3. **Represent** a given linear map by a matrix.
4. **Find** rank and nullity of a given linear map.
5. **Construct** orthonormal basis for given Inner product space.
6. **Determine** whether the given linear map is diagonalisable or not.

## **MATHEMATICS (PG)**

**Course Code: MTC-104 Differential Equation**

Course Outcomes:

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

1. **Solve** nth order Linear differential equations.
2. **Solve** system of linear differential equations.
3. **Determine** the existence and uniqueness of the solution of nth order differential equations.
4. **Determine** whether the given differential equations are selfadjoint.
5. **Solve** Sturm Liouville problems.
6. **Analyse** the properties of the solutions of differential equations.

### **Course Outcomes for MTC-201: Several Variable Calculus**

The Student will be able to

1. **Define** partial and total derivative of a function of several variables.
2. **Prove** basic theorems on partial and total derivatives.
3. **Prove** and **apply** theorems related to critical points of a function of several variables.
4. **Prove** the Open mapping theorem, Inverse Function Theorem, Implicit Function Theorem.
5. **Define** the integral of a function of several variables.
6. **Prove** basic theorems related to functions of several variables.
7. **Apply** basic theorems to **prove** Fubini's Theorem, Mean Value Theorem, Change of Variable Theorem etc.

### **Course Outcomes for MTO-302: Combinatorics**

The Student will be able to

1. **Apply** basic counting principles and techniques to **solve** combinatorics problems.
2. **Understand** and **analyse** the Fundamental Counting Problem
3. **Construct** and **solve** recurrence relations.
4. **Apply** Pigeonhole principle to solve problems in Geometry, Number Theory, Graph Theory and Colouring of Plane.
5. **Apply** Pigeonhole principle to sequences and partial order.
6. **Understand** and **apply** the different versions of Ramsey Theorem.

# COMMERCE

## F.Y.B.Com. SEMESTER II

### Practice of Insurance (GE 2)

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

- To apply/file for claim documentation and settlement.
- To identify guidelines for claim management in different insurance policies.
- To practice on becoming an insurance agent.
- To identify roles and responsibilities of an agent, insurance ethics and agency as a profession.
- To construct prerequisites for agent success.
- To develop marketing strategies of insurance companies.
- To classify and relate distribution channels (traditional and modern)
- To relate different rural insurance policies.
- To interpret and choose schemes based on its objectives and benefits (Aqua, Culture, Cattle, Farmers, Package, Fish, Floriculture, Horticulture and Poultry Insurance).

### Tourism and Hospitality Management--Generic Elective

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

1. Explain the various terms and terminology used in tourism industry.
2. List the characteristics and importance of tourism.
3. Recall and explain the 5 A's of tourism product.
- 4. Categorise tourism under different types and forms.**
5. Identify the various constituents of tourism industry.
- 6. Estimate or assess the impact of tourism in respect of economic, socio-cultural, environmental, political etc.**
7. Discuss the various issues related to tourism faced by different stakeholders of tourism.
8. Recall the origin, growth, nature of hospitality industry.
9. List the factors affecting hospitality and tourism industry.
- 10. Predict employment opportunities in hospitality industry or Select a career option for them in hospitality industry.**
11. Identify various sectors comprising the hospitality industry.
12. Know the trend in tourism and hospitality industry in the 21<sup>st</sup> Century

# seek career opportunities in tourism and hospitality industry

### **SERVICE MARKETING (GENERIC ELECTIVE)**

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

1. To explain and distinguish between goods and services.
2. To analyse different levels of service product.
3. To analyse different places and locations required for marketing of services.
4. To analyse and identify price mix for a service.
5. To explain different types of customer encounters.
6. To explain different types of service personnel.
7. To explain benefit's of service guarantee
8. To measure and analyse levels of customer satisfaction.

### **Financial statement analysis and interpretation (CC6)**

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

1. To develop skills in students in preparation of statement of Profit and Loss account and Balance Sheet as per schedule III of the companies Act 2013.
2. To cultivate skills in students to analyse and interpret financial statements from viewpoint of different stakeholders
3. To acquire the knowledge of Ratio Analysis and Economic Value Added Analysis.
4. To acquaint with the thorough knowledge of cash flow statement preparation and applying the same for decision making.
5. To prepare the students to make viable financial plan based on Ratio Analysis & Cash Flow statement which would be accepted by the financial institutions.

### **Business Communication ( AECC 3) ( Modern Communication Skills )**

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

1. Independently create and present digital stories.
2. Make speeches on various topics.
3. Create and make power point presentations
4. Use social media for communication.
5. Create and use a blog or free websites.
6. Use the e-mail and instant messaging for business communication.
7. Conduct effective meetings.

**S.Y.B.COM Semester: IV****Fundamentals of Investment (CC 12)**

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

- To make investment decisions.
- To classify and relate investment avenues.
- To discover the market participants.
- To demonstrate and practice online and offline trading in securities.
- To identify security market indices.
- To find out sources of financial information.
- To examine the impact of taxes and inflation on returns.
- To classify different types of bonds.
- To examine and interpret the risk involved in bonds and its pricing.
- To apply fundamental and technical analysis before making investment decision.
- To analyse price to book value ratio.
- To find out intrinsic value.
- To develop a portfolio based on risk and return.
- To use mutual fund and financial derivatives for investment purpose.
- To recognize role of SEBI and stock exchange in investor protection.
- To utilize redressal system to solve investor's grievances.
- To prevent insider trading.
- To collect information for the purpose of investor awareness.

**Subject: Income Tax ( Direct Tax) (CC13)**

1. To provide basic knowledge to the students regarding concepts of Income tax Act 1961 and the relevant rules.
2. To acquire the knowledge in computation of Income from salaries, Profits and Gains of Business or Profession, with different related sections of Income Tax Act.
3. To learn the permissible deductions under chapter VI- A.
4. To develop skills in computing Income from Salary, Profits & Gains of Business or Profession with the permissible deductions.
5. To prepare students with practical experience of computing Income from Salaried Class and Income from Business or Profession.

**Subject: Accounting**  
**Paper: Accounting for Service Organisations (CC14)**

On completion of the four units of the syllabus, the students will be able to:

1. Describe Banking companies, General Insurance companies, Hotels and Underwriters.
2. Familiarize with the workings of above mentioned companies.
3. Identify legal provisions in preparation of various ledger accounts.
4. Prepare different schedules in accordance with the provisions of law applicable to these companies.
5. Prepare Balance sheet and Profit and Loss account applying generally accepted accounting principles.
6. Develop problem solving competency.
7. Apply appropriate judgment while solving practical problems.
8. Make use of given information for possible interpretations in accounting.

**Paper: Event Management--Generic Elective**

Students will be able to:

1. Recall the growth and present scenario of event management industry in India.
2. List the various types of Events based on its size and types.
3. List the issues in event management and find out suitable solutions for them.
4. Evaluate the success of events.
- 5. Familiarise themselves with event risks and regulations.**
- 6. Write an event planning proposal.**
- 7. Draft the contents of event planning contract.**
- 8. Outline the work involved in planning and management of event teams and crew.**
9. Describe the concept of event planning , the work of event co-ordinator
  - a. Event roles and responsibilities
  - b. Event protocol
  - c. Event itinerary
  - d. Event planning tools and emergency technology
  - e. Planning event resources
- # seek career as event co-ordinator
10. Identify (and choose) event vendor.
11. Negotiate the best event planner contracts.
- 12. Prepare schedules and checklists for events.**
13. List the functions and role performed by a venue manager.
14. List the event marketing mix.
- 15. Learn to carve a strong event brand and event publicity.**
16. Know the role of public relations and communication in event management.
- 17. Know and prepare event budget and cost sheet.**
18. Discuss financial controls and profit analysis in events.
19. Identify the computer software used in event financing and control.

### **Sub: Introduction to Marketing (CC5)**

After learning this subject the students will be able to:

1. **Explain** the concepts of marketing, market segmentation, elements of marketing mix, types of training, social responsibility of marketing, market research.
2. **Discuss** the scope of marketing.
3. **Classify** different kinds of goods.
4. **Differentiate** between kinds of goods, macro and micro environment, bases of market segmentation.
5. **Identify** the bases for segmentation used by different companies in India, kinds of goods, methods of sales compensation used by different employers, methods of training sales force, kiosk operating at different places.
6. **Summarise** the need for consumer protection, factors affecting consumer behavior.
7. **Illustrate** the different factors affecting macro environment, examples of different brands using telemarketing.
8. **Examine** the alternative marketing entry strategies used by different companies in India.
9. **Collect** information about retailers using catalogue marketing and telemarketing.
10. **Apply** the concept of marketing environment, consumer behavior, online marketing in real life situation.

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### **Sub: Business Environment- II (GE 5)**

After learning this subject the students will be able to:

1. **Explain** the components of economic environment, different economic policies adopted by India, functions of GCCI and GSIC, Economic planning in India, composition of International Finance Corporation's Ease of Doing business Index.
2. **Describe** the overview of Industrial policy of India till 1990.
3. **Differentiate** between capitalism, socialism and mixed economy.
4. **Discuss** consumer protection Act, 1986, Environment protection Act, 1986, India's performance on Ease of Doing Business Index in recent years, effect of Make in India on business.
5. **Identify** the environmental issues in Goa, international events in India and its impact on Indian industry.
6. **Collect** information on Industrial estates in Goa, current performance of Goa on important socio- economic and economic indicators, MNC's operating in Goa.
7. **Examine** the implications of different economic policies in India and Goa viz; employment policy, industrial policy, monetary policy etc.
8. **Apply** RTI 2005, consumer protection Act, 1986 in real life situation.

## **Subject : Business laws-II**

### **Unit I : Introduction to Regulatory Framework of Companies**

The student will be able to :

1. Outline basic features of company.
2. Define Company.
3. Identify different types of Companies.
4. Classify different types of Companies.
5. Distinguish into types of Companies.
6. List out factors of memorandum of Association and Article of Association
7. Draft memorandum of Association and Articles of Association.
8. Determine how shares are allotted and forfeited.
9. Choose appropriate authorities for dispute redressal.

### **Unit -II Management of Companies.**

The student will be able to :

1. Identify different types of directors.
2. Classify different types of directors.
3. Analyse grounds for Removal of directors.
4. Identify powers and duties of directors.
5. List out types of meetings.
6. Differentiate between meetings of shareholders. And board of directors.
7. Draft a requisites of meetings.
8. Analyse different types of committee.

### **Unit III Books of Accounts , winding -up and Insider Trading**

The student will be able to :

1. Outline modes of winding -up
2. Explain about books of Accounts.

### **Unit IV Intellectual property Rights**

The student will be able to :

1. Identify different types of Intellectual property Rights.
2. Describe patents, copy right and trademark.
3. Prepare procedure for registration of a patents, copy right, trademark.
4. Predict to use various remedies in case of violations.
5. Classify into patents, copy rights, Trademarks.



**T.Y.B.Com. Semester VI**

**Subject : Business Management**  
**Paper : Major 1 Services Marketing II**

After completing the course on Services Marketing II, the student will be able to:

1. **Explain** Tourism and Hospitality Services
2. **Describe** different types of bank products in India
3. **Discuss** different types of insurance policies in India
4. **Explain** landmark developments in insurance sector in India
5. **Analyze** emerging trends in marketing of services

**Subject: Business Management**  
**Paper: Major II Financial Management**

On completion of the five units of the syllabus, the students will be able to:

1. Identify the need and importance of current assets in the business and its impact on payment of dividend to shareholders.
2. Calculate the requirements of working capital, EOQ and various levels of inventory.
3. Prepare cash budget to determine excess cash or any shortfall of cash.
4. Make use of financial statements to obtain required data for analysis.
5. Analyze the costs and benefits associated with management of working capital, cash, receivables and inventory.
6. Develop problem solving competency.
7. Apply different models in arriving at decisions like dividend policy decision, credit and collection policy decision, etc.
8. Interpret the analysis and find out their relevance in decision making.

**Subject : Business Management**  
**Paper : Major III Strategic Management**

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

1. Explain & classify different corporate level strategies used in business.
2. Describe growth related strategies & compare the different growth related strategies.
3. To explain different strategies such as generic, competitive, offensive, defensive etc. and relate it to the Industry.
4. Describe the concept of globalization, stages & strategies of globalization.
5. Able to formulate different types of strategies for Industries.
6. Able to explain the change process, barriers to change & implementation of strategic change.

### **Human Resource Management**

After completing the course on Human Resource Management, the student will be able to:

1. **Explain** the concepts associated with Human Resource Management
2. **Describe** the processes associated with Human Resource Management
3. **Analyze** systems of wage payment and wage incentive plans
4. **Explain** different forms of Employee Empowerment and different forms of Workers Participation in Management
5. **Differentiate** between statutory and non-statutory labour welfare measures.
6. **Understand and apply** recent trends in Human Resource Management

### **Accounting Major I**

After completing the course on Accounting Major I, the student will be able to:

1. **Solve** accounting problems on preparation of Liquidator's Final Statement of Account
2. **Explain** disclosure of accounting information in profit and loss account and balance sheet of banks.
3. **Prepare** statement of Profit and Loss and Balance Sheet of Companies.
4. **Solve** problems on final accounts of General Insurance Companies.
5. **Analyze** financial reports of companies.

### **Accounting Major II: Income Tax and Goods & Service Tax**

After completing the course on Human Resource Management, the student will be able to:

1. **Determine** taxable Income under the head Income from House property, Capital Gain and Other Sources.
2. **Apply** the Deductions under section 80C to 80 U.
3. **Compute** Total Taxable Income & Tax there on payable by the Individual assessee.
4. **Understand and Describe** concepts of filling of return and advance payment of tax.
5. **Explain** the terminology under Goods and Service tax Act.

### Accounting Major 3 (Auditing II)

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The students will be able to do,

- **Explain** the qualifications, disqualifications, rights and duties of an auditor.
- **Assist** in conducting audit of a firm.
- Compute managerial remuneration, divisible profit and dividend and apportionment of the same.
- **Identify** the accounting frauds and errors during his audit work.
- **Assist** in conducting audit of Banks, Insurance company, education institution, cooperative society and hotel industries.
- **Explain** the various case laws and implication of the same in the audit work.
- **Describe** the process of conducting tax audit, management audit, cost audit, social audit and forensic audit for different organizations.

### Cost & Management Accounting Major I: Income Tax

After completing the course on Human Resource Management, the student will be able to:

1. **Explain** the definitions of the various terms under sec. 2 of the Income Tax Act.
2. **Compute** the Residential Status and Scope of total of the Individual for the Assessment Year.
3. **Determine** the Individuals Income Under the Head Income from Salary and Profits and Gains From Business or Profession.
4. **Explain** computation of Income from House Property and Other Sources of the Individual.
5. **Apply** the Deductions under section 80C to 80 U.

### Cost and Management Accounting Major II : Techniques of Costing

A Student will be able

1. To analyse difference between actual and budgeted sales.
2. To measure the profitability of the firm.
3. To determine the Break Even Point of the firm.
4. To analyse and identify standard cost and the actual cost paid for the actual number of hours.
5. To explain methods for pricing transaction within and between the enterprise.
6. To explain system of control.
7. To explain various management reports.
8. To explain and use the cost accounting techniques in decision making.

## **Entrepreneurship Development**

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

1. Explain the meaning & classification of Small Scale Industries.
2. Understand the procedure of starting S.S.I. and apply in starting business unit.
3. Describe the different functional areas of business.
4. Acquire knowledge of different Institutions supporting Entrepreneurs.
5. Explain the different types of incentives & subsidies offered by the Government.
6. Identify & classify the responsibilities of Entrepreneur towards different interest groups.
7. Explain Industrial sickness its causes, consequences & suggest majors to overcome Industrial sickness.