AC/14/06/2021/RS1

SIES College of Arts, Science & Commerce (Autonomous)

RISE WITH EDUCATION

NAAC REACCREDITED - 'A' GRADE

Sion (West), Mumbai – 400022.

(Autonomous)

Faculty: Humanities
Programme: B.A.M.M.C.
B.A. in Multimedia and Mass Communication
Programme Code: SIUA3

Academic Year: 2021-2022

Choice Based Credit System
Syllabus approved by
Board of Studies in B.A.M.M.C with effect from 1st June 2021

Syllabus for First Year Courses of

Multimedia and Mass Communication 2021-22

Preamble

The Department of Mass Media:

To create communication leaders dedicated and committed towards our Nation's upliftment and growth.

The First Year Bachelor of Multimedia and Mass Communication programme aims to mentor the students and develop their communication skills, computer skills, awareness about society and media.

The course is designed to provide the students with an elementary knowledge of media theories and understanding concepts involving mass communication, marketing, advertising, journalism.

The key goal is to offer students with facilities that can enhance their potential talents and make way for a suitable career in the vast arena of Multimedia and Mass Communication.

SIES College of Arts, Science & Commerce, Sion-West
(Autonomous)
Programme Code: SIUA3 – B.A. in Multimedia and Mass Communication (B.A.M.M.C.)
Choice Based Credit Grading System

Department of Mass Media

- **Course Assessment Scheme:**
  Classification of Assessment Work Plan: Each Term course wise weightage:

A. Internal Assessment:	40 Marks
B. Term End External Theory Examination:	60 marks
Total Marks:	100 marks

A. Internal Assessment: 40 Marks

Serial Number	Marks distribution	Components
1.	20	Class Test/Mid-term examination/Viva-Voce
2.	15	List of the assessment modes: a. Extension/Field work/Projects/Survey/Polls b. Viva-voce/Quiz/Objective Test/Assignments c. Case let/review writing/photo essays/journals d. Presentations (audio/visual, PowerPoint slides clips, documentaries, short-films, storyboard)/poster exhibitions/ Role-plays e. Customization of assessment mode 1 to 4 mentioned above according to the course paper requirement equivalently.
3.	05	Overall attendance of students and class participation and mannerisms during the instructional deliveries and showcase of talent in extra-curricular activities/ volunteering on various front and back end festive platforms, correspondingly.

B. Term End External Theory Examination: Objectives and descriptive type of questions carries total of 60 marks and duration of 2hours each course respectively.

- **External Theory Examination: 60 Marks (60%) [***ONLINE]*

Duration: 1 Hour; Total Marks: 60; All Questions are Compulsory

External Exam paper pattern: Objective questions 60 marks:

- Section 1: *30 questions of 1 mark each* = 30 marks
- Section 2: *15 questions of 2 marks each* =30 marks

- **External Theory Examination: 60 Marks (60%) [***OFFLINE]*
  Duration: 2 hours. Total Marks: 60
  All Questions are Compulsory carrying 15 Marks each.

Q1.	Application based/ Case Study/ any practical area related to respective industry - Compulsory	15 Marks
Q2 Q2. a + b	Full Length Concept based in detail OR Short Essay	15 Marks or (8 + 7)
Q3. Q3. a + b	Full Length Concept based in detail OR Short Essay	15 Marks or (8 + 7)
Q4.	Write Short notes on/ Expand terminologies with Illustrations (Any 3 out of 5)	15 Marks

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Class: F.Y.B.A.M.M.C | Semester: I | Number of Lectures Allotted: 48

Course name: Foundation Course-I | Marks: 100

Course code: SIUBAMMC12 | Course Credit: 2 points

Course Learning Objectives:

This course will develop the students' ability to:

- Enumerate the concept of multi-cultural diversity of Indian society
- Discuss the concepts of disparity as arising out of stratification and inequality.
- Examine the concept of disparity due to caste system, conflicts, regionalism, and linguistic differences.
- Explain the philosophy of Indian constitution with structure, duties, and features strengthening the social fabric of Indian Society.
- Analyse the significant aspects and implications of political processes in Indian politics, government, and women in politics.
- Assessing the growing social problems in India and their impact on youth, elders, and women in society.

Course Outcomes:

At the end of the completion of this course the learner will be able to:

1. Enumerate the multi-cultural diversity of Indian society through its demographic composition and concept of linguistic diversity in the Indian situation.
2. Discuss the concept of disparity as arising out of stratification and inequality of gender portrayal of women in media, issues of people with disabilities.
3. Examine the inequalities due to caste system, inter-group conflicts, regionalism, and linguistic differences.
4. Explain the philosophy of Indian Constitution with structure, preamble, schedules, duties, values, and features in strengthening the social fabric of Indian society and Judicial Activism.
5. Analyse the party system in Indian politics, local self-government, amendments, implications for inclusive politics with the role and significance of women in politics.
6. Assess the growing social problems, challenges and implications on youth, elders, child labour, abuse and trafficking of women.

Course Contents:

Unit 1: **Overview of Indian Society: (06 lectures)**

Understand the multi-cultural diversity of Indian society through its demographic composition: population distribution according to religion, caste, and gender; Appreciate the concept of linguistic diversity in relation to the Indian situation; Understand regional variations according to rural, urban and tribal characteristics; Understanding the concept of diversity as difference.

Unit 2: **Concept of Disparity - 1: (08 lectures)**

Understand the concept of disparity as arising out of stratification and inequality; Explore the disparities arising out of gender with special reference to violence against women, female foeticide (declining sex ratio), and portrayal of women in media; Appreciate the inequalities

faced by people with disabilities and understand the issues of people with physical and mental disabilities.

Unit 3: **Concept of Disparity - 2:** **(08 lectures)**

Examine inequalities manifested due to the caste system and inter-group conflicts arising thereof; Understand inter-group conflicts arising out of communalism; Examine the causes and effects of conflicts arising out of regionalism and linguistic differences.

Unit 4: **The Indian Constitution:** **(08 lectures)**

Philosophy of the Constitution as set out in the Preamble; The structure of the Constitution-the Preamble, Main Body and Schedules; Fundamental Duties of the Indian Citizen; tolerance, peace and communal harmony as crucial values in strengthening the social fabric of Indian society; Basic features of the Constitution, Judicial Activism**.**

Unit 5: **Significant Aspects of Political Processes:** **(08 lectures)**

The party system in Indian politics; Local self-government in urban and rural areas; the 73rd and 74th Amendments and their implications for inclusive politics; Role and significance of women in politics.

Unit 6: **Growing Social Problems in India:** **(10 Lectures)**

a. Substance abuse- impact on youth & challenges for the future
b. HIV/AIDS- awareness, prevention, treatment, and services
c. Problems of the elderly- causes, implications, and response
d. Issue of child labour- magnitude, causes, effects and response
e. Child abuse- effects and ways to prevent
f. Trafficking of women- causes, effects, and response

References:

- Foundation Course by Bina Sarkar; Himalaya Publishing House
- Foundation Course by Vipan Sharma; Himalaya Publishing House

Internal Assessment Methodology: -

1. Project/Assignment
2. Debate & Group discussion/ Presentation

Class: F.Y.B.A.M.M.C | Semester: I | Number of Lectures Allotted: 60

Course name: Fundamentals of Mass Communication | Marks: 100

Course code: SIUBAMMC14 | Course Credit: 4 points

Course Learning Objectives:

This course will develop the students' ability to:

- Examine the concept, importance, types, and models of mass communication.
- Review the history of mass communication from traditional to contemporary media.
- Illustrate between the major forms of media from folk to internet.
- Analyse the impact of mass media on society.
- Evaluate the concept of new media and media convergence and its implications.

Course Outcomes:

At the end of the completion of this course the learner will be able to:

1. Examine the meaning, importance, forms, and models of mass communication.
2. Review the history of mass communication from oral to traditional communication, electric to electronic to digital communication till the contemporary scene in Indian communication and landscape.
3. Illustrate amongst the traditional folk media, print media, broadcast media, films, PR, and internet as major forms of mass media as a social institution.
4. Analyse the social, political, economic, developmental impact of mass media on society, education, children, women, youth, culture, and developmental sections.
5. Evaluate and trace the elements, features, challenges, and technologies used in new media with future prospects.

Course Contents:

Unit1: Introduction and overview: (12 lectures)

a) Meaning and importance, scope of Mass Communication
b) Forms of Communication: Intrapersonal Communication, Interpersonal Communication, Group Communication, Mass Communication: Electronic, Satellite, Interactive.
c) Digital Communication and mass media culture
d) Models of Communication: Gerber's Model, Sociological Model, Gatekeeping Model, Defleur's Model of the Taste-differentiated Audience Model, Hub Model, Sadharanikaran, Aristotle, Transactional, Laswell.

Unit 2: History of Mass Communication: (12 lectures)

a) From oral to communication (kirtan, Davandi, Powada, Nagara)
b) From Electric to Electronic communication, From electric to Digital communication, Contemporary scene in Indian communication landscape
c) Tribal Communication. (art, visual, significance)

Unit 3: Major Forms of Mass Media: **(12 lectures)**

a) Traditional & Folk Media:
b) Print: Books, Newspapers, Magazines
c) Broadcast: Television, Radio
d) Films
e) Internet and PR

Unit 4: Impact of Mass Media on Society: **(12 lectures)**

A. Environmental impact-

i. **Social Impact** (With social reformers who have successfully used mass communication)
ii. **Political Impact** (With political leaders who have successfully used mass communication)
Political participation, Movement, elections, voting behavior
iii. **Economic Impact** (With how economic changes were brought about by mass communication)
iv. **Developmental Impact** (With how the government has successfully used mass communication)

B. Impact of Mass Media on -1 Education, 2. Children, 3. Women, 4. Culture, 5. Youth, 6. Development.

Unit 5: The New Media and media convergence: **(12 lectures)**

a) Elements and features of new media, Technologies used in new media,
b) Major challenges to new media Acquisition-personal, social, and national, future prospects.
c) Prospects in media industry.
d) Development Communication concept and digital democracy

A. References:

1. Mass Communication Theory: Denis Mcquail
2. Mass Communication: Rowland Lorimer
3. The Media in Your Life: An Introduction to Mass Communication: Jean Folkerts and Stephen Lacy (Pearson Education)
4. Mass Communication Effects: Joseph Klapper
5. Mass Communication & Development: Dr. Baldev Raj Gupta
6. Mass Communication in India: Keval J Kumar
7. Mass Communication Journalism in India: D S Mehta
8. The Story of Mass Communication: Gurmeet Singh
9. Perspective Human Communication: Aubrey B Fisher.
10. Communication Technology & Development: I P Tiwari
11. The Process of Communication: David K Berlo
12. Cinema & Television: Jacques Hermabon& amp; Kumar Shahan.
13. Mass Media Today: Subir Ghosh
14. Mass Culture, Language & arts in India: Mahadev L Apte
15. Communication Facts & Ideas in Business: L. Brown (Prentice Hall).
16. India's Communication Revolution: ArvindSinghal and Everett Rogers.
17. The Myth of Mass Culture: Alan Swing wood
18. Communication: C.S. Rayadu,(Himalaya Publishing House, Mumbai).
19. Communication-concepts &Process: Joseph A Devito

20. Lectures on Mass Communication: S Ganesh.

B. Internal assessment methodology:

1. Oral & Practical Presentations
2. Projects / Assignments
3. Debates /Group Discussion
4. Open Book Tests
5. Quiz

Class: F.Y.B.A.M.M.C Semester: II Number of Lectures Allotted: 48

Course name: Effective Communication – II Marks: 100

Course code: SIUBAMMC21 Course Credit: 3 points

Course Learning Objectives:

This course will develop the students' ability to:

- Outline the basics and format of various types of general and news report under report writing.
- Review organizational writing skill in English, Hindi, or Marathi for communicating with internal and stakeholders.
- Write for publicity materials in English, Hindi, or Marathi.
- Illustrate principles of Editing, Coherence and cohesion in newspaper and magazine editing.
- Evaluate the use of paraphrase, plagiarism, translation, and summarization of content brief in communication.
- Interpret graphs, maps, charts on technical data.

Course Outcomes:

At the end of the completion of this course the learner will be able to:

1. Write general reports, types of news report, press release, letters to editors and consumer grievance letters.
2. Review email, letters, circulars for internal and stakeholders' communication under organisational writing.
3. Compose publicity material for print and radio in English, Hindi, or Marathi from Headline to Spot.
4. Illustrate newspaper and magazine editing and write synopsis, abstracts, and précis writing.
5. Evaluate the use of paraphrasing in plagiarism, translation in communication and summarisation of content.
6. Infer graphs, maps, and charts related content based on the technical data.

Course Contents:

1. **Writing: Media of written communication**
   a) Report writing-
   Report Writing (English, Hindi or Marathi) General report and News report writing - Basics and Format (Headline, Sub-headline, various type of report
   b) Organizational communication and writing-
   Organizational writing : (English, Hindi or Marathi) Internal communication , E-mails - Email E-mail Etiquette; Overcoming Problems in E-mail Communication, Stake holder communication Circulars- Guidelines for writing a circular- Languages and writing style of a circular- Format of a circular; Notices- Purpose- Format- Important points to remember while writing a notice, Letters of complaint, claim and adjustment, Consumer grievance letters, Letters under the

Right to Information Act, Press Release, Letter to the Editor.

7Cs by Francis Bergin of successful communication

c) Writing for Publicity materials

Writing for Publicity materials (English, Hindi or Marathi) Headline, sub- headline, Body copy, Slogan, Jingle, Radio spot

2. Editing:

a) Editing-

Editing: (English, Hindi and Marathi) Principles of editing (Punctuation, Substitution of words, restructuring of sentences, Re-organizing sentence sequence in a paragraph, Use of link words, Principles of Coherence and Cohesion), writing synopsis, abstracts, précis writing, newspaper editing and magazine editing.

3. Paraphrasing and Summarizing:

a) Paraphrasing-

Meaning, how to use paraphrase in communication, Paraphrase in plagiarism, Translation

b) Summarization-

Summarizing content, the points and sub- points and the logical connection between the points

4. Interpretation of technical data:

a) Interpret technical data-

Read graphs, maps, charts, write content based on the data provided

References: -

- Business Communication - Rhoda A. Doctor and Aspi H. Doctor
- Communication Skills in English – Aspi Doctor
- Teaching Thinking - Edward De Bono De Bono's
- Thinking Course – Edward De Bono Serious Creativity –
- Edward De Bono The Mind Map Book – Buzan Tony
- Becoming a Translator: An Introduction to the Theory and Practice of Translation - by Douglas Robinson
- A Textbook of Translation - by Peter Newmark, Newmark

Internal assessment methodology: -

Project/Assignment

b) Clipping files on various current topics.
c) Publish letters to editors in news media.
d) Reporting of college events.

Class: F.Y.B.A.M.M.C | Semester: II | Number of Lectures Allotted: 48

Course name: Foundation Course-II | Marks: 100

Course code: SIUBAMMC22 | Course Credit: 2 points

Course Learning Objectives:

This course will develop the students' ability to:

- Describe the concepts of growth in Liberalisation, Privatisation and Globalisation in Indian Society.
- Discuss the origin and evolution of concepts of Human rights with reference to fundamental rights.
- Examine the importance of environment studies in the current developmental context.
- Identify the causes of stress and conflicts in individual and society.
- Classify the types of conflicts and managing stress in Contemporary society.
- Enumerate contemporary societal challenges in a globalised world.

Course Outcomes:

At the end of the completion of this course the learner will be able to:

1. Explain the concept of Liberalisation, Privatisation and Globalisation, and its impact on everyday life and industry.
2. State the concept of human rights, UDHR and fundamental rights stated in the constitution.
3. Infer the importance of environment, ecology, its degradation, and sustainable development under environmental studies.
4. Examine the cause of stress, conflict in individuals and society and significance of values and ethics in society.
5. Analyse the coping mechanisms and strategies for managing stress and conflicts for peace and harmony in contemporary society.
6. Identify the contemporary societal problems namely urbanisation, lifestyle, agrarian distress, and youth related challenges.

Course Contents:

1. **Globalisation and Indian Society: (06 lectures)**
   Understanding the concepts of liberalization, privatization, and globalization; Growth of information technology and communication and its impact manifested in everyday life; Impact of globalization on industry: changes in employment and increasing migration; Changes in agrarian sector due to globalization; rise in corporate farming and increase in farmers' suicides.

2. **Human Rights: (08 lectures)**
   Concept of Human Rights; origin and evolution of the concept; The Universal Declaration of Human Rights; Human Rights constituents with special reference to Fundamental Rights stated in the Constitution.

3. **Ecology**: **(08 lectures)**
   Importance of Environment Studies in the current developmental context; Understanding concepts of Environment, Ecology, and their interconnectedness; Environment as natural capital and connection to quality of human life; Wildlife (Protection) Act,1972, Environmental Degradation- causes and impact on human life; Sustainable development- concept and components; poverty and environment

4. **Understanding Stress and Conflict: (08 lectures)**
   Causes of stress and conflict in individuals and society; Agents of socialization and the role played by them in developing the individual; ethics, and prejudices in developing the individual; Stereotyping and prejudice as significant factors in causing conflicts in society. Aggression and violence as the public expressionof conflict.

5. **Managing Stress and Conflict in Contemporary Society : (08 lectures)**
   Types of conflicts and use of coping mechanisms for managing individual stress; Maslow's theory of self-actualization; Different methods of responding to conflicts in society; Conflict-resolution and efforts towards building peace and harmony in society.

6. **Contemporary Societal Challenges: (10 lectures)**
   a. Increasing urbanization, problems of housing, health and sanitation.
   b. Changing lifestyles and impact on culture in a globalized world.
   c. Farmers' suicides and agrarian distress.
   d. Debate regarding Genetically Modified Crops.
   e. Development projects and Human Rights violations.
   f. Increasing crime/suicides among youth.

References: -

Foundation Course by Bina Sarkar; Himalaya Publishing House

Internal assessment methodology:

6. Oral & Practical Presentations
7. Projects / Assignments
8. Debates /Group Discussion
9. Open Book Tests
10. Quiz

Department of Mass Media

Class: F.Y.B.A.M.M.C | Semester: II | Number of Lectures Allotted: 60

Course name: Content Writing | Marks: 100

Course code: SIUBAMMC23 | Course Credit: 4 points

Course Learning Objectives:

This course will develop the students' ability to:

- Recall the foundation of grammar, vocabulary, common errors, usage of phrases and idioms.
- Demonstrate editing skills in words, sentences, and story.
- Recognise the basics of writing techniques and tips.
- Demonstrate presentation tools, search technique and checks.
- Examine the importance of writing for the web and copy writing for print and social media.

Course Outcomes:

At the end of the completion of this course the learner will be able to:

1. Restate the grammar, vocabulary, common errors, creative phrases in English usage and writing structure.
2. Illustrate editing skills through editing redundant words, captions, headlines and copy in writing.
3. Rewrite the use of writing for news tickers, social media post, briefs, snippets, captions, and headlines.
4. Evaluate the use of power point presentation, advance search techniques and conduct plagiarism checks.
5. Explain the importance of content, writing for print and social media with reference to usage of SEOs and Ad campaigns.

Course Syllabus

2. Foundation: (12 lectures)

a) Grammar Refresher- (4)
With special emphasis on use of punctuations, prepositions, capital letters and lower case, figures of speech

b) Vocabulary building - (3)
Meaning, usage of words, acronyms, antonyms, synonyms, connectors, misspelt words

c) Common errors - (2)
Homophones and common errors in English usage, identifying common mistakes

d) Essentials of good writing - (3)
With emphasis on writing with clarity, logic and structure and connectors
The ABCD of Media Writing: Accuracy, Brevity, Clarity & Discernment
Create critical thinking skills and behaviours

3. Editing Skills: (12 lectures)

a) Redundant words (1)
Identifying redundant words and phrases and eliminating these.

b) Editing sentences - (2)
Editing redundant words/ phases and replacing wrong words/ punctuation/ grammatical error

c) Editing captions- (2)
Editing redundant words/ phases and replacing wrong words/ punctuation/ grammatical error

d) Editing headlines- (3)
Editing redundant words/ phases and replacing wrong words/ punctuation/ grammatical error

e) Editing copy - (4)
Structuring a story, creating a flow, editing redundant words/ phrases, and replacing wrong words/punctuation/grammatical error, proof reading symbols

4. Writing Tips and Techniques: (12 lectures)

a) Writing tickers/ scrolls- (2)
For television new

b) Writing social media post - (2)
Twitter and for other social networks

c) Writing briefs/snippets - (3)
News briefs, Lifestyle, and entertainment snippets

d) Caption writing- (3)
Picture stories, photo story, click-a-tale.

e) Writing headlines- (2)
News headlines and feature headlines

5. Presentation Tools And Techniques: (12 lectures)

a) Power Point Presentation- (2)
Use of Power Point tools
Power Point to Pdf
Power Point to self-animated presentation
Auto timing of Power Point presentation

b) Info graphic- (2)
Colour selection
Use of clip art
Use of Power Point smart tools
Minimalist animation for maximum impact

c) Three-minute presentation- (3)
Content for single slide
Uses of phrases
Effective word selection
Effective presentation

d) Google Advance search- (2)
How to select relevant information
Locating authentic information
How to gather information for domestic and international websites

e) Plagiarism- (3)
How to do a plagiarism check
Paraphrasing
Citation and referencing style

6. **Writing for the Web :** **(12 lectures)**
   a) Content is King- (2)
      Importance of content, tools, tips.
   b) Less is more - (2)
      Writing for print media/ social media like Twitter, etc
   c) Copy writing - (4)
      Ad campaigns (creative, witty and attractive), writing appeals, posters, leaflet
   d) Real time content - (2)
      Difference in writing for print vs digital
   e) Keywords- (2)
      Designing keywords for Search Engine Optimization

References: -

1. The Editor's Toolbox by Buck Ryan and Michael O' Donnell, Surjeet Publication
2. Writing for the Mass Media by James Glen Stovall
3. Handbook of Rhetorical Devices by Robert A Harris

Internal assessment methodology: -

The objective of internal exercise is to help the learner develop the skills of writing briefly and effectively.

Project/Assignment:

1. Writing Captions and Headlines-
   Simple writing is difficult. This assignment will help the learners to grasp the most essential aspect of a story and present these as headlines and captions
2. A three- minutes power point presentation-
   This assignment challenges the learners to draw the essence of elaborate reports, research papers and present in three minutes
3. Word Game/ Quiz-

This is an exciting way to get learners enga

Department of Mass Media

Class: F.Y.B.A.M.M.C | Semester: II | Number of Lectures Allotted: 60

Course name: Introduction to Advertising | Marks: 100

Course code: SIUBAMMC24 | Course Credit: 4 points

Course Learning Objectives:

This course will develop the students' ability to:

- Introduce and impart the basic concepts of marketing to advertising from evolution to the theories.
- Explain integrated marketing communication with its role, process, and its tools under advertising.
- Illustrate the use of creativity, its process, strategies, and role of different elements of copy in advertising.
- Outline the types of advertising agency department, careers, and latest trends in advertising.

Course Outcomes:

At the end of the completion of this course the learner will be able to:

1. Explain the fundamentals of marketing, scope, environment, forms, marketing mix and product life cycle.
2. Articulate the evolution, important types, ethics, and impact of advertising with the theories under introduction to advertising.
3. Explain the role, communication process of integrated marketing communication and different tools namely print, broadcast, PR, and sales promotion with direct marketing.
4. Demonstrate the use of creativity in advertising from process, strategy, appeals to the elements of copy in creating a storyboard.
5. Examine the types of advertising agency and various departments in an agency with latest trends namely rural to mobile advertising.

Course Contents:

1. **Fundamentals of Marketing (as a Bridge Course component) (12 lectures)**
   Meaning, scope, importance of Marketing, Core concepts, Customer value-utilities in marketing, Marketing Environment, Marketing mix, Market segmentation and Product Life Cycle and introducing STP.

2. **Introduction to Advertising: (18 lectures)**
   a) Introduction to Advertising - (2)
   Evolution, importance, Features, benefits, limitation, effects and 5M's of advertising
   b) Types of Advertising- (2)
   Consumer, Industrial, Retail, Classified, Corporate, Public service, Generic, National, Global, International, Social (CSR) and Advocacy
   c) Ethics and Laws in Advertising - (4)
   Puffery, Subliminal, Weasel claim, Surrogate, Shocking ads, Controversial,

Comparative, Advertising code of ethics, Regulatory bodies, Laws, and regulations

d) Social, Cultural and Economic impact of Advertising - (4)
Women and advertising, Children and advertising, Senior citizen and advertising, Pop Culture and advertising

e) Theories - (6)
Stimulus theory, AIDA, Hierarchy, Means- End Theory

3. Integrated marketing communication and tools: (10 lectures)

a) Integrated marketing communication- (2)
Emergence, Role, Tools, Communication process, The IMC Planning Process

b) Print Media and Out-of Home Media - (2)
Basic concepts, Types of Newspapers advertising, advantages and disadvantage of Newspaper advertising, Magazines, Factors to consider for magazine advertising, Out-of-home Advertising, On- premises advertising, Transit advertising, Posters, Directory advertising

c) Broadcast Media - (2)
Radio advertising Advantages and Disadvantages of Radio advertising, Television advertising and its Advantages and Disadvantages, Film advertising and Product placement - Advantages and Disadvantages

d) Public Relation - (2)
Meaning of Public Relations, Types of public relations Difference between public relations and advertising, Difference between Publicity and Advertising, Advantages and Disadvantages of Public Relations, Advantages and Disadvantages of Publicity

e) Sales Promotion and Direct marketing- (2)
Growth and Types of Sales promotions, Advantages and Disadvantages
Growth of Direct marketing and its tools Advantages and disadvantages

4. Creativity in advertising: (14 lectures)

a) Introduction to Creativity- (6)
Importance of creative process, Creative strategy development Determining message theme, big idea, positioning strategies, Types of appeals

b) Role of different elements in ads- (6)
Logo, Jingle, Company signature, Slogan, tagline, illustration, Creating Radio commercial –Words, sounds, clarity, coherence etc.

c) Elements of copy - **(2)**
Headline, Sub headline, Layout, Body copy, Types of copy and slogan, creating story board

5. Types of advertising agency, department, careers and latest trends in advertising : (6 lectures)

a) Types of advertising agency - (2)
Full service, Creative boutique, Media buying agency, In- house agency, Specialized Agencies and others

b) Various departments in an agency - (2)
Account handling, Production, Art, Copy, and Media, Public relation, Human resources, Finance, and others

c) Latest Trends - (2)
Rural advertising, Ambush advertising, Internet advertising, email advertising Advertainment, advertorial, mobile advertising

References:

1) Advertising Principles and Practices (7th Edition) William D. Wells, John Burnett, Sandra Moriarty
2) Adland: Global History of advertising by mark Tungate
3) Copy pastes: How advertising recycle ideas by Joe La Pompe
4) Indian Advertising: Laughter & Tears by Arun Chaudhuri
5) Adkatha The Story of Indian Advertising by Halve Anand
6) Pandeymonium by Piyush Pandey
7) Introduction to Advertising – Amita Shankar
8) Contemporary Advertising – Loudon & Britta
9) Advertising – Pearson Education
10) www.afaqs.com
11) www.exchange4media.com
12) www.adweek.com

Internal assessment methodology:

1. Individual/ group project should be given to develop an advertising strategy on any product or service
2. Write a story board/ types of copy.
3. Big Idea – Group project

Class: F.Y.B.A.M.M.C Semester: II Number of Lectures Allotted: 48

Course name: Media, Gender & Culture Marks: 100

Course code: SIUBAMMC26 Course Credit: 3 points

Course Learning Objectives:

This course will develop the students' ability to:

- Introduce the evolution, need, concepts and theories of cultural studies.
- Discuss the construction, commodification, impact and recent trends in culture and media.
- Recognise the role and influence of media with reference to gender and media culture.
- Identify and investigate the global, local, consumer and the recent trends under globalisation and media culture.

Course Outcomes:

At the end of the completion of this course the learner will be able to:

1. Describe the evolution, features, need, concept and theories under cultural studies and their relevance in media.

2. Explain the construction of the culture, media commodification, impact of media on the societal culture with the trends in cultural consumption.

3. Discover the influence and role of media in the social construction of gender issues for women empowerment: as movements of change in gender equality.

4. Examine the issues involved in local, consumer and media culture with media imperialism in the era of globalisation.

5. Classify the trends and challenges in digital media culture, global culture from global to local.

Course Contents:

Introduction to Cultural Studies:

1. Evolution, Need, Concepts And Theories - **(12 lectures)**

Evolution, features of cultural studies, Need and significance of cultural studies and media

Concepts related to culture-

Acculturation, enculturation, ethnocentrism, cultural relativism, cultural shock, and its relevance in media

Theories:

- Stuart Hall: encoding and decoding, Circuit of culture
- John Fiske: culture and industry
- Feminism and Post feminism
- Techno culture and risk – Ulrich Beck

Culture and Media:

2. Construction, Commodification, Impact and Recent Trends - **(12 lectures)**

a) Construction of culture- social, economic, political, religion and technology
b) Culture, industry, and media- commodification, memes, representation, articulation, popular culture, power, cyber culture
c) Media and its impact on the cultural aspect of the society.
d) Culture industry and communication - with reference, to film, TV, social media, advertisements etc.,
e) Recent trends in Culture consumption: Changing values, Ideologies & its Relevance in the Contemporary society.

Gender and Media Culture:

3. Role and Influence of Media - **(12 lectures)**

a) The influence of media on views of gender (theme, under representation, stereotypes, women and men, stereotype images, roles etc.)
b) Role of media in social construction of gender, Changing attitudes & behaviour for empowerment of women: Movements of change
c) Gender equality and media: Understanding Gender Identity and Challenges: Trans People in the Society/Workplace.
d) Hegemonic masculinity in media
e) Gender issues in news media (TV, radio, newspapers & online news)

Globalisation and Media Culture:

4. Global, Local, Consumer and The Recent Trends - **(12 lectures)**

a) Media imperialism
b) Globalisation and Local culture- Issues and Perspectives, threat to regional and local identities, Impact of global culture and its relevance in media and gender
c) Consumer culture and media in the era of globalisation.
d) Digital Media culture: Recent trends and challenges
e) Media and Globalisation: Global economic flows, global cultural flows, homogenization & fragmentation, glocalization, creolization, globalization & power.

A. References:

1. Media and Cultural Studies: Meenakshi Gigi Durham and Douglas M.Kellner
2. Cultural Studies- Theory and Practice – Chris Barker
3. An Introduction to Cultural Studies- Promod K. Nayar
4. Culture Change in India- Idenitity and Globalisation – Yogendra Singh
5. Indian Media in a Globalised World- Maya Ranganathan Usha M. Rodgrigues
6. Media Gender and Popular Culture in India- Tracking Change and Continiuty – Sanjukthe- Dasgupta

B. Internal assessment methodology:

1. Continuous Assignments
2. Oral & Practical Presentations
3. Group/Individual Projects
4. Class Test
5. Open Book Test

6. Group Interactions
7. Quiz

AC/24.09.2022/RS1

SIES College of Arts, Science & Commerce (Autonomous)

RISE WITH EDUCATION

NAAC REACCREDITED - 'A' GRADE

SYBA Syllabus effective from June 2022

Programme: BA

Programme Code: SIUAINL

Subject: Indian English Literature

Class: SYBA Semester: III and IV

Choice Based Credit System (CBCS)

Semester III/IV

Name of Program: BA			**Name of Department:** ENGLISH			
Class	**Semester**	**Course Code**	**Course Name**	**No. of lectures/ per week**	**Credits**	**Marks**
SYBA	III	**SIUAINL31**	INDIAN ENGLISH POETRY AND DRAMA	3L	4	100
SYBA	IV	**SIUAINL32**	INDIAN ENGLISH FICTION	3L	4	100

Course Name: Indian English Poetry and Drama

Credits: 4

Expected Course Outcomes- Semester III

On completion of this course, students will be able to

1. Identify the elements and influences that shape Indian poetry and drama in English
2. Analyze texts through close reading of plays
3. Understand and analyze themes and poetic devices
4. Evaluate the social and historical context in which the texts are constructed

Sem III: Indian English Poetry and Drama

Preamble: The Indian English Literature course is designed specifically to create interest and develop passion amongst learners towards Indian English poetry, fiction and drama, to read texts by Indian English writers, poets and dramatists with discernment and also to engage with their multicultural environment with sensitivity, empathy, and tolerance. These competencies constitute an essential part of critical literacy which this course seeks to achieve through the units on Indian English poetry, drama, and fiction. These skills have become necessities in an increasingly globalized world where effective expression is being reinforced alongside the skill of critical thinking and discernment. The course seeks to give the learners a platform to learn from the best Indian English writers, poets, and dramatists by appreciating literature and language not merely as tools for expression but also as socio-cultural artefacts.

Learning Objectives:

1. Understand and evaluate literature as an expression of human values within a historical and social context and trace the development of Indian Poetry in English from pre-independence to post independence times.
2. Understand and evaluate literature as an expression of human values within a historical and social context and trace the development of Indian Drama in English from pre-independence to post independence times.

Sem 3: 4 units: Literary Overview and Concepts, Poetry- 1950 to 1980, Poetry- 1980 onwards and Drama

Unit 1: Literary Overview and Concepts: 11 Lectures

Pre-Independence Poetry, Pre-Independence Drama, Post-Independence Poetry, Post-Independence Drama

Unit 2: Poetry- 1950 to 1980 11 Lectures

i.) Nissim Ezekiel: 'The Patriot' and 'The Professor'

ii.) Kamala Das: 'My Grandmother's House' and 'The Looking Glass'

iii.) R Parthasarathy: 'Homecoming' and 'The Stones of Bamiyan'

Unit 3: Poetry- 1980 onwards **11 Lectures**

i.) Menka Shivdasani: 'The Woman Who Speaks to Milk Pots' and 'The Clinging Vine'

ii.) Imtiaz Dharker: 'Postcards from God 1' and 'Hiraeth, Old Bombay'

iii.) Agha Shahid Ali: 'Vacating an Apartment' and 'The Wolf's Postscript to *Little Red Riding Hood*'

Unit 4: Drama **12 Lectures**

Vijay Tendulkar: *Ghashiram Kotwal*

Sem 4: Indian English Fiction

Course Name: Indian English Fiction

Credits: 4
Expected Course Outcomes Semester IV
On completion of this course, students will be able to 1.Remember and understand the elements which influence Indian English Fiction 2.Analyze texts through close reading of short fiction and the novel 3.Understand and analyze themes and literary devices in short fiction and novels. 4.Evaluate the social and historical contexts in which the texts are constructed.

Learning Objectives:

Understand and evaluate literature as an expression of human values within a historical and social context and trace the development of Indian English Fiction from pre-independence to post independence times.

Sem 4: 4 units: Literary Overview and Concepts, Pre-Independence Short Fiction, Post-Independence Short Fiction and The Contemporary Novel

Unit 1: Literary Overview and Concepts: 11 Lectures

English Studies in India, Pre-Independence Fiction, Post-Independence Fiction, Partition Literature,

Unit 2: Pre-Independence Fiction (Short Stories) 11 Lectures i.)

Rabindranath Tagore: "A Wife's Letter"

ii.) R. K. Narayan: "An Astrologer's Day"

iii.) Mulk Raj Anand: "The Lost Child"

Unit 3: Post-Independence Fiction (Short Stories) 11 Lectures

i) Vilas Sarang: "Spider in the Clock"

ii) Manjula Padmanabhan: "Shrinking Vanita"

iii) Shashi Deshpande: "Stone Women"

Unit 4: Contemporary Fiction 12 Lectures Novel:

Amitav Ghosh*: Gun Island*

Scheme of Evaluation Semester III & IV:

Internal Assessment: 40 Marks

Online Class Test: 20 marks

Assignment/ Project/ Presentation: 20 marks

Semester End Paper Pattern: 60 Marks

Sr. No.	Question	Module	Marks
1	Literary Overview and Concepts: Essay 1 out of	Unit 1	15
2	Pre-Independence Fiction (short stories): Essay of 2	Unit 2	15
3	Post-Independence Fiction (Short stories): Essay 1 out of 2	Unit 3	15

4	Novel: Essay 1 out of 2	Unit 4	15

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AC/24.09.2022/RS1

College of Arts, Science & Commerce (Autonomous)

SIES

RISE WITH EDUCATION

NAAC REACCREDITED - 'A' GRADE

SYBA Syllabus effective from June 2022

Programme: BA

Programme Code: SIUAAML

Subject: American Literature

Class: SYBA Semester: III and IV

Choice Based Credit System (CBCS)

Semester III/IV

Name of Program: BA			**Name of Department:** ENGLISH			
Class	**Semester**	**Course Code**	**Course Name**	**No. of lectures/ per week**	**Credits**	**Marks**
SYBA	III	**SIUAAML31**	AMERICAN POETRY AND DRAMA	3L	4	100
SYBA	IV	**SIUAAML32**	AMERICAN FICTION	3L	4	100

Course Name: American Poetry and Drama

Credits: 4

Expected Course Outcomes- Semester III

On completion of this course, students will be able to

1. Identify the elements and influences that shape American poetry and drama in English
2. Analyze texts through close reading of plays
3. Understand and analyze themes and poetic devices
4. Evaluate the social and historical context in which the texts are constructed

PREAMBLE

The American Literature course is designed specifically to create an interest and develop passion amongst learners towards American poetry, fiction and drama, to read texts by American writers, poets and dramatists with discernment and also to engage with their multicultural environment with sensitivity, empathy, and tolerance. These competencies constitute an essential part of critical literacy which this course seeks to achieve through the units on American poetry, drama, and fiction. These skills have become necessities in an increasingly globalized world where effective expression is

being reinforced alongside the skill of critical thinking and discernment. The course seeks to give the learners a platform to learn from the best American writers, poets, and dramatists by appreciating literature and language not merely as tools for expression but also as socio-cultural artefacts.

Learning Objectives:

- To acquaint learners with the various trends and movements that shaped American poetry as an expression of human values within a historical and social context
- To trace the development of poetry in American Literature in the 20th century
- To acquaint the learners with the various trends and movements that shaped American drama as an expression of human values within a historical and social context

Sem 3: 4 units: Literary Overview and Concepts, Poetry- 1900 to 1945, Poetry- 1945 onwards and Drama

Unit 1: Literary Overview and Concepts: 11 Lectures

Confessional Poetry, Beat Generation, African-American Poetry, African American Drama

Unit 2: Poetry: 1900-1945 11 Lectures

i.) Ezra Pound- 'To Whistler, American' and 'Portrait d'une femme'

ii.) e e Cummings: 'anyone lived in a pretty how town' and 'Buffalo Bill's'

iii) Robert Frost: 'Birches' and 'The Road Not Taken'

Unit 3: Poetry: 1945 onwards 11 Lectures

i.) Allen Ginsberg: 'A Supermarket in California' and 'Plutonian Ode'

ii.) Anne Sexton: 'Her Kind' and 'Lullaby'

ii.) Maya Angelou- 'Phenomenal Woman' and 'Still I Rise'

Unit 4: Drama 12 Lectures

Langston Hughes: *Mulatto*

Evaluation Pattern for Sem III:

Internal Assessment: 40 Marks

Online Class Test: 20 marks

Assignment/ Project/ Presentation: 20 marks

Semester End Paper Pattern: 60 Marks

Sr. No.	Question	Module	Marks
1	Literary Overview and Concepts: Essay 1 out of	Unit 1	15
2	Poetry: 1900-1945 Essay 1 out of 2	Unit 2	15
3	Poetry: 1945 Onwards Essay 1 out of 2	Unit 3	15
4	Drama Essay 1 out of 2	Unit 4	15

Sem 4: American Fiction

Course Name: American Fiction Credits: 4
Expected Course Outcomes Semester IV On completion of this course, students will be able to 1.Remember and understand the elements which influence American Fiction 2.Analyze texts through close reading of short fiction and the novel 3.Understand and analyze themes and literary devices in short fiction and novels. 4.Evaluate the social and historical contexts in which the texts are constructed.

Learning objectives:

- To acquaint learners with the various trends and movements that shaped American poetry as an expression of human values within a historical and social context
- To trace the development of poetry in American Literature in the 20th century
- To acquaint the learners with the various trends and movements that shaped American drama as an expression of human values within a historical and social context

Sem 4: 4 units: Literary Overview and Concepts, Short Stories (1900-1945), Short Stories 1945 Onwards and Contemporary Fiction

Unit 1: Literary Overview and Concepts: 11 Lectures

American Dream, Realism and Naturalism, Lost Generation, African American Fiction

Unit 2: Short Stories (1900-1945) **11 Lectures**

i.) Ernest Hemingway: "Cat in the Rain"

ii.) Eudora Welty: "Why I Live at the P.O."

iii.) Zora Neale Hurston: "Sweat"

Unit 3: Short Stories (1945 onwards) **11 Lectures**

i.) John Updike: "Separation"

ii) James Baldwin: "The Rockpile"

iii) Kurt Vonnegut: "Tomorrow and Tomorrow and Tomorrow"

Unit 4: Contemporary Fiction: Novel **12 Lectures**

Kathryn Stockett: *The Help*

Evaluation Pattern for Sem IV:

Internal Assessment: 40 Marks

Online Class Test: 20 marks

Assignment/ Project/ Presentation: 20 marks

Semester End Paper Pattern: 60 Marks

Sr. No.	Question	Module	Marks
1	Literary Overview and Concepts: Essay 1 out of 2	Unit 1	15
2	Short Stories: 1900-1945: Essay 1 out of 2	Unit 2	15

3	Short Stories: 1945 Onwards: Essay 1 out of 2	Unit 3	15
4	Novel: Essay 1 out of 2	Unit 4	15

References

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AC/27.06.2023/RS1

Syllabus with effect from June 2023-24

Programme: BA

Subject: Literature and Gender

Programme Code: SIUAENG

Class: TYBA Semester: V and VI

Choice Based Credit System (CBCS)

Semester V/VI

Name of Program: TYBA			**Name of Department:** ENGLISH		
Class	**Semester**	**Course Name**	**No. of lectures/ per week**	**Credits**	**Marks**
TY	V	LITERATURE AND GENDER	3L	3.5	100
TY	VI	LITERATURE AND GENDER	3L	3.5	100

Course Name: Literature and Gender Course Code: SIUAENG56 Credits: 3.5

Expected Course Outcomes- Semester V

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

- understand the basic concepts in Gender Studies, Sex and Gender, Construction of Gender and Identity,
- examine dimensions of Gender Oppression – race, class, caste, religion and how social structures reinforce these.
- analyze sex and gender roles and identities, explore realities, understand and apply feminist theories and methodologies with respect to literature.

Sem 5: Literature and Gender **45 lectures**

Learning Objectives:

- to understand the basic concepts in Gender Studies, Sex and Gender, Construction of Gender and Identity,
- to examine dimensions of Gender Oppression – race, class, caste, religion and how social structures reinforce these.
- to analyze sex and gender roles and identities, explore realities, understand and apply feminist theories and methodologies with respect to literature.

Semester V:

Unit I: Theoretical Background:

Basic Concepts in feminist theory

1. Understanding Masculinity Studies

2. Sex and Gender; Identity and gender construction: masculinities and femininities
3. Other dimensions of gender oppression: race, class, caste, religion
4. The politics of Feminism(s)

Schools of Feminism:

Liberal and Marxist Feminism

[suggested no of lectures: 15]

Unit II

Lakshmi Holmstrom: *The Inner Courtyard- Stories by Indian Women*

[suggested no of lectures: 15]

Unit III
Fiction:

Maya Angelou: *I Know Why the Caged Bird Sings*

(Genre: Autobiographical Fiction)

OR

Margaret Atwood: *The Handmaid's Tale*

[suggested no of lectures: 15]

Paper pattern:

Semester V: 60 marks

Q1. Short notes on Unit I (2 out of 4) or Essay type question

Q2. Essay type question on Unit II (1 out of 2)

Q3. Essay type question on Unit III (1 out of 2)

Q4. Short notes on Unit III (2 out of 4)
(Each question carries 15 marks)

Internal Assessment – 40 Marks

A) Internal Assessment 40 Marks

Sr. No.	Particulars	Marks
1	One class test to be conducted in the given semester	20 Marks
2	One presentation/assignment	15 Marks

3	Attendance and participation in class	05 Marks

Sem 6: Literature and Gender **45 lectures**

Course Name: Literature and Gender Course Code: SIUAENG66 Credits: 3.5
Expected Course Outcomes Semester VI
On completion of this course, students will be able to • examine construction of Gender and Identity, Dimensions of Gender Oppression – race, class, caste, religion and how social structures reinforce these. • learn that the oppression of people of colour usually takes place at the intersections of race, gender, class and caste. • analyze sex and gender roles and identities, explore realities, understand and apply feminist theories and methodologies with respect to literature.

Sem 6: Literature and Gender **45 lectures**

Learning Objectives:

1. to examine construction of Gender and Identity, Dimensions of Gender Oppression race, class, caste, religion and how social structures reinforce these.
2. to learn that the oppression of people of colour usually takes place at the intersections of race, gender, class and caste.
3. To analyse sex and gender roles and identities, explore realities, understand and apply feminist theories and methodologies with respect to literature.

Unit I

Schools of Feminism: Socialist and Radical

Feminist Literary Criticism

1. Rereading canonical texts, 'Images of women' critique, women as resisting readers.
2. Gynocriticism: recovery of lost/neglected texts and traditions, new ways of reading texts by women.

(suggested no. of lectures: 15)

Unit II

Poetry:

"She Rose to his Requirement" by Emily Dickinson

"Stone Age" by Kamala Das
"Tonight no Poetry will Serve" by Adrienne Rich
"Coping" by Audre Lorde
"Mascara" by Meena Kandasamy

(suggested no. of lectures: 15)

Unit 3

Drama

Mahesh Dattani: *Dance Like a Man*

OR

Lillian Hellman: *The Children's Hour*

(suggested no. of lectures: 15)

Paper pattern:

Semester VI: 60 marks

Q1. Short notes on Unit I (2 out of 4)

Q2. Essay type question on Unit II (1 out of 2)

Q3. Essay type question on Unit III (1 out of 2)

Q4. Short notes on Unit III (2 out of 4)
(Each question carries 15 marks)

Internal Assessment – 40 Marks

A) Internal Assessment 40 Marks

Sr.No.	Particulars	Marks
1	One class test to be conducted in the given semester	20 Marks
2	One internship	20 Marks

References

1. Bhasin, Kamala. *What is Patriarchy?* Kali for Women, 1993.
2. Bhasin, Kamala and Nighat, Said Khan. *Some Questions on Feminism and Relevance To South Asia.* Kali for Women, 1986.

3. Hester, Eisenstein. *Contemporary Feminist Thought*. Boston: G.K.Hall, 1983.
4. Fleenor, Juliann. *The Female Gothic*. Montreal: Eden Press, 1983.
5. Gilbert, Sandra and Susan Gubar [eds.]. *The Madwoman in the Attic: The Woman Writer and the Nineteenth Century Imagination*. Yale University Press, 1979.
6. Humm, Maggie. *A Reader's Guide to Contemporary Feminist Theory*. New York: Harvester Wheashef, 1994.
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8. Janeway, Elizabeth. *Man's World, Woman's Place*.
9. Lindsay, Linda L. *Gender Roles: A Sociological Perspective*. NJ: Engelwood Cliffs, Prentice Hall, 2nd edn, 1994.
10. Loomba, Ania. *Gender, Race and Renaissance Drama*. Oxford: Manchester University Press, 1989.
11. Millett, Kate. *Sexual Politics*. New York: Doubleday, 1976.
12. Showalter, Elaine. *A Literature of their Own: British Novelists from Bronte to Lessing*, Revised. Princeton University Press, 1982.
13. Showalter, Elaine. Ed. *New Feminist Criticism: Essays on Women, Literature and Theory.* New York: Pantheon Books, 1989.
14. Tong, Rosemarie. *Feminist Thought: A Comprehensive Introduction.* Westview Press, 1984.
15. Warhol, Robyn R. and Diane Price Herndl. [eds.] *Feminisms: An Anthology of Literary Criticism*. New Jersey: Rutger University Press, 1991.
16. Weedon, Chris. *Feminist Practice and Poststructuralist Theory*. Oxford, Basil and Blackwell, 1987.

SIES College of Arts Science and Commerce, (Autonomous), Sion (West)

Department of Microbiology

POs, PSOs and COs for the three years Integrated B.Sc. Program

Programme Name: B.Sc. Microbiology Program Code: SIUSMIC

Expected Course Outcomes

Each course of the program aims at developing certain skills, attitudes and knowledge base of the students. The outline of Course Learning Outcomes is described below.

Semester	Course Code	Credits	Lectures/week	Course Name
1	SIUSMICP1	3.0	6	Practical-I & II

CO. No.	Course Outcome of SIUSMICP1 Upon completion of this course, student will be able to	Cognitive Level	Affinity with PO/ PSO
CO1	Know the working of a microscope	R, U	PO2, PO4, PO5, PO6, PSO1, PSO2
CO2	Observe the structure, morphology and various cytoplasmic inclusion bodies of different bacteria	R, U, An	PO2, PO4, PO5, PO6, PSO1, PSO2
CO3	Learn the different sterilization methods and evaluate their efficiency	R, U, An, E	PO2, PO4, PO5, PO6, PSO1, PSO2
CO4	Acquire the skills for microbiological media preparation	R, U, Ap	PO1, PO2, PO4,PO5, PSO1, PSO2
CO5	Learning and practicing professional skills in handling microbes	R, U, Ap, An, E	PO1, PO2, PO3, PO4,PO5, PSO1, PSO2
CO6	Learn qualitative methods to identify biomolecules	R, U, Ap, An	PO1, PO2, PO4, PO5, PSO1, PSO2

PO- Program Outcome, PSO-Program Specific outcome; CO-Course Outcome;
Cognitive Level: R-Remember; U-Understanding; Ap-Apply; An-Analyze; E-Evaluate; C-Create

Programme Name: B.Sc. Microbiology Program Code: SIUSMIC

Expected Course Outcomes

Each course of the program aims at developing certain skills, attitudes and knowledge base of the students. The outline of Course Learning Outcomes is described below.

Semester	Course Code	Credits	Lectures/week	Course Name
2	SIUSMIC21	2.0	3	Basics of Microbiology II

CO. No.	Course Outcome of SIUSMIC21 Upon completion of this course, student will be able to	Cognitive Level	Affinity with PO/ PSO
CO1	Understand characteristics of diverse groups such as Viruses, Archaebacteria and Actinomycetes etc with respect to medical & ecological importance.	R, U, Ap	PO1, PO6, PSO1, PSO2
CO2	Understand and classify major groups of eukaryotes (Algae, Fungi, and Protozoa) and their biological, economical and medical significance.	R, U, Ap	PO1, PO2, PO3, PO6, PSO1, PSO2
CO3	To understand the knowledge of microbial interaction and evaluate its beneficial and detrimental effects including biofilms	R, U, An, Ap, C, E	PO1, PO2, PO6, PSO1, PSO2

PO- Program Outcome, PSO-Program Specific outcome; CO-Course Outcome;
Cognitive Level: R-Remember; U-Understanding; Ap-Apply; An-Analyze; E-Evaluate; C-Create

SIES College of Arts Science and Commerce, (Autonomous), Sion (West)

Department of Microbiology

POs, PSOs and COs for the three years Integrated B.Sc. Program

Programme Name: B.Sc. Microbiology Program Code: SIUSMIC

Expected Course Outcomes

Each course of the program aims at developing certain skills, attitudes and knowledge base of the students. The outline of Course Learning Outcomes is described below.

Semester	Course Code	Credits	Lectures/week	Course Name
2	SIUSMIC22	2.0	3	Exploring Microbiology

CO. No.	Course Outcome of SIUSMIC22 Upon completion of this course, student will be able to	Cognitive Level	Affinity with PO/ PSO
CO1	To understand microbial growth and study the parameters evaluating growth.	R, U, An	PO2, PSO1,
CO2	Describe and evaluate the different biomolecules that make up the microbial cell and understand their role in cellular metabolism	R, U, An	PO2, PSO1,
CO3	Analyze the role of the host immune system in response to the microbial virulence factors.	R, U, An, E	PO2, PO6, PSO1, PSO2

PO- Program Outcome, PSO-Program Specific outcome; CO-Course Outcome;
Cognitive Level: R-Remember; U-Understanding; Ap-Apply; An-Analyze; E-Evaluate; C-Create

Programme Name: B.Sc. Microbiology Program Code: SIUSMIC

Expected Course Outcomes

Each course of the program aims at developing certain skills, attitudes and knowledge base of the students. The outline of Course Learning Outcomes is described below.

Semester	Course Code	Credits	Lectures/week	Course Name
2	SIUSMICP2	3.0	6	(Practical-I) & (Practical-II)

CO. No.	Course Outcome of SIUSMICP2 Upon completion of this course, student will be able to	Cognitive Level	Affinity with PO/ PSO
CO1	Identify bacteriophages from a sample	R, U, Ap, An, E	PO2, PO4, PO5, PO6, PSO1, PSO2
CO2	Learn different morphological characteristics for the identification of Fungi and *Actinomycetes*	R, U, Ap, An	PO4, PO2, PO3, PO5, PO6,PSO1, PSO2
CO3	Observe the structure and morphology of unicellular eukaryotes	R,U, Ap, An	PO2, PO5, PO6,PSO1, PSO2
CO4	Learn the techniques to isolate Nitrogen fixing bacteria	R, U, Ap, An, E	PO1, PO5, PO6,PSO1, PSO2
CO5	Learn different enumeration techniques for the evaluation of microbial load of samples	R, U, Ap, An, E	PO1, PO5, PO6,PSO1, PSO2
CO6	Demonstrate the detection of virulence factors for confirmation of pathogenicity	R,U, Ap, An, E	PO4, PO5, PO6,PSO1, PSO2

PO- Program Outcome, PSO-Program Specific outcome; CO-Course Outcome;
Cognitive Level: R-Remember; U-Understanding; Ap-Apply; An-Analyze; E-Evaluate; C-Create

SIES College of Arts Science and Commerce, (Autonomous), Sion (West)

Department of Microbiology

POs, PSOs and COs for the three years Integrated B.Sc. Program

Programme Name: B.Sc. Microbiology Program Code: SIUSMIC

Expected Course Outcomes

Each course of the program aims at developing certain skills, attitudes and knowledge base of the students. The outline of Course Learning Outcomes is described below.

Semester	Course Code	Credits	Lectures/week	Course Name
3	SIUSMIC33	2.0	3	Advances in Microbiology and Medical Microbiology

CO. No.	Course Outcome of SIUSMIC33 Upon completion of this course, student will be able to	Cognitive Level	Affinity with PO/PSO
CO1	Discriminate between the techniques of nanoparticles, biofilm and biosensor and comparatively evaluate their applications	R, U, Ap, An, E	PO1, PO2, PO4, PO6, PSO1
CO2	Study the epidemiological methods of disease and evaluate different diagnostic techniques in diagnostic microbiology	R, U, Ap, An,E	PO2, PO3, PO4, PO5, PSO1, PSO2
CO3	Distinguish between different types of immunity and review their role in Disease Control	R, U, Ap, An	PO2, PO3, PO4, PO5, PSO1, PSO2

PO- Program Outcome, PSO-Program Specific outcome; CO-Course Outcome;
Cognitive Level: R-Remember; U-Understanding; Ap-Apply; An-Analyze; E-Evaluate; C-Create

Programme Name: B.Sc. Microbiology Program Code: SIUSMIC

Expected Course Outcomes

Each course of the program aims at developing certain skills, attitudes and knowledge base of the students. The outline of Course Learning Outcomes is described below.

Semester	Course Code	Credits	Lectures/week	Course Name
3	SIUSMICP3	3.0	9	Practical I, Practical II & Practical III

CO. No.	Course Outcome of SIUSMICP3 Upon completion of this course, student will be able to	Cognitive Level	Affinity with PO/ PSO
CO1	Estimate quantitatively different biomolecules like carbohydrates, nucleic acids etc	R, U, Ap, An	PO2, PO4, PO5, PSO1, PSO2
CO2	Understand the principle and working of pH meter, UV spectrophotometer and electrophoresis.	R, U, Ap, An	PO2, PO4, PO5, PSO1, PSO2
CO3	Learn to analyze using different tests quality of waste water & air.	R, U, Ap, An,E	PO3, PO4, PO5, PO6, PSO1, PSO2
CO4	Learn to isolate Nitrosifiers, cellulose degraders, Phosphate solubilizes from different samples.	R, U, Ap, An, E	PO3, PO4, PO5, PO6, PSO1, PSO2
CO5	Use of different bacteriological media for isolation and identification of pathogenic bacteria from different samples.	R, U, Ap, An, E	PO2, PO3, PO4, PO5, PSO1, PSO2
CO6	Preparation and analysis of nanoparticle.	R, U, Ap, An,E	PO2, PO3, PO4, PO5, PSO1, PSO2
CO7	Use of immunological techniques to estimate concentration of antigen.	R, U, Ap, An,E	PO2, PO3, PO4, PO5, PSO1, PSO2

PO- Program Outcome, PSO-Program Specific outcome; CO-Course Outcome;
Cognitive Level: R-Remember; U-Understanding; Ap-Apply; An-Analyze; E-Evaluate; C-Create

SIES College of Arts Science and Commerce, (Autonomous), Sion (West)

Department of Microbiology

POs, PSOs and COs for the three years Integrated B.Sc. Program

Programme Name: B.Sc. Microbiology Program Code: SIUSMIC

Expected Course Outcomes

Each course of the program aims at developing certain skills, attitudes and knowledge base of the students. The outline of Course Learning Outcomes is described below.

Semester	Course Code	Credits	Lectures/week	Course Name
4	SIUSMIC41	2.0	3	Metabolism and Basic Analytical Techniques

CO. No.	Course Outcome of SIUSMIC41 Upon completion of this course, student will be able to	Cognitive Level	Affinity with PO/ PSO
CO1	Understanding the principles of bioenergetics with respect to cellular metabolism	R, U, Ap, An, E	PO1, PSO2
CO2	Understanding the enzyme kinetics and determine the various factors affecting enzyme Kinetics	R, U, Ap, An, E	PO1, PO2, PSO2
CO3	Understanding the principle and working of chromatographic and centrifugation techniques and their applications	R, U, Ap, An	PO1, PO2, PSO2

PO- Program Outcome, PSO-Program Specific outcome; CO-Course Outcome;
Cognitive Level: R-Remember; U-Understanding; Ap-Apply; An-Analyze; E-Evaluate; C-Create

Programme Name: B.Sc. Microbiology Program Code: SIUSMIC

Expected Course Outcomes

Each course of the program aims at developing certain skills, attitudes and knowledge base of the students. The outli

Course Learning Outcomes is described below.

Semester	Course Code	Credits	Lectures/week	Course Name
4	SIUSMIC42	2.0	3	Industrial, Food and Dairy Microl

CO. No.	Course Outcome of SIUSMIC42 Upon completion of this course, student will be able to	Cognitive Level	Affinity with PO
CO1	Describe and understand basic fundamentals of industrial microbiology.	R, U, Ap	PO2, PO6, PSO1
CO2	Understanding the role of microbes in food microbiology with respect to food production, spoilage and preservation	R, U, Ap, An	PO2, PO6, PSO
CO3	Defining the basics of dairy microbiology and applying the role of microbes to develop dairy products	R, U, Ap	PO2, PO6, PSO

PO- Program Outcome, PSO-Program Specific outcome; CO-Course Outcome;
Cognitive Level: R-Remember; U-Understanding; Ap-Apply; An-Analyze; E-Evaluate; C-Create

SIES College of Arts Science and Commerce, (Autonomous), Sion (West)

Department of Microbiology

POs, PSOs and COs for the three years Integrated B.Sc. Program

Programme Name: B.Sc. Microbiology Program Code: SIUSMIC

Expected Course Outcomes

Each course of the program aims at developing certain skills, attitudes and knowledge base of the students. The outline of Course Learning Outcomes is described below.

Semester	Course Code	Credits	Lectures/week	Course Name
4	SIUSMIC43	2.0	3	Microbial diversity, taxonomy and Applications of Microbiology

CO. No.	Course Outcome of SIUSMIC43 Upon completion of this course, student will be able to	Cognitive Level	Affinity with PO/ PSO
CO1	Classifying microorganism based on taxonomic principles and evaluate the different methods of microbial taxonomy	R, U, Ap, An	PO1, PO2, PO4, PSO1, PSO2
CO2	Understanding extreme environment and comparing the microbial diversity and studying the applications of extremophiles	R, U, Ap	PO2, PO3, PO6,PSO1, PSO2
CO3	Evaluating the role of microbes as biofertilizers, biocontrol agents and remediation of polluted environment	R, U, Ap	PO2, PO3, PO6,PSO1, PSO2

PO- Program Outcome, PSO-Program Specific outcome; CO-Course Outcome;
Cognitive Level: R-Remember; U-Understanding; Ap-Apply; An-Analyze; E-Evaluate; C-Create

Programme Name: B.Sc. Microbiology Program Code: SIUSMIC

Expected Course Outcomes

Each course of the program aims at developing certain skills, attitudes and knowledge base of the students. The outline of Course Learning Outcomes is described below.

Semester	Course Code	Credits	Lectures/week	Course Name
4	SIUSMICP4	3.0	9	Practical I, Practical II& Practical III

CO. No.	Course Outcome of SIUSMICP4 Upon completion of this course, student will be able to	Cognitive Level	Affinity with PO/ PSO
CO1	Analyze different kinetic parameters of a microbial enzyme	R, U, Ap, An	PO1, PO2, PO4, PO5, PSO1, PSO2
CO2	Application of chromatographic and centrifugation techniques for the separation of biomolecules	R, U, Ap, An	PO1, PO2, PO4, PO5, PSO1, PSO2
CO3	Critical analysis of concepts in bioenergetics	R, U, Ap, An	PO1, PO2, PO4, PSO2
CO4	Evaluation of milk quality by chemical and microbiological techniques	R, U, Ap, An	PO1, PO2, PO4, PO5, PSO1, PSO2
CO5	Learn and apply enrichment techniques for the isolation of extremophiles	R, U, Ap, An	PO1, PO2, PO4, PO5,PO6 PSO1, PSO2
CO6	Learn the use of Bergey's manual for the taxonomic classification of bacterial isolates	R, U, Ap, An	PO1, PO2, PO4, PO5, PO PSO1, PSO2

Programme Name: B.Sc. Microbiology Program Code: SIUSMIC

Expected Course Outcomes

Each course of the program aims at developing certain skills, attitudes and knowledge base of the students.
The outlineof Course Learning Outcomes is described below.

Semester	Course Code	Credits	Lectures/ week	Course Name	
5	SIUSMIC53	2.5	4	Microbial Biochemistry Part-I	
CO. No.	Course Outcome of SIUSMIC53 Upon completion of this course, student will be able to			Cognitive Level	Affinity with PO/PSO
CO1	Understanding the architecture of membrane and nutrient transport.			R, U, Ap, An, E	PO1, PSO1
CO2	Describe and explain electron transport chain in prokaryotes and understand the mechanism of ATP synthesis.			R, U, Ap, An, E	PO1, PSO1
CO3	Discuss various aspects of studying catabolism, anabolism and fermentation of carbohydrates.			R, U, Ap, An, E, C	PO1, PO2, PSO1, PSO2

PO- Program Outcome, PSO-Program Specific outcome; CO-Course Outcome;
Cognitive Level: R-Remember; U-Understanding; Ap-Apply; An-Analyze; E-Evaluate; C-Create

Programme Name: B.Sc. Microbiology Program Code: SIUSMIC

Expected Course Outcomes

Each course of the program aims at developing certain skills, attitudes and knowledge base of the students.
The outlineof Course Learning Outcomes is described below.

Semester	Course Code	Credits	Lectures/week	Course Name	
5	SIUSMIC54	2.5	4	Bioprocess technology	
CO. No.	Course Outcome of SIUSMIC54 Upon completion of this course, student will be able to			Cognitive Level	Affinity with PO/PSO
CO1	Discuss various methods of strain improvement with respect to industrially important microorganisms.			R, U, Ap, An, E	PO1, PS01
CO2	Describe the upstream processing and sterilization.			R, U, Ap, An, E	PO1, PSO1
CO3	Understanding the design of bioreactor and downstream processing.			R, U, Ap, An, E	PO1, PSO1
CO4	Understanding the process of industrial production of alcoholic beverages, enzymes and organic acids.			R, U, Ap, An, E, C	PO1, PO2, PSO2

PO- Program Outcome, PSO-Program Specific outcome; CO-Course Outcome;
Cognitive Level: R-Remember; U-Understanding; Ap-Apply; An-Analyze; E-Evaluate; C-Create

Programme Name: B.Sc. Microbiology Program Code: SIUSMIC

Expected Course Outcomes

Each course of the program aims at developing certain skills, attitudes and knowledge base of the students.
The outlineof Course Learning Outcomes is described below.

Semester	Course Code	Credits	Lectures/week	Course Name	
5	SIUSMICP05	1.5	4	Practicals based on SIUSMIC51	
CO. No.	Course Outcome of SIUSMICP05 Upon completion of this course, student will be able to			Cognitive Level	Affinity with PO/ PSO
CO1	Learn the method of UV mutagenesis and select mutants by replica plate technique.			R, U, Ap, An, E	PO1, PO4, PSO2
CO2	Isolate and demonstrate the presence of plasmid DNA.			R, U, Ap, An, E	PO1, PO4, PSO2
CO3	Illustrate the process of transformation and differentiate between transformed and non-transformed colonies.			R, U, Ap, An, E, C	PO1, PO2, PO4, PSO2

PO- Program Outcome, PSO-Program Specific outcome; CO-Course Outcome;
Cognitive Level: R-Remember; U-Understanding; Ap-Apply; An-Analyze; E-Evaluate; C-Create

Programme Name: B.Sc. Microbiology Program Code: SIUSMIC
Expected Course Outcomes

Each course of the program aims at developing certain skills, attitudes and knowledge base of the students.
The outlineof Course Learning Outcomes is described below.

Semester	Course Code	Credits	Lectures/week	Course Name	
5	SIUSMICP05	1.5	4	Practicals based on SIUSMIC52	
CO. No.	Course Outcome of SIUSMIC P05 Upon completion of this course, student will be able to			Cognitive Level	Affinity with PO/PSO
CO1	Demonstrate the presence of pathogenic *Yeast*, virulent *Streptococci*, *Pseudomonas*, *Salmonella* antigens in clinical samples.			R,U Ap, An, E	PO1, PO3, PO4, PO5, PSO2
CO2	Examine the sputum samples for the presence of *M. tuberculosis*.			R,U Ap, An, E, C	PO2, PO3, PO4, PO5, PSO2
CO3	Identify the etiological agents from clinical samples by morphological, cultural, and biochemical properties.			R,U Ap, An	PO3, PO4, PO5, PSO2

PO- Program Outcome, PSO-Program Specific outcome; CO-Course Outcome;
Cognitive Level: R-Remember; U-Understanding; Ap-Apply; An-Analyze; E-Evaluate; C-Create

Programme Name: B.Sc. Microbiology Program Code: SIUSMIC
Expected Course Outcomes

Each course of the program aims at developing certain skills, attitudes and knowledge base of the students.
The outline of Course Learning Outcomes is described below.

Semester	Course Code	Credits	Lectures/week	Course Name	
5	SIUSMICP06	1.5	4	Practicals based on SIUSMIC53	
CO. No.	Course Outcome of SIUSMICP06 Upon completion of this course, student will be able to			Cognitive Level	Affinity with PO/PSO
CO1	Experimentally determine bacterial metabolism of carbohydrates.			R,U Ap, An, E, C	PO1, PO2, PO3, PO4, PO5, PSO2
CO2	Identify the Bioluminescent microorganism from Marine Samples.			R,U Ap, An, E, C	PO1, PO2, PO4, PO5, PSO2
CO3	Determine enzyme activity by Quantitative colorimetric assays.			R,U Ap, An, E, C	PO1, PO2, PO3, PO4, PO5, PSO2
CO4	Rapid detection of Glucose by kit based method.			R,U Ap, An, E	PO1, PO4, PO5, PSO2

PO- Program Outcome, PSO-Program Specific outcome; CO-Course Outcome;
Cognitive Level: R-Remember; U-Understanding; Ap-Apply; An-Analyze; E-Evaluate; C-Create

Programme Name: B.Sc. Microbiology Program Code: SIUSMIC
Expected Course Outcomes

Each course of the program aims at developing certain skills, attitudes and knowledge base of the students.
The outline of Course Learning Outcomes is described below.

Semester	Course Code	Credits	Lectures/week	Course Name	
5	SIUSMICP06	1.5	4	Practicals based on SIUSMIC54	
CO. No.	Course Outcome of SIUSMICP06 Upon completion of this course, student will be able to			Cognitive Level	Affinity with PO/PSO
CO1	Design a protocol for the synthesis of Amylase using Solid substrate fermentation and quantify colorimetrically.			R,U Ap, An, E	PO1, PO2, PO4, PO5, PSO2
CO2	Synthesize alcohol using fermentation, estimate by titration and determine efficiency of fermentation.			R,U Ap, An, E, C	PO1, PO2, PO3,PO4, PO5, PSO2
CO3	Evaluate *Yeast* strains for sugar, alcohol tolerance and efficiency of alcohol production.			R,U Ap, An, E, C	PO1, PO2, PO3, PO4, PO5, PSO2
CO4	Isolate and identify analogue resistant mutant using Gradient plate technique.			R,U Ap, An, E, C	PO1, PO3, PO4, PO5, PSO2

PO- Program Outcome, PSO-Program Specific outcome; CO-Course Outcome;
Cognitive Level: R-Remember; U-Understanding; Ap-Apply; An-Analyze; E-Evaluate; C-Create

Programme Name: B.Sc. Microbiology Program Code: SIUSMIC

Expected Course Outcomes

Each course of the program aims at developing certain skills, attitudes and knowledge base of the students.

The outlineof Course Learning Outcomes is described below.

Semester	Course Code	Credits	Lectures/week	Course Name	
6	SIUSMIC63	2.5	4	Microbial Biochemistry : Part II	
CO. No.	Course Outcome of SIUSMIC63 Upon completion of this course, student will be able to			Cognitive Level	Affinity with PO/PSO
CO1	Study of anabolic and catabolic pathways of lipids and hydrocarbons.			R, U, Ap, An, E, C	PO1, PO2, PSO1
CO2	Study of anabolic and catabolic pathways of Proteins and Nucleic acids.			R, U, Ap, An, E, C	PO1, PO2, PSO1
CO3	Describing the metabolic regulation of allosteric proteins, enzymes and gene expression.			R, U, Ap, An, E,	PO1, PSO1, PO3, PSO2
CO4	Study of bacterial photosynthesis and understanding various lithotrophic Pathways			R, U, Ap, An, E, C	PO1, PO2, PSO1

PO- Program Outcome, PSO-Program Specific outcome; CO-Course Outcome;
Cognitive Level: R-Remember; U-Understanding; Ap-Apply; An-Analyze; E-Evaluate; C-Create

Programme Name: B.Sc. Microbiology Program Code: SIUSMIC

Expected Course Outcomes

Each course of the program aims at developing certain skills, attitudes and knowledge base of the students.

The outlineof Course Learning Outcomes is described below.

Semester	Course Code	Credits	Lectures/week	Course Name	
6	SIUSMIC64	2.5	4	Applied and Industrial Microbiology	
CO. No.	Course Outcome of SIUSMIC64 Upon completion of this course, student will be able to			Cognitive Level	Affinity with PO/PSO
CO1	Understanding the process of industrial production of antibiotics, vitamins, amino acids and mushrooms.			R, U, Ap, An, E,	PO1, PSO2
CO2	Study of mechanisms and applications of animal and plant tissue culture.			R, U, Ap, An, E, C	PO1, PO2, PSO2
CO3	Describing the techniques of enzyme immobilization and their applications.			R, U, Ap, An, E, C	PO1, PO2, PSO2
CO4	Understanding the principle and working of flow cytometer, flame photometer, atomic absorption spectrophotometer and bioassay techniques and their applications.			R, U, Ap, An, E,	PO1, PSO2
CO5	Analysing the use of various bio statistical tests in biological data analysis.			R, U, Ap, An, E, C	PO1, PO2, PO4, PSO2
CO6	Introduction to study of IPR and principles of QA, QC and GMP.			R, U, Ap, An, E,	PO1, PSO2
CO7	Understanding mechanism of sterility testing and control.			R, U, Ap, An, E,	PO1, PSO2

PO- Program Outcome, PSO-Program Specific outcome; CO-Course Outcome;
Cognitive Level: R-Remember; U-Understanding; Ap-Apply; An-Analyze; E-Evaluate; C-Create

Programme Name: B.Sc. Microbiology Program Code: SIUSMIC

Expected Course Outcomes

Each course of the program aims at developing certain skills, attitudes and knowledge base of the students. The outlineof Course Learning Outcomes is described below.

Semester	Course Code	Credits	Lectures/week	Course Name	
6	SIUSMICP07	1.5	4	Practicals based on SIUSMIC61	
CO. No.	Course Outcome of SIUSMICP07 Upon completion of this course, student will be able to			Cognitive Level	Affinity with PO/PSO
CO1	Learn the basics techniques of molecular biology and analyze data using tools of bioinformatics.			R, U, Ap, An, E, C	PO1, PO2, PO3, PO4, PO5, PSO2
CO2	Demonstrate the in-vitro culture of animal cells.			R, U, Ap, An, E,	PO1, PO4, PO5, PSO2
CO3	Identify, cultivate and estimate bacteriophages from environmental samples.			R, U, Ap, An, E, C	PO1, PO4, PO5, PO6, PSO2

PO- Program Outcome, PSO-Program Specific outcome; CO-Course Outcome;
Cognitive Level: R-Remember; U-Understanding; Ap-Apply; An-Analyze; E-Evaluate; C-Create

Programme Name: B.Sc. Microbiology Program Code: SIUSMIC

Expected Course Outcomes

Each course of the program aims at developing certain skills, attitudes and knowledge base of the students. The outlineof Course Learning Outcomes is described below.

Semester	Course Code	Credits	Lectures/week	Course Name	
6	SIUSMICP07	1.5	4	Practicals based on SIUSMIC62	
CO. No.	Course Outcome of SIUSMICP07 Upon completion of this course, student will be able to			Cognitive Level	Affinity with PO/PSO
CO1	Analyze the data from hematological test used for diagnosis of diseases.			R, U, Ap, An, E, C	PO1, PO2, PO3, PO4, PO5, PSO2
CO2	Select antibiotics and determine sensitivity of antibiotics against clinical isolates.			R, U, Ap, An, E, C	PO1, PO2, PO3, PO4, PO5, PSO2

PO- Program Outcome, PSO-Program Specific outcome; CO-Course Outcome;
Cognitive Level: R-Remember; U-Understanding; Ap-Apply; An-Analyze; E-Evaluate; C-Create

Programme Name: B.Sc. Microbiology Program Code: SIUSMIC

Expected Course Outcomes

Each course of the program aims at developing certain skills, attitudes and knowledge base of the students.
The outlineof Course Learning Outcomes is described below.

Semester	Course Code	Credits	Lectures/week	Course Name	
6	SIUSMICP08	1.5	4	Practicals based on SIUSMIC63	
CO. No.	Course Outcome of SIUSMICP08 Upon completion of this course, student will be able to			Cognitive Level	Affinity with PO/PSO
CO1	Experimentally determine bacterial metabolism of amino acids.			R, U, Ap, An, E, C	PO1, PO2, PO4, PO5, PSO2
CO2	Demonstrate diauxic growth curve.			R, U, Ap, An, E	PO1, PO4, PO5, PSO2
CO3	Detect and quantify metabolic enzyme activity and its end products.			R, U, Ap, An, E, C	PO1, PO4, PO5, PSO2
CO4	Illustrate lithotrophy by experimentally checking nitrosification and nitrification.			R, U, Ap, An, E, C	PO1, PO4, PO5, PSO2

PO- Program Outcome, PSO-Program Specific outcome; CO-Course Outcome;
Cognitive Level: R-Remember; U-Understanding; Ap-Apply; An-Analyze; E-Evaluate; C-Create

Programme Name: B.Sc. Microbiology Program Code: SIUSMIC

Expected Course Outcomes

Each course of the program aims at developing certain skills, attitudes and knowledge base of the students.
The outline of Course Learning Outcomes is described below.

Semester	Course Code	Credits	Lectures/week	Course Name	
6	SIUSMICP08	1.5	4	Practicals based on SIUSMIC64	
CO. No.	Course Outcome of SIUSMICP08 Upon completion of this course, student will be able to			Cognitive Level	Affinity with PO/PSO
CO1	Determine the potency of antibiotics and vitamins using Bioassay technique.			R, U, Ap, An, E, C	PO1, PO2, PO4, PO5, PO3, PSO2
CO2	Analyze the given pharmaceutical product for its sterility.			R, U, Ap, An, E, C	PO1, PO2, PO3, PO4, PO5, PSO2
CO3	Demonstrate the in-vitro culture of plant cells.			R, U, Ap, An, E,	PO1, PO4, PO5, PSO2
CO4	Apply biostatistics in basic problems, measure central tendency using statistical software.			R, U, Ap, An, E, C	PO1, PO2, PO3, PO4, PO5, PSO2
CO5	Illustrate the technique of enzyme immobilization for industrial application.			R, U, Ap, An, E, C	PO1, PO2, PO4, PO5, PSO2

PO- Program Outcome, PSO-Program Specific outcome; CO-Course Outcome;
Cognitive Level: R-Remember; U-Understanding; Ap-Apply; An-Analyze; E-Evaluate; C-Create

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SIES College of Arts, Science and Commerce (Empowered Autonomous)

Sion West Mumbai 400022

Expected course outcomes for M.Sc. Microbiology

Semester I

Course Name	Course Code	Credits	Lectures/Week
Cell Biology and Virology	SIPMICC511/ SIPMICCP511	4	4

Unit I: Membrane structure and transport

Unit II: Cytoskeleton, Apoptosis, cell junction & adhesion.

Unit III: Cell biology techniques

Unit IV: Bacterial and animal viruses

CO number	Course Outcome (CC1)	Cognitive Level	PO/PSO
CO1	Describe cell membrane structure in detail and explain the principles of membrane transport..	R,U	PO2
CO2	Discuss intracellular compartments and vesicular traffic with details.	R,U	PO2
CO3	Outline the transport of proteins into various cell components	U	PO2
CO4	Explain function and mechanism of cytoskeleton of the cell	U	PO2, PSO1
CO5	Describe cell junctions and adhesion with emphasis on their importance in cell interaction and communication.	U, An	PO2
CO6	Explain the pathways of programmed cell death with emphasis on its role.	U, An	PSO2
CO7	Apply the different cell study techniques to identify, compare and examine the cells from biological samples for various purposes.	Ap	PO1, PO2, PSO1
CO8	Discuss epidemiology and key characteristics of animal and bacterial viruses with emphasis on its role in research and medicine	U, An	PO1, PSO2

CO10	Select the suitable molecular tool(s) for a specific genetic analysis.	Ap	PO1, PO2
CO11	Calculate and solve analytical problems based on population genetics	Ap	PO2,PSO1

Course Name	Course Code	Credits	Lectures/Week
Basics of Biostatistics	**SIPMICC513**	**2**	**2**

Unit I: Concepts in Biostatistics

Unit II: Parametric and Non-parametric tests

CO number	Course Outcome Biostatistics	Cognitive Level	PO/PSO
CO1	Describe the role of biostatistics in biological sciences	U	PSO1
CO2	Apply the basic concepts of statistics in biological sciences for analysis	Ap	PO2, PO4
CO3	Interpret results of the statistical analyses in written summaries	An, E	PO2, PO3
CO4	Demonstrate statistical reasoning skills accurately and contextually.	Ap	PO3
CO5	Operate statistical software packages to conduct research studies.	Ap	PO4, PSO2

Course Name	Course Code	Credits	Lectures/Week
Microbial Biochemistry I	**SIPMIEL511/ SIPMIELP511**	**3**	**3**

Unit I: Bioorganic molecules

Unit II: Metabolism of one & two carbon compounds

Unit III: Transfer of Biomolecules

CO number	Course Outcome Biochemistry	Cognitive Level	PO/PSO
CO1	Describe the molecular details of the bioorganic molecules.	R, U	PO2, PSO2
CO2	Discuss the structure and function of lipids, amino acids and proteins.	R, U	PO2
CO3	Gather and associate the significance of water molecule in cellular biochemistry.	R, U	PO2
CO4	Discuss and compare the metabolism of one and two carbon compounds by microorganisms.	U	PO2, PO3, PSO1
CO5	Describe biological transport system and protein transport systems for folded and unfolded proteins.	R, U	PO2
CO6	Discuss and compare protein translocation pathways for membrane bound and periplasmic proteins.	U, An	PO2
CO7	Describe various pathways for drug export found in bacteria.	U	PO2

Course Name	Course Code	Credits	Lectures/Week
Research Methodology	SIPMIRM511/ SIPMIRMP511	3	3

Unit I: Research fundamentals and terminologies

Unit II: Defining research problem and sampling

Unit III: Data collection, data processing and Report writing

CO number	Course Outcome (RM)	Cognitive Level	PO/PSO
CO1	Define research and its types.	R,U	PSO1
CO2	Apply scientific methods to conduct research studies.	Ap	PO1
CO3	Identify and plan a suitable study design for the research studies.	Ap, C	PO1, PO2

CO4	List and differentiate between various research elements.	Ap, An	PO2
CO5	Apply the correct method of sampling to the research studies based on their suitability.	Ap, An	PO1,PO4
CO6	Collect, categorize and examine the research data manually as well as with software.	Ap, An	PO1, PO4
CO7	Compose and construct a report on scientific studies.	C	PO2,PO4
CO8	Design and facilitate an oral presentation.	C	PO4

PO- Program Outcome, PSO-Program Specific outcome; CO-Course Outcome;

Cognitive Level: R-Remember; U-Understanding; Ap-Apply; An-Analyze; E-Evaluate; C-Create

Semester II

Course Name	Course Code	Credits	Lectures/Week
Cell Biology and Developmental biology	SIPMICC521/ SIPMICCP521	4	4

Unit I: Cell division and cell cycle

Unit II: Cell signalling and Cancer genetics

Unit III: Developmental biology Part I

Unit IV: Developmental biology Part II

CO number	Course Outcome (CC1)	Cognitive Level	PO/PSO
CO1	Illustrate cell cycle with important checkpoints.	R,U	PO2
CO2	Differentiate and describe meiosis and mitosis.	R,U	PO2
CO3	Identify and justify different phases of cell division	U,An	PO2, PSO1

	significance in immune response.		
CO4	Explain the mechanisms of generation of the diversity of the immunoglobulin molecules.	U	PO2
CO5	Explain and compare different types of immune tolerance shown in humans..	U,Ap	PO2, PO3
CO6	Name and explain various factors involved in autoimmunity.	Ap	PO2
CO7	Outline the treatment of autoimmune disease and other immuno-suppressive therapies.	U,Ap	PO3, PSO1
CO8	Discuss and justify significance vaccines against HIV, measles and TB	Ap, An	PO2, PO3
CO9	Describe types of immunodeficiency along with treatment approaches..	Ap	PO2, PSO1
CO10	Outline the microbial strategies of bacteria, fungi and parasites in relation to the immune response.	An	PO2, PO3

Course Name	**Course Code**	**Credits**	**Lectures/Week**
Bioinformatics	**SIPMICC523**	**2**	**2**

Unit I: Bioinformatics I

Unit II: Bioinformatics II

CO number	**Course Outcome**	**Cognitive Level**	**PO/PSO**
CO1	Describe the role of bioinformatics in biological sciences...	U,Ap	PO2, PSO1
CO2	Apply the concepts of bioinformatics to solve problems in research	Ap,E	PO1, PO4
CO3	Discuss bioinformatics methods using different computational tools.	Ap,E	PO2, PSO1
CO4	Perform sequence analysis	An,C	PO2
CO5	Utilize major databases for various in-silico analysis.	An,E	PO2, PSO1

Course Name	Course Code	Credits	Lectures/Week
Microbial Biochemistry II	SIPMIEL521/ SIPMIELP521	3	3

Unit I: Enzymology

Unit II: Signalling and stress

Unit III: Microbial degradation

CO number	Course Outcome (DSE)	Cognitive Level	PO/PSO
CO1	Describe basic aspects of enzyme.	R,U	PO2
CO2	Apply the knowledge of enzyme kinetics to determine the Km and Vmax of enzymes.	Ap	PO1, PO2, PSO1
CO3	Explain types and mechanisms of enzyme regulation.	U,An	PO1, PO2
CO4	Categorize and explain the enzyme catalysis mechanisms.	U,An	PO1, PO2
CO5	Outline the basic components of signalling system.	R	PO2
CO6	Illustrate response by microorganisms under various stress conditions and varying degree of environmental factors	U,An	PO1, PSO1
CO7	Outline the common pathways of aromatic degradation by microorganisms.	U	PO6
CO8	Compare and describe the degradation of aromatic and alicyclic compounds by applying various strategies.	U,An,Ap	PO6, PSO1

PO- Program Outcome, PSO-Program Specific outcome; CO-Course Outcome;

Cognitive Level: R-Remember; U-Understanding; Ap-Apply; An-Analyze; E-Evaluate; C-Create

SEMESTER III

Course Name	Course Code	Credits	Lectures/Week
Food, Pharmaceutical and Cosmetic Microbiology	SIPMICC611/ SIPMICCP611	4	4

Unit I: Sources and control of microbes in Food

Unit II: Microbial detection and food safety

Unit III: Principles and applications of GMP in pharmaceutical and cosmetic industry

Unit IV: Quality management and analytical aspects of pharmaceutical and cosmetic industry

CO number	Course Outcome CCI	Cognitive level	PO/PSO
CO1	Discuss various sources of microorganism in food	R, An	PO2, PSO1
CO2	Describe and compare various methods to control the microorganism in food	U, Ap	PO1
CO3	Understand, explain and implement techniques used for quantitative and qualitative microbial detection in food	U, Ap, E	PO1, PO2
CO4	Understand and discuss HACCP concept in food safety.	U, An	PO2
CO5	Understand, differentiate and explain key concepts of quality assurance, quality control and GMP in the pharmaceutical industry.	U, Ap	PO2
CO6	Discuss various control measures used in quality control for the pharmaceutical industry	Ap, An	PO1, PO2
CO7	Understand and explain the importance of documentation, validation in the pharmaceutical and cosmetic industry.	U, Ap	PO1, PO3
CO8	Discuss and apply the various testing methods in the cosmetic industry	Ap	PO1, PO2

Course Name	Course Code	Credits	Lectures/Week
Applied and Environmental Microbiology- I	SIPMIEL611/ SIPMIELP611	3	3

Unit I: Microbial diversity and techniques in microbial ecology

Unit II: Soil, Marine and Agricultural Microbiology

Unit III: Advanced food and water microbiology

CO number	Course Outcome (Applied and Environmental microbiology- I)	Cognitive level	PO/PSO
CO1	Describe the adaptation mechanisms of various extremophiles.	U	PO2
CO2	Describe and apply different environmental sample collection and processing methods.	U, Ap	PO2, PO6
CO3	Illustrate and compare various physiological and molecular techniques in microbial ecology.	An	PO1
CO4	Understand and discuss lithosphere, physical and chemical properties of soil along with soil communities.	U, An	PO2
CO5	Understand the marine habitats along with the characterisation of oceans	U, An	PO2, PO6
CO6	Discuss the characteristics and properties of marine microorganisms.	R, U	PO2
CO7	Describe the beneficial relationship between plant and microorganism in agricultural microbiology along with uses of microorganism in plant growth	U	PO6, PSO1
CO8	Understand, differentiate, classify and discuss the various food additives and ingredients.	U, An	PO2, PSO1
CO9	Understand the concept of nutraceuticals along with its regulation and production of various nutraceutical food products. [Entrepreneurship]	U	PO3, PSO1
CO10	Discuss the risk assessment, safety, BIS regulation associated with drinking water and bottled water.	An	PO3, PSO1
CO11	Explain and differentiate various types of water purifiers.	Ap, An	PO1, PSO1

Course Name	Course Code	Credits	Lectures/Week
Applied and Environmental microbiology II	SIPMIEL621/ SIPMIELP621	3	3

Unit I: Bioremediation and Waste disposal

Unit II: Biofilm management

Unit III: Pollution control and Safety standards

CO number	Course Outcome DSE	Cognitive level	PO/PSO
CO1	Explain the needs and limitation of bioremediation process	U	PO3, PO6
CO2	Discuss the process involved in bioremediation of various compounds.	Ap	PO6, PSO2
CO3	Discuss the waste disposal and management associated with electronic and biomedical waste.	Ap	PO6, PSO1
CO4	Understand and describe structure, properties and process involve in formation of biofilms.	U	PO6
CO5	Understand the quorum sensing in biofilm and study interaction, impact of biofilms in plant associated habitat	U	PO2, PO6
CO6	Describe various methods of biofilm eradication.	Ap	PO6, PSO1
CO7	Discuss the control measures, assessments and monitoring of air, soil, radioactive, thermal pollution and eutrophication.	Ap	PO2, PO6
CO8	Understand and describe the different levels of biohazards and their risk assessment.	U, Ap	PO2, PO6
CO9	Understand the prevention and management of laboratory accidents which includes dealing with sharp injuries, infectious agents and gaseous in the laboratory.	U, Ap	PO1, PO2, PSO1
CO10	Describe the solid waste management such as its types, components, disposal, management and treatment.	U, Ap	PO6

PO- Program Outcome, PSO-Program Specific outcome; CO-Course Outcome;Cognitive Level: R-Remember; U-Understanding; Ap-Apply; An-Analyze; E-Evaluate; C-Create

SIES

College of Arts, Science & Commerce (Autonomous)

RISE WITH EDUCATION

NAAC REACCREDITED - 'A' GRADE

(*Affiliated to University of Mumbai*)

Faculty: Science

Program: M.Sc. - I

Subject: Bioanalytical Sciences

Academic Year: 2023 – 2024

Revised Syllabus in Bioanalytical Sciences under Choice Based Credit System (CBCS) Approved by the Board of Studies in Bioanalytical Sciences Effective from academic year 2023-24 under the aegis of National Education Policy

Unit 1 **15 Lectures**

Quality Management

- What is GLP? (*Definition, importance)*
- Practicing GLP and Guidelines to GLP
- Documentation of Laboratory work
- Preparation of Standard Operating Procedure (SOP)and Calibration records
- Significance of validation in GLP
- Transfer of methods
- Documentation of results
- General Precautions, labels and signage
- Material handling and disposal, Material Safety Data Sheets (MSDS) , GHS
- Safety Practices: Personal safety & Clothing, Levels of safety, Fire safety and fire fighting, Working in Biosafety Cabinets and hoods
- Introduction to Quality Control (QC) and Quality Assurance (QA)
- Requirements for implementing QC & QA, QC & QA concepts in ASU drugs
- Standardizing an Analytical method (including the concept and steps involved in standardization of an analytical method
- Introduction to some basic Quality Control (QC) techniques: - (such as pH meter, Karl-Fischer (KF) Titration, Friability Testing, Hardness Testing, Disintegration Testing and Dissolution Testing
- Introduction to validation and it's types, Audit requirements, audits and audit reports
- Personnel Responsibility in QA
- Introduction to Types and Sources of Bioanalytical Laboratory waste
- Chemical & Biological materials: Hazards and Handling (including Chemical Storage and Segregation, Chemical Laboratory Emergency Response, Equipment Safety, Laboratory Inspections, Transportation and Receiving of Hazardous Materials)
- Hazard Controls & Information (Workplace Hazardous Materials Information System {WHMIS} asexample)
- Introduction to: Regulations of Pollution Control Board for Laboratories.

Unit 2 **15**

Lectures

Concepts in Statistics and Biostatistics

- Basic concepts of sample statistics (Mean, Median, Mode, Standard Deviation)
- Concept of sample size and power
- Concept of randomization and sampling techniques
- Concept of significance and confidence limits

SIES

College of Arts, Science & Commerce

RISE WITH EDUCATION

Sion (West), Mumbai – 400022

(Autonomous)

(*Affiliated to University of Mumbai*)

Faculty: Science

Program: M.Sc.-II

Subject: BIOANALYTICAL SCIENCES

Academic Year: 2023 – 2024

Revised Syllabus under Choice Based Credit System (CBCS) approved by the Board of Studies in Bioanalytical Sciences
Effective from Academic Year: 2023-24

SIPSBN42 – Therapeutic Drug Monitoring and Pharmacovigilance, Electronic Data Management, and Biostatistics

(Lecture allotment includes periods for Seminars and Discussions)

Learning objectives

- *To acquaint students with concepts related to Therapeutic Drug Monitoring and Pharmacovigilance*
- *To understand environmental safety issues and various guidelines related to*
- *Bioanalytical Laboratory*
- *To introduce students to electronic data management*
- *To introduce students to basic concepts and applications of general statistics methods and to make them competent in Biostatistics*

4.2.1 Therapeutic drug monitoring and Pharmacovigilance (15)

1. Purpose of therapeutic Drug Monitoring
2. Bioanalytical techniques in TDM
3. Analytical and practical issues of TDM
4. Pharmacoeconomics of TDM
5. Significance and need for Pharmacovigilance (Introduction to various casestudies of pharmacovigilance)
6. Indian scenario and the role of regulatory agencies in pharmacovigilance
7. Pharmacovigilance and the safe use of medicines (with case studies ofdrugs which have been banned due to regulatory issues e.g., Erythromycin which is supposed to cause skin problems in Asian population)

References: -

Xu, Q. Alan, Madden, Timothy L. (2011) Analytical Methods for Therapeutic Drug Monitoring and Toxicology. Hoboken: John Wiley & Sons, Inc.

Waller, Patrick, Harrison-Woolrych, Mira (2017) An Introduction to Pharmacovigilance Second Edition. West Sussex: John Wiley & Sons Ltd.

Andrews, Elizabeth B., Moore, Nicholas (2014) Mann's Pharmacovigilance Third Edition. West Sussex: John Wiley & Sons Ltd.

4.2.2 Environmental Safety in Bioanalytical laboratory (15)

1. Strategies to reduce the environmental impact of a bioanalytical/clinical laboratory
2. Standards of Laboratory Safety (Including Biosafety Levels)
3. Overview of guidelines for laboratories handling radioactive substances
4. Introduction to ISO 14001 and ISO 45001 (formerly OHSAS 18001)
5. Introduction to Environment Impact Assessment & reporting
6. Concepts related to biodiversity and conservation: Red Data Book, Endemic and endangered medicinal plant species, conservation and sustainable use of medicinal raw materials, Introduction to Wildlife Act of India & CITES
7. Carbon footprints and Carbon credits

References: -

Salerno, Reynolds M., Gaudioso, Jennifer (2015) Laboratory Biorisk Management Biosafety and Biosecurity. Boca Raton: CRC Press

Glasson, John, Therivel Riki, Chadwick, Andrew (2012) Introduction to Environmental Impact Assessment 4th Edition. Oxon: Routledge

AC/27.06.2023/RS 1

SIES College of Arts, Science & Commerce (Autonomous)
RISE WITH EDUCATION
NAAC REACCREDITED - 'A' GRADE

Faculty: Arts

Programme: B.A.

Subject: Philosophy

Academic Year: 2023-2024

FYBA
Choice Based Credit System
and
Learning Outcome Based
System as
Multidisciplinary
Undergraduate Program
with DSC in Philosophy
under NEP 2020

Revised Syllabi approved
by Board of Studies in Philosophy
w.e.f. June 2023

1. Preamble

।। कल्पयतु, विश्वासं कुरु, साधयतु ।।

"कल्पना करो, विश्वास करो, हासिल करो।
Imagine, Believe, Achieve!

With the implementation of National Education Policy (NEP 2020) and in continuation with academic autonomy engaging the undergraduates in Philosophy has continued to be more meaningful and purposeful. As per the NEP First Year Course Structure, the FYBA Courses are revised and designed to promote critical thinking, ethical reasoning, and philosophical inquiry among the students. In a rapidly changing world with evolving technologies and global challenges, ethical reasoning is vital for addressing moral dilemmas. It enables individuals to consider the implications of their actions on others, weigh competing values and interests, with a commitment to fulfil one's own professional duties and responsibilities.
Philosophy is one of the oldest disciplines in the world and its origin can be traced back in all the historical civilizations. Moreover, it is the academic exploration of life's big questions. Its multidisciplinary approach can be applied to any field, and it helps to develop critical thinking skills. Today, the bedrock of ethical practice in demand in any professional settings is competence, and an attitudinal skill to uphold principles of justice, fairness, and integrity.

Through a collective effort of the members of Board of Studies in Philosophy at SIES College, Sion (West) both within and from outside the institution we have collectively kept the national interest while framing the syllabus. Their expertise was very valuable in conceptualizing the syllabus as per NEP 2020 guidelines and based on OBE. This syllabus shall help learners to sustain their interest in the subject, that could be a beginning in the career of some willing to do their Major in Philosophy, and it shall further enable them to engage in self-directed thought.

F. Y. B. A. Philosophy Course Structure (NEP 2020)

and credit distribution for

3 / 4 Year Multidisciplinary Undergraduate Program

opting for Discipline Specific Courses (DSC)-Philosophy as Major

		Faculty of Arts			Faculty of Arts/Commerce			Inter-Intra Faculty	
		Subject 1		Subject 2	Subject 3	Subject 4	Subject 5	Subject 6	Credits
		Major		Minor	GEC/OE	VSC/ SEC (VSEC)	AEC/VEC /IKS	OJT/FP/C EP/CC/RP	
Level	Sem	Core	DSE						
4.5	I	C 1 Fundamentals of Ethics (4) SIUPHCA 111	---	Fundamentals of Ethics SIUPHCB 111	---	VSC Professional Ethics (2) SIUPHVS 111	---	---	**4+2 =06**
	II	C 2 Introduction to Logic (4) SIUPHCA 121	---	Introduction to Logic SIUPHCB 121	---	VSC Critical Thinking (2) SIUPHVS 121	---	---	**4+2 =06**
Semesters I & II		**08**	---	---	---	**04**		---	**8+4 =12**
Exit option with Certificate in Major with completion of course minimum of 40-44 credits, 4 Exit Skill Credits OR Continue with Major and Minor									

2. Programme Outcomes and Programme Specific Outcomes
POs and PSOs in B.A. Philosophy

On completion of Graduation in B.A. Philosophy the learners shall be able to demonstrate and attain the following graduate attributes at Cognitive, Skill and Attitude levels for the award of the qualifying degree.

Domain Dependent (POs 2-5)	***POs***	**PO Statements**
	COGNITIVE LEVEL	
	PO2 Critical Thinking	Evaluate the accuracy and validity of assumptions with an ability to reflect essentially from different perspectives and ideas.
	PO3 Reasoning ability and Rational thinking	Think rationally and analyze socio-cultural-legal issues with decisive responsibility that promote community welfare.
	SKILL LEVEL	
	PO4 Research skill	Integrate the contextual knowledge in an inter-disciplinary framework by exercising the analytical skill, research ability, creativity, for employability and collaborating with industries.
	PO5 Effective Communication skill	Facilitate the ability to speak, read, write, listen effectively in Indian languages, other medium of instructions and enhance the use of digital communication tools.
Domain Independent (POs 6-10)	***PO6 Social Interactive Skills and Teamwork***	Stimulate constructive social interactions in multidisciplinary settings by exhibiting, adapting leadership and team-building skills.
	ATTITUDE LEVEL	
	PO7 Ethical values	Recognize and respect different value systems with a commitment to fulfil one's own professional duties and responsibilities.
	PO8 Self-directed Learning	Demonstrate the ability to keep evolving in life-long learning and upgrade with the changing global and technological advancements.
	PO9 Sensitization towards Environment and Sustainability	Create an ecological consciousness to develop a sustainable culture for a sustainable future.
	PO10 Gender Sensitization	Analyze coherent understanding of human rights from multi-disciplinary perspectives.
	PSOs	**PSO Statements**
(PSOs 1-3)	***PSO 1 Analytic and Synthetic***	To nurture philosophical inquiry in order to recognize ethical reasoning and conflict resolution.
	PSO 2 Theoretical and Practical	To articulate one's opinions, views, justifications and communicate with a moral awareness.
	PSO 3 Logical and Empirical	To look at problems from multiple perspectives with the help of different pertinent cultural approaches.

F. Y. B. A. Philosophy Syllabus (NEP 2020) Semester I
(Choice Based Credit System and Learning Outcome Based System with DSC in Philosophy under NEP 2020 with effect from academic year 2023-2024)

Class	Semester	Course Code	Course Name	No. of hours	Credits	Marks
FYBA	**I**	**SIUPHCA 111 & SIUPHCB 111**	**Subject 1&2 Fundamentals of Ethics**	**60**	**4**	**40+60=100**

Learning Objectives -

- Familiarise learners to the foundational knowledge of ethics and human value as rooted in philosophy.
- Develop an ability to apply ethical principles in decision making.

Learning Outcomes:

Module 1: Introduction to Moral Philosophy
Module 2: Indian and Western Ethics
Module 3: Conditions of Moral Responsibility
Module 4: Morality of Self-interest and Altruism

COs	Statements	Cognitive Levels	Affinity with	
			PO nos.	PSO nos.
CO1	Identify ethical terms and issues along with its area of specific application.	R, U	2, 7	1, 3
CO2	Discuss the significance of duty, virtue, character and moral obligations as an integrated phenomenon in diverse cultures.	U, An	6, 8	2
CO3	Examine the need for moral decision making and corrective measures for responsible behavior through theories and discussions.	Ap, An	7, 10	1, 3

PO- Program Outcome, PSO-Program Specific outcome; CO-Course Outcome; Bloom's Taxonomy Levels: R-Remembering; U-Understanding; Ap-Applying; An-Analyzing

Course Contents:

Module I: Introduction to Moral Philosophy **[15 hours]**

(a) Definition, nature, scope of ethics, values and types
(b) Moral/immoral/amoral, absolutism/relativism
(c) Applied ethics- Corporate, Bio-medical & Social Media

Module II: Indian & Western ethics **[15 hours]**

(a) Vedic & Upanishadic ethical concepts -
Rta, Rna, Purusharthas, Shreyas and Preyas

(b) Virtue ethics- Socrates, Plato & Aristotle
(c) Gita Ethics and Kantian ethics

Module III: Conditions for moral responsibility **[15 hours]**

(a) Freewill verses Determinism- Necessitarianism, Libertarianism & Compatibilism
(b) Teleology- Utilitarianism of Jeremy Bentham and John Stuart Mill
(c) Theories of Punishment- Deterrent, Reformative and Retributive, Capital Punishment-debates

Module IV: Morality of Self-Interest and Altruism **[15 hours]**

(a) Charvaka Hedonistic ethics-Sukhavada
(b) David Hume's ethics of Altruism
(c) Ayn Rand's Selfishness as virtue

Suggested References:

- Acton, H. B. (ed.), *The Philosophy of Punishment* (Macmillan, 1969)
- Bowie, Norman & Werhane, Patricia. *Management Ethics* (Blackwell Publishing, 2005)
- Fieser, James and Lillegard, Norman. *Philosophical Questions: Reading and Interactive Guides* (New York/Oxford: OUP, 2005)
- Honderich, Ted. *Punishment: The Supposed Justifications* (Penguin Books, 1969)
- Lawhead, William. *The Philosophical Journey: An Interactive Approach* (Mayfield Publishing Company, 2000)
- Levy, Neil. *Sartre* (One world Publications, 2007)
- Norman, Richard. *The Moral Philosophers: An Introduction to Ethics* (Oxford: Clarendon Press, 1983)
- Olen, Jeffery & Barry, Vincent. *Applying Ethics* (Wadsworth, 1998)
- Rand, Ayn. *The Virtue of Selfishness* [Introduction, chpts. 1 and 3] (New York: Signet Book, 1964)
- Sartre, Jean Paul. "Existentialism is a Humanism" in Walter Kaufman (ed.), *Existentialism from Dostoyevsky to Sartre* (New American Library -Meridian Book, 1975)
- Shankar, Uma Maheshwari. & Pai, Vatsala. *Moral Philosophy,* (Sheth Publishers, Mumbai. 2014)

FYBA COURSE EVALUATION PATTERN

SEMESTER I : Fundamentals of Ethics (Subject 1 & 2) SIUPHCA 111 & CB 111

The following question paper pattern for FYBA Subject I & II titled Fundamentals of Ethics to be brought into effect from the academic year (2023-2024)

Internal Assessment [40 marks – 20 marks class test + 15 marks individual/group presentation + 5 marks for active participation in the class]

1. ONLINE CLASS TEST (Multiple Choice) – [**20 marks]**

Any **One** of the above first two units

2. INDIVIDUAL/GROUP - Participation in lecture and seminar, webinar/Project work/ Written Test / Panel Discussion / Power Point Presentation/ Field Visit Report Writing/ Paper Presentation- [**20 marks]**

Semester End Exam Evaluation [60 marks]

1. There shall be four compulsory questions
2. The four questions shall correspond to the four modules (with internal choice)
3. Each question shall carry a maximum of 15 marks

Q.1. Module I – a or b	**15**
Q.2. Module II – a or b	**15**
Q.3. Module III – a or b	**15**
Q.4. Module IV – a or b	**15**

OR

Q.1. Module I – a & b	**6 + 9 = 15**
Q.2. Module II – a or b	**15**
Q.3. Module III – a & b	**6 + 9 = 15**
Q.4. Module IV – a or b	**15**

Class	Semester	Course Code	Course Name	No. of hours	Credits	Marks
FYBA	**I**	**SIUPHVS 111**	**VSC 1-Professional Ethics**	**30**	**2**	**20+30=50**

Learning Objectives:

- Familiarize with concepts central to the philosophical study of professional ethics.
- Foster morally responsible citizens.

Learning Outcomes:

Module 1: Human Values, Rights and Responsibility
Module 2: Code of conduct
Module 3: Case Study Analysis (Practical)

COs	Statements	Cognitive Levels	Affinity with	
			PO nos.	PSO nos.
CO1	Explain the historical, social, or cultural contexts of the professions, codes of professional ethics, and the relations between the professions and other institutions.	R, U	2, 7	1, 3
CO2	Apply moral theories to professional or workplace moral issues using the case-study method.	U, An	6, 8	2
CO3	Write an argument that analyzes, evaluates, or defends a solution to a specific problem in professional ethics.	Ap, An	7, 10	1, 3

PO- Program Outcome, PSO-Program Specific outcome; CO-Course Outcome;
Bloom's Taxonomy Levels: R-Remembering; U-Understanding; Ap-Applying; An-Analyzing

Course Content-

Module I: Human Values, Rights and Responsibility **[10 Hours]**

(a) Morals, Values and Ethics – Integrity-Academic integrity-Work Ethics.
(b) Civic Virtue – Respect for others- Living peacefully- Caring and Sharing- Honesty-courage-Cooperation – Commitment – Empathy-Self Confidence -Social Expectations.
(c) Peer assessment – Managing conflict- Collective bargaining- Confidentiality -Conflicts of interest- Occupational crime- Professional rights Employee right- IPR.

Module II: Code of conduct **[10 Hours]**

(a) Teacher and Students
(b) Doctor and Patients
(c) Lawyer and Clients

Module III: Case Study Analysis (Practical) **[10 Hours]**

(a) Business Ethics
(b) Media Ethics
(c) Ethics of Artificial Intelligence

Suggested References:

1. Chadwick, Ruth. Professional Ethics. In E. Craig (Ed.), Routledge *Encyclopedia of Philosophy*. (London: Routledge. 1998)
2. Frey, R.G. and Wellman, Christopher Heath (ed.) : *A Companion to Applied Ethics*, (John Wiley & Sons, New York, 2008)
3. Fullerton, G.S. *Introduction to Philosophy*, (Andrews UK Limited, Luton, 2012)
4. Joshi, H.M. *Traditional and Contemporary Ethics: Western and Indian*. (Bharatiya Vidya Prakashan, Delhi, 2002)
5. Lillie, William. *An Introduction to Ethics*. (Methuen, London, 1966)
6. Singer, Peter. Practical Ethics, Cambridge University Press, Cambridge, UK, 1990.
7. Sinha, Jadunath. Manual of Ethics, New Central Book Agency (P) Limited, Calcutta, 1998
8. Naagarazan. R.S. Professional Ethics and Human Values. New Age International (P) Limited, Publishers, New Delhi, 2006
9. Tandon, Nirmala. Contemporary Indian Ethics, English Edition Publishers, Mumbai, 2003
10. Titus, Harold. Ethics Today, Eurasia Publishing house Pvt. Ltd., New Delhi, 1966.

SEMESTER I: VSC 1- PROFESSIONAL ETHICS EVALUATION PATTERN

This course will follow the 'Do-Review-Learn-Apply' model

The following question paper pattern for FYBA titled Professional Ethics as Vocational Skill Course (Semester I) to be brought into effect from the academic year (2023-2024)

Internal Assessment [20 marks – 10 marks class test + 10 marks individual/group presentation, includes marks to be considered for active participation in the class]

Any **One** of the above first two units

1. ONLINE TEST (Multiple Choice) - **10 marks class test**

2. INDIVIDUAL/GROUP **-** Participation in Lectures and Seminars, Webinars/Project work/ Book review/ Symposium/ Written Test / Panel Discussion / Power Point Presentation/ Field Visit Report Writing/ Paper Presentation - **10 marks**

Semester End Exam Evaluation [30 marks]

1. There shall be Three compulsory questions
2. Questions shall correspond to the three modules (with internal choice)

Q.1. Module I – a or b	**10**
Q.2. Module II – a or b	**10**
Q.3. Write Short notes – anyone from all 3 modules	**10**

SIES College of Arts, Science & Commerce (Empowered Autonomous), Sion W

Subject: Economics

Academic Year: 2023-2024

Choice Based Credit System (CBCS)

Approved by Board of Study of Economics

With effect from the academic year 2023-24

Class	Semester	Course	Course Name	No of Lectures/ week	Credits	Marks
TYBA	VI	Major	Research Methods& Design	4 L/W	4	60

Objective: The course aims at imparting basic understandings of research and related themes to the learner. The course also tries to familiarize students with contemporary issues related to agriculture and climate change. The course imparts research skill on issues related to gender, environment.

CO1 – To Develop a conceptual understanding and provide a logical reasoning in the formulation of research problem.

CO2 – To identify and apply tools of data analysis and its limitations .

CO3- to evaluate various components of formulation of an questionnaire

CO4 - To apply research design and tools.

M1- Research and Types of Research

Importance and Typology of research, Conception/Identification of Research Problem, Formulation of Research Problem, Formulation of Testable Hypothesis, Research Method vs Research Design

M2 1. Research Methodology

Preparation of Research Design (Methodology), Execution of Research Project, Types of data, Data Collection, Data Processing and Analysis, and Interpretation of the Findings. Formulation of Questionnaire Case study/ project.

M3 – Hypothesis testing

Importance, application, Formulation of null and alternate hypothesis, Testing regions

M4 – Project on Indian Economy, Gender, Environment, Sustainability

Primary Data & Secondary Data

References-

1. The World of Agricultural Economics, An Introduction, By Carin Martiin, Rautledge publication,2013.
2. Goode and Halt - Methods in Social Surveys and Research
3. Kothari C. R., Research Methodology: Methods and Techniques (Second Revised Edition).
4. https://www.perlego.com/book/3066992/research-methodology-for-agricultural-economics-pdf
5. Agricultural Economics, Handbook of Agriculture Economics, by Sn Choudhary (Author), Oxford Book Company (Publisher)2012 .
6. Research Methods for Economics and Related Studies Dr. Keshab Bhattara, University of Hull Business School, Hull, England, UK

Course	Title	Lectures	Credits
SIUCSMN121	Fundamentals of Mathematics and Statistics-II	3 per week (60 min per lec)	3

Objective:

The objective of this paper is to explore the style of structured programming to give the idea to the students how programming can be used for designing real-life applications by reading/writing to files, GUI programming, interfacing database/networks and various other features.

Expected Learning Outcomes

- **CO1**: Students will apply concepts of derivatives and integrals to analyze and solve real-world problems
- **CO2**: Students will gain the ability to understand and apply key statistical methods.
- **CO3**: Students will develop ethical considerations in data analysis and improve their communication skills, fostering responsible practices and effective teamwork in professional environments.

Unit I	**Derivatives And Its Applications:** Review of Functions, limit of a function, continuity of a function, derivative function. Derivative In Graphing And Applications: Analysis of Functions: Increase, Decrease, Concavity, Relative Extrema; Graphing Polynomials, Rational Functions, Cusps and Vertical Tangents. Absolute Maxima and Minima, Applied Maximum and Minimum Problems, Newton's Method.	15 L
Unit II	**Integration And Its Applications:** An Overview of the Area Problem, Indefinite Integral, Definition of Area as a Limit; Sigma Notation, Definite Integral, Evaluating Definite Integrals by Substitution, Area Between Two Curves, Length of a Plane Curve. Numerical Integration: Simpson's Rule. Modeling with Differential Equations, Separation of Variables, Slope Fields, Euler's Method, FirstOrder Differential Equations and Applications. **Partial Derivatives And Its Applications:** Functions of Two or More Variables Limits and Continuity Partial Derivatives, Differentiability, Differentials, and Local Linearity, Chain Rule, Directional Derivatives and Gradients, Tangent Planes and Normal, Vectors, Maxima and Minima of Functions of Two Variables.	15 L
Unit III	**Standard distributions:** random variable; discrete, continuous, expectation and variance of a random variable, pmf, pdf, cdf, reliability, Introduction and properties without proof for following distributions; binomial, normal, chi-square, t, F. Examples **Hypothesis testing:** one sided, two sided hypothesis, critical region, p-value, tests based on t, Normal and F, confidence intervals.	15 L

AC/27.06.2023/RS 1

SIES College of Arts, Science & Commerce

RISE WITH EDUCATION

NAAC REACCREDITED "A" GRADE, CGPA 3.51/4.00

(AUTONOMOUS)

(Affiliated to University of Mumbai)

Faculty: Arts

Programme: B.A.

Subject: Philosophy

Academic Year: 2023-2024

TYBA

Choice Based Credit System and
Learning Outcome Based System
approved Syllabi
by Board of Studies in Philosophy
with effect from June 2023

1. Preamble

vidyā dadāti vinayaṁ vinayād yāti pātratām|
pātratvāddhanamāpnoti dhanāddharmaṁ tataḥ sukham||

This shloka indicates, knowledge gives humility, from humility, one attains character; from character, one acquires wealth; from wealth, good deeds (righteousness) follow and then happiness.

In continuation of academic autonomy, we revise the TYBA Syllabi as a result of learning outcomes-based education. The subject of Philosophy will help its learners to absorb the essence of critical thinking, problem solving and decision making.

Philosophy is one of the oldest disciplines in the world and its origin can be traced back in all the historical civilizations. It is the study of existence, knowledge, values, reason, consciousness, and language. Moreover, it is the academic exploration of life's big questions. Its multidisciplinary approach can be applied to any field or subject. In India, Philosophy is popularly referred to as Tattva jnana and is called as Darshana Shastra. It analyses the canonical texts, works of sages, acharyas & erudite scholars are studied and read today. Philosophy has significant impact on many areas of life and professions including the arts, science, history, politics, development & sustainability study, business & financial management, data science, technology, and artificial intelligence in the recent times.

Through a collective effort of the members of Board of Studies in Philosophy at SIES College, Sion (West) both within and from outside the institution whose expertise was so valuable in conceptualizing the syllabus about these features. This syllabus shall help learners to sustain their interest in the subject, that could be a beginning in the career of some willing to emerge as independent thinkers.

The aim of the course is to prepare the learners personally and professionally with the skills of rigorous analysis, sound argument and self-directed thinking to communicate complex ideas intelligently.

2. Programme Outcomes and Programme Specific Outcomes
POs and PSOs in B.A. Philosophy

On completion of Graduation in B.A. Philosophy the learners shall be able to demonstrate and attain the following graduate attributes at Cognitive, Skill and Attitude levels for the award of the qualifying degree.

	POs	PO Statements
Domain Dependent (POs 2-5)		**COGNITIVE LEVEL**
	PO2 Critical Thinking	Evaluate the accuracy and validity of assumptions with an ability to reflect essentially from different perspectives and ideas.
	PO3 Reasoning ability and Rational thinking	Think rationally and analyze socio-cultural-legal issues with decisive responsibility that promote community welfare.
		SKILL LEVEL
	PO4 Research skill	Integrate the contextual knowledge in an inter-disciplinary framework by exercising the analytical skill, research ability, creativity, for employability and collaborating with industries.
	PO5 Effective Communication skill	Facilitate the ability to speak, read, write, listen effectively in Indian languages, other medium of instructions and enhance the use of digital communication tools.
Domain Independent (POs 6-10)	PO6 Social Interactive Skills and Teamwork	Stimulate constructive social interactions in multidisciplinary settings by exhibiting, adapting leadership and team-building skills.
		ATTITUDE LEVEL
	PO7 Ethical values	Recognize and respect different value systems with a commitment to fulfil one's own professional duties and responsibilities.
	PO8 Self-directed Learning	Demonstrate the ability to keep evolving in life-long learning and upgrade with the changing global and technological advancements.
	PO9 Sensitization towards Environment and Sustainability	Create an ecological consciousness to develop a sustainable culture for a sustainable future.
	PO10 Gender Sensitization	Analyze coherent understanding of human rights from multi-disciplinary perspectives.
	PSOs	PSO Statements
(PSOs 1-3)	PSO 1 Analytic and Synthetic	To nurture philosophical inquiry in order to recognize ethical reasoning and conflict resolution.
	PSO 2 Theoretical and Practical	To articulate one's opinions, views, justifications and communicate with a moral awareness.
	PSO 3 Logical and Empirical	To look at problems from multiple perspectives with the help of different pertinent cultural approaches.

The Learning Outcomes-based Curriculum Framework (LOCF) is implemented for the Choice Based Credit System (CBCS) for the undergraduate program in Arts in Philosophy. There are Core Disciplinary papers that provide fundamental knowledge in the discipline of Philosophy and in the study of Indian Philosophy and World Philosophy. The learners will be able to demonstrate with the skills of rigorous analysis, sound argument and self-directed thinking to communicate complex ideas intelligently. The possible career paths open for the graduates in Philosophy are Higher Academic Studies in Humanities, Research, International Relations, Human Resource Development, Management, Policy Making, Law, Social Work, Education, Media, Fine Arts.

3. Programme: B.A. Philosophy

T. Y. B. A. Philosophy Syllabus (Autonomous) Semester V
(Choice Based Credit System and Learning Outcome Based System with effect from academic year 2023-2024)

Name of the Programme	Bachelor of Arts		Programme Code	SIUAPHI	Name of the Department	Philosophy
Class	Semester	Course Code	Course Name	No. of Lectures/PER WEEK	Credits	Marks
TYBA (6 Units)						
TYBA	**V**	SIUAPHI 51	Classical Indian Philosophy	**60/4**	4	**40 + 60 = 100**
		SIUAPHI 52	Philosophy of Religion	**60/4**	4	**40 + 60 = 100**
		SIUAPHI 53	Living Ethical Issues	**45/3**	3.5	**40 + 60 = 100**
		SIUAPHI 54	Philosophy of Bhagavad Gita	**60/4**	4	**40 + 60 = 100**
		SIUAPHI 55	Formal Logic	**60/4**	4	**40 + 60 = 100**
		SIUAPHI 56	Philosophy of Yoga	**45/3**	3.5	**40 + 60 = 100**

4. TYBA Semester V

Name of the Programme	Bachelor of Arts		Programme Code	SIUAPHI	Name of the Department	Philosophy
Class	Semester	Course Code	Course Name	No. of Lectures/PER WEEK	Credits	Marks
TYBA	**V**	**SIUAPHI 51**	**Classical Indian Philosophy**	**60/4**	**4**	**40 + 60 = 100**

Learning Objectives –

- Encourage a spirit of rationality in philosophizing.
- Equip learners with argumentative and analytical skills by philosophizing in an open-minded way towards the changing trends in society.

Learning Outcomes -

Module 1: Samkhya and Yoga
Module 2: Nyaya and Vaisesika
Module 3: Purva Mimamsa
Module 4: Uttara Mimamsa

COs	Statements	Cognitive Levels	Affinity with	
			PO nos.	PSO nos.
CO1	Examine the historical nature of orthodox schools with regard to its concepts in Indian Philosophy.	An	2	3
CO2	Explain the organisation of classical tradition on the foundations of metaphysics, epistemology and ethics.	U	2, 7	1
CO3	Assess the philosophical ideas of truth, reality, freedom and self- realization with clarity and review its relevance in contemporary times.	E	2, 8	1, 2

PO- Program Outcome, PSO-Program Specific outcome; CO-Course Outcome;
Bloom's Taxonomy Levels: U-Understanding; An-Analyzing; E-Evaluating

Course Contents:

Module I: Samkhya and Yoga [15 Lectures]

a) Prakriti & Purusa
b) Satkaryavada and Prakritiparinamavada
c) Eight-fold path of Yoga

Module II: Nyaya & Vaisesika [15 Lectures]

a) Concepts and Sources of Knowledge: *Prama, Aprama, Pramana*: perception, Inference, Comparison and Verbal Testimony
b) Concept of God and Liberation in Nyaya; *Khyativada*
c) Vaisesika: seven categories of reality, Theory of Evolution

Module III: Purva Mimamsa [15 Lectures]

a) Mimamsa: Pramanas
b) Seven Principles of interpreting text
c) Theory of error: Prabhakara – Akhyativada;

Kumarila Bhatta – Viparitkhyativada

Module IV: Uttara Mimamsa [15 Lectures]

a) Shankara (Advaita Vedanta)- three levels of reality (Satta traya), Mayavada & Vivartavada
b) Ramanuja (Visistadvaita): Concept of Brahman, critique of maya
c) Madhava – relation between God, Soul and the World

Suggested References:

- Basant Kumar Lal, *Contemporary Indian Philosophy*, (Motilal Banarsidass Publishers, Delhi,1973)
- J. Krishnamurti, *Truth and Actuality*, (London, Victor Gollencz, 1978)
- R. Tagore, *Religion of man* (London MacMillan, 1930)
- Jadunath Sinha, *A History of Indian Philosophy, Vol- I and II*, (Jatindranath Sen, Central Book Agency, Calcutta, 1952)
- M. Hiriyanna, *Outlines of Indian Philosophy*, (Motilal Banarsidas Publishers, Delhi, 1993)
- R. Tagore, *Man* Rabindranath (Rupa & Co, 1933)
- R. Tagore, *Sadhana* (Rupa & Co. 1933)
- S Radhakrishnan, *Indian Philosophy, Vol - I and II* (London: George Allen and Unwin Ltd., New York City: Humanities Press Inc.1923)
- Sri Aurobindo, *Practical Guide to Integral Yoga*, (Sri Aurobindo Ashram Pondicherry, 1955)
- Sri Aurobindo, *The synthesis of Yoga*, (Sri Aurobindo Library, New York City 1950)
- J. Krishnamurti, *Freedom from the known* (Ed: Mary Lutyens) (B.I. Publication,
- Surendranath Dasgupta, *A History of Indian Philosophy, Vol –I and II* (Motilal Banarsidas Indological Publishers and Booksellers, Delhi,1975)
- T.M.P Mahadevan and G. V Saroja, *Contemporary Indian Philosophy*, (Sterling Publishers Pvt. Ltd, Delhi, 1981) Bombay 1969)

Name of the Programme	Bachelor of Arts		Programme Code	SIUAPHI	Name of the Department	Philosophy
Class	Semester	Course Code	Course Name	No. of Lectures/PER WEEK	Credits	Marks
TYBA	**V**	SIUAPHI 52	Philosophy of Religion	**60/4**	**4**	**40 + 60 = 100**

Learning Objectives –

- Acquaint learners with the basic philosophical questions and issues that are current in Philosophy of Religion.
- Inculcate a sense of appreciation towards differing philosophical ideas and perspectives

Learning Outcomes -

Module 1: Introduction to Philosophy of Religion
Module 2: Theories of existence of God
Module 3: Mysticism
Module 4: Religious Language

COs	Statements	Cognitive Levels	Affinity with	
			PO nos.	PSO nos.
CO1	Examine the different philosophical concepts in Religion and Theology.	U	2, 8	1, 2
CO2	Distinguish various arguments for and against the existence of God. Analyse the function of religious language.	AP	2	3
CO3	Debate on the relevance of classical theological concepts and integrate the divine experiences with faith and reason.	AN	2	1, 3

PO- Program Outcome, PSO-Program Specific outcome; CO-Course Outcome;
Bloom's Taxonomy Levels: U-Understanding; Ap-Applying; An-Analyzing

Course Contents:

Module I: Introduction to Philosophy of Religion [15 Lectures]

a) What is Philosophy of Religion and
How it is different from Religion and Theology
b) Concept of creation: Deism, Pantheism and Theism (with Critique)
c) Attributes of God: omnipotence, omniscience, omnipresence, benevolence and personal.

Module II: Theories of existence of God [15 Lectures]

a) Ontological Argument (Anselm's version, Descartes' version and Kant's critique)
b) Causal/Cosmological Argument (Aquinas' argument, Leibniz's argument and Hume's critique)
c) Teleological (Aquinas and William Paley's view; and Hume's critique)

Module III: Mysticism [15 Lectures]

a) Characteristics of Mysticism: Ranade
b) Characteristics of Sufism
c) William James' analysis of Mystical experiences

Module IV: Religious Language [15 Lectures]

a) Analogical function of religious language (Thomas Aquinas' view)
b) Symbolic function of religious language (Paul Tillich's view)
c) Non-Cognitive J. R. Randall (Jr.) – Religious language as functional (cultural, artistic, social, and religious) and symbolic.
R. B. Braithwaite – Religious language from Linguistic perspective (emotive, ethical, and prescriptive)

Suggested References:

- Behari, B., Sufis, Mystics and Yogis of India, Bhartiya Vidya Bhavan, Mumbai. 1962
- Brightman, E.S. Philosophy of Religion, Forgotten Books Publishing, U.S.A. 2017
- Bronstein, Schulweis, H., and Daniel, J., Approaches to the Philosophy of Religion, Prentice Hall Publishing, U.S.A. 1954.
- Charlesworth, M., Philosophy and Religion – From Plato to Postmodernism, One world Publications, Oxford, 2006.
- Davis, S., God, Reason and Theistic Proofs, Edinburgh University Press, U.K. 1997.
- Galloway, G., Philosophy of Religion, Forgotten Books Publishing, U.S.A. 2012.
- Hick, J., Philosophy of Religion, 4th Edition, Pearson Publishers, India. 1989.
- Kanal, S.P., The Philosophy of Religion, Lotus Publishers, India. 1984.
- Katz, S., Mysticism and Religious Tradition, Oxford University Press, U.K. 1983.
- Masih, Y., Introduction to Religious Philosophy, 9th Ed., Motilal Banarsidas Publishers, India. 2017.
- Miall, D. The Philosophy of Religion, Progressive Publishers, India. 1963.
- Peterson and Vanarragon (ed.), Contemporary debates in philosophy of Religion, Blackwell publishing, New Jersey. 2003.
- Peterson, Hasker, Rwichenbach, Basinger. Philosophy of Religion. 5th Ed., Oxford University Press, 2014.
- Rowe, W., and Wainwright. Philosophy of Religion, (selected readings), 3rd edition, Oxford University Press, U.S.A, 1998.
- Thiselton, A., The Concise Encyclopaedia of the Philosophy of Religion, One World Publications, London. 2006.
- Tilghman, B., Introduction to Religious Philosophy, Blackwell Publishing, New Jersey. 1994.
- Titus (Author), Smith and Nolan (Editors), Living Issues in Philosophy, 9th Ed., Oxford University Press, U.K. 1994.
- William J Wainwright. The Philosophy of Religion, Oxford University Press, U.S.A, 2004

Name of the Programme	Bachelor of Arts		Programme Code	SIUAPHI	Name of the Department	Philosophy
Class	Semester	Course Code	Course Name	No. of Lectures/PER WEEK	Credits	Marks
TYBA	**V**	SIUAPHI 53	Living Ethical Issues	**45/4**	**3.5**	**40 + 60 = 100**

Learning Objectives –

- Engage with ethical concerns in relation to decision making**.**
- Sensitize towards environmental deliberations.
- Inculcate the value of being fair, honest, and ethical.

Learning Outcomes –

Module 1: Religious views of the Environment
Module 2: Environmental Ethics and approaches
Module 3: Environment, Society and Governance
Module 4: Environmental Justice

COs	Statements	Cognitive Levels	Affinity with	
			PO nos.	PSO nos.
CO1	Determine the importance of co-habitation in human achievements of sustainable developments goals and connect the differing eco-philosophical ideas and perspectives.	An	3, 8	2
CO2	Distinguish between various 'isms' prevailing in environmental debates and formulate ideas to give new moral dimensions in eco-social welfare.	AP	3, 10	3
CO3	Examine environmental management strategies. Identify the goals of the environmental rights movement.	E	4, 9	1, 3

PO- Program Outcome, PSO-Program Specific outcome; CO-Course Outcome;
Bloom's Taxonomy Levels: Ap-Applying; An-Analyzing; E-Evaluating

Course Contents:

Module I: Religious views of the Environment [11 Lectures]

(a) Reflections on Jaina and Buddhist views on Nature & Environment
(b**)** Man, and Ecology: An Islamic Perspective

Module II: Environmental Ethics and approaches [12 Lectures]

(a) Anthropocentrism versus non-anthropocentrism.
Paul Taylor and bio-centric egalitarianism
(b) Deep ecology and Ecofeminism

Module III: Environment, Society and Governance [11 Lectures]

(a) Environmental Law and Policy in India: the Biodiversity Act of 2002, the Forest Rights Act of 2006, and the National Green Tribunal Act of 2010.
(b) Organizations, Individuals and Non-governmental bodies

Module IV: Environmental Justice **[11 Lectures]**

(a) Introduction to Environmental Justice: Role of youth, Climate Change Activism

(b) Environmental Movements in India: Bishnoi, Chipko, Save Silent Valley, Jungle Bachao Andolan, Appiko Movement, Narmada Bachao Andolan, Tehri Dam Andolan

Suggested References:

- Baindur, Meera. *Nature in Indian Philosophy and Cultural Traditions*. (Springer. New Delhi. 2015)
- Col Muthanna, C. P. *Climate Change in India: Threats, Challenges and Opportunities*. (Vij Books India 2022)
- Diwan, Shyam and Rosencranz, Armin. *Environmental Law and Policy In India-Cases and Materials*. Third Edition. (Oxford Press 2021)
- Evans, J.P. *Environmental Governance*. (Routledge. 2012)
- Frey, R.G. and Wellman, C.H. (ed.) *A Companion to Applied Ethics* (Blackwell, 2003)
- Gottlieb, R.S. (ed.) *The Oxford Handbook of Religion and Ecology* Part I (Oxford University Press, 2006)
- Jamieson, D. (ed.) *A Companion to Environmental Philosophy* (Blackwell Publishing, 2001)
- Kashwan, Prakash (Ed.). *Climate Justice in India* (Cambridge University Press (Manohar). 2023)
- Rangarajan. *Environmental Issues In India: A Reader* (Pearson India. 2011)
- Ravetz, Joe. Roberts, Peter W. George, Clive. Howe, Joe. *Environment and the city 1st Edition*. (Routledge. 2004)
- Ryder, Stacia. Powlen, Kathryn. Laituri, Melinda. Malin, Stephanie A. Sbicca, Joshua. Stevis, Dimitris (Ed.). *Environmental Justice in the Anthropocene From (Un)Just Presents to Just Futures*. (Routledge. 2021)
- Warren, K. "The Power and Promise of Ecological Feminism" in Louis P. Pojman (ed.) *Environmental Ethics: Readings in Theory and Applications* 3rd ed. (Wadsworth, 2001)
- Wilkinson, David. *Environment and Law*. (Routledge. 2002)
- Zimmerman, M. (ed.) *Environmental Philosophy: From Animal Rights to Deep Ecology* (New Jersey: Prentice Hall/Englewood Cliffs, 1993)

Name of the Programme	Bachelor of Arts		Programme Code	SIUAPHI	Name of the Department	Philosophy
Class	Semester	Course Code	Course Name	No. of Lectures/PER WEEK	Credits	Marks
TYBA	**V**	**SIUAPHI 54**	**Philosophy of Bhagavad Gita**	**60**	**4**	**40 + 60 = 100**

Learning Objectives –

- To explore and interpret philosophical ideas of Gita through reading of the text.
- To relate Gita's social, political, and ethical ideas within a contemporary context.

Learning Outcomes -

Module 1: Text in context: Introduction to Gita
Module 2: Gita Theism
Module 3: Deontology in Gita
Module 4: God & World

COs	Statements	Cognitive Levels	Affinity with	
			PO nos.	PSO nos.
CO1	Explain the text in context of its social-cultural significance and articulate the fundamental philosophical ideas in present times.	U	3, 8	2
CO2	Analyse the major ethico-spiritual concepts in the text to understand their meaning and relevance.	AP	3, 7	3
CO3	Evaluate thematically the present text with other classical text and express the need for the philosophical inquiry in life.	AN	4, 8	2, 3

PO- Program Outcome, PSO-Program Specific outcome; CO-Course Outcome;
Bloom's Taxonomy Levels: U-Understanding; Ap-Applying; An-Analyzing

Course Contents:

Module I: Text in context: Introduction to Gita **[15 Lectures]**

a. Gita as part of Prasthantrayi- Relation between Gita and Upanishads
b. Vishaad Yoga (I- 28 to 47, II – 4 to 10) Arjuna's arguments & Krishna's reply
(II – 1 to 3, 11 to 15, 27 to 38, 40, IX – 32 to 34, XVIII – 13 to 17, 51- 60)
c. Samkhya Buddhi and Yoga Buddhi (II- 39,40,41,48,49 to 53, X-10)

Module II: Gita Theism **[15 Lectures]**

a. God as Saguna (Personal) (VI – 29, VII – 7 to 11, IX – 16 to 19, X – 41, 42, XV – 12 to 15, XVIII- 61)
b. God as Nirguna (Impersonal) (VII – 12, 24 to 28, IX – 4 to 6, XV - 16 to 19, X- 19 to 40)
c. Avataravada (IV – 4 to 9, IX- 11, 15)

Module III: Deontology in Gita **[15 Lectures]**

a. Karma Yoga-Karma, Akarma & Vikarma (IV – 16 to 23, XVIII – 23 to 25)
b. Nishkamakarmayoga and Naishkarmya (II – 47 to 53, V- 1 to 13,

III – 1 to 8, 19 to 30, VI – 1 to 4, XVIII – 1, 2, 6, 55, 56)

c. Swadharma & Varna-Ashrama Dharma (II- 31, III- 35, IV-6 to13, XVIII – 41 to 49)

Module IV: God & World **[15 Lectures]**

a. Cosmic Evolution (VII – 4 to 6, 14, 15, IX – 7 to 10, XIII – 26, XIV- 3 to 5, 14 to 20, XV-3 to 13, 17)

b. Ashwatha Vriksha- Cosmic tree metaphor (XV- 1 to 6, X-26)

c. Kshetra-kshetrajna (Prakriti-Purusha) (XIII – 1 to 3, 12 to 17, 31 to 34, XIV- 19)

Suggested References:

- Agarwal, S. *The Social Role of Gita*, Motilal Banarsidass, Delhi. 1998
- Bhave, V. *The Talks on Gita,* The Macmillan Company, U.S.A.1960
- Chinmayananda, *The Holy Gita,* Central Chinmaya Mission Trust, 10th ed. 1996
- Gandhi, M.K. *The Bhagvad Gita,* Jaico Publishers, India.2010
- Garg, R.S. *Gita for success in modern life,* New Age Books, India.2002
- Jnandeva, *Bhavartha Dipika-Jnaneshwari,* Samata Books, India. 2006
- Mudgal, S.G. *The Bhagvad Gita,* Vedic Books, London.2003
- Radhakrishnan, S. (ed.), *The Bhagavad Gita,* Harper Collins Publishers, India. 2014
- Ramanathan, V.*Bhagavad Gita for Executives*, Bhartiya Vidya Bhavan, India. 2001
- Ranade,R.D. *The BhagavadGita As A Philosophy Of God realization,* Aryabhushan Press, Poona.1959
- Tapasyananda, *Bhagvad Gita: The Scripture of Mankind,* Sri Ramkrishna Math, Chennai.2000
- Tilak, Martin, *Srimad Bhagvad Gita,* Vijay Goel Publisher, India. 2

Name of the Programme	Bachelor of Arts		Programme Code	SIUAPHI	Name of the Department	Philosophy
Class	Semester	Course Code	Course Name	No. of Lectures/PER WEEK	Credits	Marks
TYBA	**V**	**SIUAPHI 55**	**Formal Logic**	**60**	**4**	**40 + 60 = 100**

Learning Objectives –

- Determine use of arguments, evaluation and logical errors in improving language proficiency**.**
- Inculcate logical justifications that guide thinking.

Learning Outcomes -

Module 1: Introduction to Logic
Module 2: Deductions
Module 3: Syllogisms
Module 4: Fallacies

COs	Statements	Cognitive Levels	Affinity with	
			PO nos.	PSO nos.
CO1	Discuss fundamental concepts in logical reasoning. Explain the importance of categorical propositions and immediate inferences for problem solving.	U	2, 8	1, 2
CO2	Evaluate the nature, mood and figure of syllogistic reasoning with the help of Venn diagram.	AP	2, 3	3
CO3	Illustrate proficiency of thought in daily life with understanding of fallacies. Appraise alternate logical systems to facilitate critical thinking.	AN, E	4, 8	1, 2

PO- Program Outcome, PSO-Program Specific outcome; CO-Course Outcome;
Bloom's Taxonomy Levels: U-Understanding; Ap-Applying; An-Analyzing; E-Evaluating

Course contents:

Module 1: Introduction to Logic [15 Lectures]

a. Definitions of logic, logic as a formal science, propositions, and sentences
b. Arguments: premises and conclusions, recognizing arguments, types of arguments: inductive and deductive (theory and exercise)
c. Functions of language: its three basic functions;
Recognizing language functions (exercise);
Kinds of agreement and disagreement in belief and attitude (method and exercise)

Module II: Deductions [15 Lectures]

a. Traditional classification of propositions (quality, quantity and distribution)
b. Square of opposition: contradictories, contraries, sub-contraries and subaltern (theory and exercises)
c. Eductions (theory and exercises)

Module III: Syllogisms [15 Lectures]

a. Nature of syllogism: major, minor, and middle terms; types of syllogism: categorical, disjunctive, and conditional.
b. Mood and Figure: special rules of the four Figures and 15 valid Moods, Testing validity of syllogisms by rules of syllogistic reasoning
c. Venn Diagram (theory and exercises)

Module 1V: Fallacies [15 Lectures]

a. Difference between formal and non-formal fallacies
b. Defining and identifying fallacies and non-fallacies in arguments
c. Exercise on non-formal fallacies:

1. Division 2. Composition 3. Accident 4. Converse fallacy of accident
5. Petitio Principii 6. False cause 7. Complex question
8. Ignoratio Elenchi (ad baculum, ad hominem, ad misericordiam, ad populam, ad verecundiam and ad ignoratiam) 9. Red Herring 10. Slippery slope
11. Straw man fallacy

Suggested References:

- Basantani, K.T., *Elementary Logic in LL.B.* Sheth Publishers, Mumbai
- Copi, *Symbolic Logic,* 5th Edition, Pearson Publication, U.K.2008
- Copi, Cohen, McMahon, *Introduction to Logic.* 14th edition, Pearson Publication, U.S.A.2013
- Firma, R.D, *Logic of truth-functions- An Introduction to Symbolic Logic.*, K.L. Mukhopadhyay, Calcutta, 1964
- Hughes, G.E., Londey, D.G., Mansukhani, G.N. *The Elements of Formal Logic.* B.I Publications, Bombay,1965
- Hunter, G. *Metalogic: An – Introduction to the Metatheroy of Standard First order Logic*,University of California Press, Rev. Ed.1996
- Jetli P & Prabhakar, M. Logic (Pearson: Delhi, Chennai and Chandigarh 2012)
- Kangle, R.P. Kautilya's Arthashastra. by Motilal Banarsidass Publishers Pvt. Ltd., New Delhi, India
- Pillai. Radhakrishnan, Inside Chanakya's Mind: Aanvikshiki and the Art of Thinking (2017) Penguin Random House India.
- Raghuramaraju, A. Debates in Indian Philosophy: Classical, Colonial and Contemporary (2006) Oxford University Press, New Delhi.
- Robert Lata and Alexander Macbeath, The Elements of Logic. (Macmillan & Co. Ltd.)

Name of the Programme	Bachelor of Arts	Programme Code	SIUAPHI	Name of the Department	Philosophy

Class	Semester	Course Code	Course Name	No. of Lectures/PER WEEK	Credits	Marks
TYBA	**V**	**SIUAPHI 56**	**Philosophy of Yoga**	**45**	**3.5**	**40 + 60 = 100**

Learning Objectives –

- To explore and interpret philosophical ideas of Patanjali through reading of the text.
- To relate Patanjali's social, political and ethical ideas within a contemporary context.

Learning Outcomes -

Module 1: Introduction to Yoga
Module 2: Citta
Module 3: Kinds of Yoga
Module 4: Bahirangasadhana

COs	Statements	Cognitive Levels	Affinity with	
			PO nos.	PSO nos.
CO1	Write the concept of Yoga as mentioned in the different philosophical texts.	U	3, 8	1, 2
CO2	Explain the foundations of mental modifications and afflictions. Examine the different kinds of Yoga.	AP	4, 8	2, 3
CO3	Compare the ideological similarities and differences in various kinds of Yoga. Assess the ethico-spiritual importance of Yoga in physical-emotional-social-mental well-being.	AN, E	4, 8	1, 2

PO- Program Outcome, PSO-Program Specific outcome; CO-Course Outcome;
Bloom's Taxonomy Levels: U-Understanding; Ap-Applying; An-Analyzing; E-Evaluating

Course Contents:

Module I: Introduction to Yoga **[11 Lectures]**

a. Introduction to Patanjali Yoga and Eliminating the misconceptions of Yoga
b. Upanishadic concept of Yoga

Module II: Citta **[12 Lectures]**

a. Yogashchittavruttinirodhah-chitta and Vruttis (mental modifications)
b. Citta Bhumis and Five Kind of Kleshas (Afflictions)

Module III: Kinds of Yoga **[11 Lectures]**

a. Raja Yoga and Hatha Yoga: a distinction
b. Mantra yoga and Kundalini Yoga.

Module IV: Bahirangasadhana :(external discipline) **[11 Lectures]**

a. Yamas-Niyamas and their ethico-spiritual significance
b. Techniques of Asana and Pranayama- results and benefits: Pratyahara

Suggested References:

- Iyengar, B. K.S., *Light on Yogasutras of Patanjali*, Thorsons Publishers, U.K.2012
- Iyengar, B. K.S., *Light on Yoga*, Thorsons Publishers, U.K.2006
- Iyengar, B.K.S., *Yogadipika*, Orient Blackswan Pvt.Ltd., India.1997

- Rajarshi, Swami, *YOGA THE ULTIMATE ATTAINMENT,* Jaico Publishing House, India.1995.
- Satyaprakash Sarawati Swami, *Patanjala Raja Yoga*, S. Chand & Co., Delhi. 1984
- Suren (Aviyogi), Cyclopedia of Yoga Vol.I &II, Saru Publishing House, Meerut.1992
- Werner, K., *Yoga and Indian Philosophy*, Motilal Banarsidas, 2nd Ed., Delhi. 2017
- Yardi, M.R., *The Yoga of Patanjali*, Bhandarkar Oriental Research Institute, Pune,1971

5. TYBA Semester VI

T. Y. B. A. Philosophy Syllabus (Autonomous) Semester VI
(Choice Based Credit System and Learning Outcome Based System
with effect from academic year 2023-2024)

Name of the Programme	Bachelor of Arts		Programme Code	SIUAPHI	Name of the Department	Philosophy
Class	Semester	Course Code	Course Name	No. of Lectures/ PER WEEK	Credits	Marks
TYBA (6 Units)						
TYBA	**VI**	SIUAPHI 61	Western Philosophy (Advanced)	**60/4**	4	**40 + 60 = 100**
		SIUAPHI 62	Philosophy of Religion	**60/4**	4	**40 + 60 = 100**
		SIUAPHI 63	Living Ethical Issues	**45/3**	3.5	**40 + 60 = 100**
		SIUAPHI 64	Philosophy of Bhagavad Gita	**60/4**	4	**40 + 60 = 100**
		SIUAPHI 65	Formal Logic	**60/4**	4	**40 + 60 = 100**
		SIUAPHI 66	Philosophy of Yoga	**45/3**	3.5	**40 + 60 = 100**

Name of the Programme	Bachelor of Arts		Programme Code	SIUAPHI	Name of the Department	Philosophy
Class	Semester	Course Code	Course Name	No. of Lectures/PER WEEK	Credits	Marks
TYBA	**V**	**SIUAPHI 61**	**Western Philosophy (Advanced)**	**60**	**4**	**40 + 60 = 100**

Learning Objectives –

- Acquaint learners with the basic philosophical questions and issues that are current in Western philosophy.
- Encourage a spirit of rationality in philosophizing.

Learning Outcomes –

Module 1: Rationalism
Module 2: Empiricism
Module 3: Critical Philosophy: Immanuel Kant
Module 4: Continental and Analytical Philosophy

COs	Statements	Cognitive Levels	Affinity with	
			PO nos.	PSO nos.
CO1	Classify the philosophical themes of Rationalism, Empiricism, Critical, Analytical and Continental systems. Determine the notion of 'modern' through its general features	U	3	1, 2
CO2	Examine the various epistemological concepts in western philosophy. Justify the relevance of scientific and mathematical methodology in it.	Ap, An	3, 4	3
CO3	Formulate ideas to give philosophical dimension in current context.	E	4	1, 3

PO- Program Outcome, PSO-Program Specific outcome; CO-Course Outcome
Bloom's Taxonomy Levels: U-Understanding; Ap-Applying; An-Analyzing; E-Evaluating

Course Contents:

Module 1: Rationalism [15 Lectures]

a. Rene Descartes: Cartesian Method, nature of 'self' and not-self in terms of substance (Substance Dualism), Interactionism
b. Baruch Spinoza: Concept of substance and modes, Monism, Parallelism
c. G.W. Leibniz: Basic constituent of reality, Pluralism (monadology), Pre-established Harmony

Module 2: Empiricism [15 Lectures]

a. John Locke: Rejection of innate ideas, classification and definition of knowledge (including degrees of knowledge), Representative Realism
b. George Berkeley: Rejection of abstract ideas, Subjective Idealism, Esse Est Percipii
c. David Hume: Theory of knowledge. Rejection of self as substance,

Theory of causation, Hume's Skepticism

Module 3: Critical Philosophy: Immanuel Kant [15 Lectures]

a. Immanuel Kant: Reconciliation of rationalism and empiricism, Copernican revolution

b. Analytic and synthetic propositions, concept of Apriori and Aposteriori, synthetic apriori, categories of judgement

c. Transcendental Idealism

Module 4: Continental and Analytical Philosophy [15 Lectures]

a. Hegel: Phenomenology of spirit

b. Early Wittgenstein: Picture theory, Later Wittgenstein: notion of language game philosophy as a therapeutic activity

c. Logical positivism: A.J. Ayer-verification principle

Suggested References:

- Ayer, A.J. *Language, Truth and Logic* (London: Victor Gollancz Ltd., 1960)
- Bennett, Jonathan. *Locke Berkeley Hume: Central Themes* (Oxford: Clarendon Press, 1971)
- Copleston, Frederick. *A History of Philosophy* Vol IV, V and VI (Doubleday: Image Books, 1985)
- Falckenberg, Richard. *History of Modern Philosophy* (Calcutta: Progressive Publishers)
- Gardiner, Patrick. *Kierkegaard* (OUP, 1988)
- Garforth, F.W. *The Scope of Philosophy* (London: Longman, 1971)
- Hampshire, Stuart. *Spinoza* (Penguin Books)
- Hartnack, Justus. *Kant's Theory of Knowledge* (Macmillan, 1968)
- Jones,W.T. *Kant to Wittgenstein and Sartre: A History of Western Philosophy* (Hartcourt, Brace and World, Inc, 1969)
- O'Connor D.J. *John Locke* (New York: Dover Publications, 1967)
- Saw, R. L. *Leibniz* (Penguin Books, 1954)
- Thilly, F. *A History of Western Philosophy* (SBW Publishers, New Delhi, 1993)
- Warnock, G.J. *Berkeley* (Penguin Books, 1953)
- Wright, W.K. *A History of Modern Philosophy* (New York: The Macmillan Company,1941)

TYBA PAPER IV

SEMESTER V: CLASSICAL INDIAN PHILOSOPHY

SEMESTER VI: WESTERN PHILOSOPHY (ADVANCED)

The following proposed question paper pattern for TYBA titled Indian and Western Philosophy Advanced (Semester V & VI) brought into effect from the academic year (2023-2024)

Internal Assessment [40 marks – 20 marks class test + 15 marks individual/group presentation + 5 marks for active participation in the class]

Any **One** of the above first two units

1. ONLINE TEST (Multiple Choice) - **20 marks class test**
2. INDIVIDUAL/GROUP - Project work/ Book review/ Symposium/ Written Test / Panel Discussion / Power Point Presentation/ Field Visit/ Report Writing/ Paper Presentation- **20 marks**

Topics for project work INDIVIDUAL/GROUP:

Semester V:

1. J. Krishnamurthy: Concept of Freedom and concept of Truth
2. Rabindranath Tagore: Concept of Man and concept of Freedom
3. Mohammed Iqbal: Unity of God and Person, Concept of khudi

Semester VI:

1. Carnap-elimination of metaphysics through linguistic analysis 2. General features of Postmodernism challenge Philosophy
3. Postmodernists' challenge to Philosophy

Semester End Exam Evaluation [60marks]

1. There shall be four compulsory questions
2. Four questions shall correspond to the four units (with internal choice) 3. Each question shall carry a maximum of 15 marks

Q.1. Unit 1 – a or b (15 marks)
Q.2. Unit 2 – a or b (15 marks)
Q.3. Unit 3 – a or b (15 marks)
Q.4. Unit 4– a or b (15 marks)

Name of the Programme	Bachelor of Arts		Programme Code	SIUAPHI	Name of the Department	Philosophy
Class	Semester	Course Code	Course Name	No. of Lectures/PER WEEK	Credits	Marks
TYBA	**V**	**SIUAPHI 62**	**Philosophy of Religion**	**60**	**4**	**40 + 60 = 100**

Learning Outcomes –

Module 1: Existential approach to Religion
Module 2: Soul and Immortality
Module 3: Approaches to Evil
Module 4: Challenges to Religion

COs	Statements	Cognitive Levels	Affinity with	
			PO nos.	PSO nos.
CO1	Determine the notion of 'existence' with reference to religion. Construct analytical arguments for the problem of evil.	U	2	2
CO2	Analyse the political, psychological and sociological challenges to religion. Summarize the relationship between religion –myth/art/science.	An	3, 4	3
CO3	Formulate ideas to bring out the relevance of religion in contemporary times.	Ap, E	4, 8	2, 3

PO- Program Outcome, PSO-Program Specific outcome; CO-Course Outcome;
Bloom's Taxonomy Levels: U-Understanding; Ap-Applying; An-Analyzing; E-Evaluating

Course Contents:

Module I: Existential approach to Religion [15 Lectures]

a. Soren Kierkegaard (three stages of existence: aesthetics, ethical and religious)
b. Frederich Nietzsche (critique of slave morality in favour of transvaluation of values)
c. Karl Jaspers: The Dialogical Possibilities of Existenz with Existenz Communication

Module II: Soul and Immortality [15 Lectures]

a. Plato (the arguments contained in the dialogue *Phaedo*)
b. The concept of Resurrection and philosophical problems associated with it.
c. Transmigration: Karma and Rebirth

Module III: Approaches to Evil [15 Lectures]

a. Problem of evil
b. St. Augustine's account of the problem and solution.
c. Indian approaches to suffering

Module IV: Challenges to Religion [15 Lectures]

a. The Marxist Challenge: Karl Marx
b. The Freudian Challenge: Sigmund Freud
c. The Sociological Challenge: Emile Durkheim

Suggested References:

- Behari, B., *Sufis, Mystics and Yogis of India*, Bhartiya Vidya Bhavan, Mumbai. 1962
- Brightman, E.S. *Philosophy of Religion*, Forgotten Books Publishing, U.S.A. 2017
- Bronstein(Author), Schulweis, H., and Daniel, J., *Approaches to the Philosophy of Religion*, Prentice Hall Publishing, U.S.A. 1954.
- Charlesworth, M., *Philosophy and Religion – From Plato to Postmodernism,* One world Publications, Oxford, 2006.
- Davis, S., *God, Reason and Theistic Proofs*, Edinburgh University Press,U.K. 1997.
- Galloway, G., *Philosophy of Religion*, Forgotten Books Publishing, U.S.A. 2012.
- Hick, J., *Philosophy of Religion*, 4th Edition, Pearson Publishers, India. 1989.
- Kanal, S.P., *The Philosophy of Religion*, Lotus Publishers, India. 1984.
- Katz, S., *Mysticism and Religious Tradition*, Oxford University Press, U.K. 1983.
- Masih, Y., *Introduction to Religious Philosophy, 9th Ed.,* Motilal Banarsidas Publishers, India. 2017.
- Miall, D. *The Philosophy of Religion*, Progressive Publishers, India. 1963.
- Peterson and Vanarragon (ed.), *Contemporary debates in philosophy of Religion*, Blackwell publishing, New Jersey. 2003.
- Peterson, Hasker, Rwichenbach, Basinger. *Philosophy of Religion*. 5th Ed., Oxford University Press, 2014.
- Rowe, W., and Wainwright. *Philosophy of Religion, (*selected readings), 3rd edition, Oxford University Press, U.S.A, 1998.
- Thiselton, A., *The Concise Encyclopaedia of the Philosophy of Religion*, One World Publications, London. 2006.
- Tilghman, B., *Introduction to Religious Philosophy*, Blackwell Publishing, New Jersey. 1994.
- Titus (Author), Smith and Nolan (Editors), *Living Issues in Philosophy*, 9th Ed., Oxford University Press, U.K. 1994.
- William J Wainwright. *The Philosophy of Religion*, Oxford University Press, U.S.A, 2004

TYBA PAPER V

SEMESTER V & VI: PHILOSOPHY OF RELIGION

The following question paper pattern for TYBA titled Philosophy of Religion (Semester V & VI) brought into effect from the academic year (2023-2024)

Internal Assessment [40 marks – 20 marks class test + 15 marks individual/group presentation + 5 marks for active participation in the class]

Any **One** of the above first two units

1. ONLINE TEST (Multiple Choice) - **20 marks class test**
2. INDIVIDUAL/GROUP - Project work/ Book review/ Symposium/ Written Test / Panel Discussion / Power Point Presentation/ Field Visit/ Report Writing/ Paper Presentation- **20 marks**

Topics for project work: INDIVIDUAL/GROUP

Semester V- Neo-religion, Blaise Pascal's Wager Problem

Semester VI- Art and Religion, Science and Religion, Myth andReligion

Semester End Exam Evaluation [60marks]

1. There shall be four compulsory questions
2. Four questions shall correspond to the four units (with internal choice)
3. Each question shall carry a maximum of 15 marks

Q.1. Unit 1 – a or b 15
Q.2. Unit 2 – a or b 15
Q.3. Unit 3 – a or b 15
Q.4. Unit 4– a or b 15

Name of the Programme	Bachelor of Arts	Programme Code	SIUAPHI	Name of the Department	Philosophy
Class	Semester	Course Code	Course Name	No. of Lectures/PER WEEK	Credits	Marks
TYBA	**V**	**SIUAPHI 63**	**Living Ethical Issues**	**45**	**3.5**	**40 + 60 = 100**

Learning Outcomes –

Module 1: Bio-medical research
Module 2: Ethical Issues in Reproductive Technologies
Module 3: Bio-medical-ethics and Informed consent
Module 4: Ethics of Sexuality

COs	Statements	Cognitive Levels	Affinity with	
			PO nos.	PSO nos.
CO1	Connect the differing scholarly ideas and perspectives on Bio-medical-ethical issues.	U, Ap	7, 10	1, 3
CO2	Analyse the ethical debates involved in terminating life, in prolonging life and in reproductive technologies.	An	7, 9	3
CO3	Examine the nature of scientific research used for human and animal welfare. Formulate ideas to give new moral dimensions in Sexual Ethics.	E	2, 10	1, 3

PO- Program Outcome, PSO-Program Specific outcome; CO-Course Outcome
Bloom's Taxonomy Levels: U-Understanding; Ap-Applying; An-Analyzing; E-Evaluating

Course Contents:

Module I: Bio-medical research **[11 Lectures]**

a. Benefits and Risks in animal and human research:
Principles of respect for autonomy of person, beneficence and justice, arguments for and against animal rights, ethical issue in scientific research on animals.

b. Development of Health Policy:
Concepts of health and disease, patients' rights, informed consent, allocation of scarce resources.

Module II: Ethical Issues in Reproductive Technologies **[11 Lectures]**

a. Surrogate motherhood:
nature of surrogate arrangements (will include ways in which the Surrogate is inseminated, and altruistic and commercial surrogacy); redefining the notion of 'mother' – genetic, biological and social; advantages and critique of surrogate arrangements

b. Ethics of Human Cloning: Importance of Health from long term sustainability, Issues that make human cloning attractive; ethical dangers involved in human cloning.

Module III: Bio-medical-ethics and Informed consent **[12 Lectures]**

a. Abortion: the abortion debate:
pro-choice(abortionists) versus pro-life (anti-abortionists); the moral and legal justification of abortion: pros and cons

a. Euthanasia: the moral issue:
conflict between duty to prolong life versus duty to relieve pain; forms of euthanasia: voluntary/non-voluntary and active/passive; moral and legal justification of euthanasia: pros and cons

Module IV: Ethics of Sexuality **[11 Lectures]**

a. Human Trafficking and Prostitution: ethical and legal issues
b. Homosexuality: arguments for and against homosexuality; is State interference in individuals' sexual preferences justified?

Suggested References:

- Beauchamp, T. and Childress, J. (ed) *Principles of Biomedical Ethics*
- Burton M. Leiser "Homosexuality and Unnaturalness" in Manuel Velasquez and Cynthia Rostenkowski (ed.) *Ethics: Theory and Practice*
- Catherine Mackinnon "Sexuality, Pornography, and Method: 'Pleasure Under Patriarchy'", *Ethics* 99: 314–346 (1989)
- Cudd, A.E. & Jones, L.E. "Sexism" in Frey, R.G. & Wellman, C.H. (ed) *Blackwell Companion to Applied Ethics.* (Blackwell Publishing, 2003)
- Foucault Michael, *History of Sexuality* Vol I
- Harris, J. *On Cloning* (Routledge, 2004)
- Marquis, D. "An Argument that Abortion is Wrong" in LaFollette, H. (ed) *Ethics in Practice: An Anthology* (Blackwell Publishing, 1997, 2002)
- Michael Levin "Why Homosexuality is Abnormal" in Hugh LaFollette (ed.) *Ethics in Practice*: *An Anthology* (Blackwell Publishing, 1997,2002)
- Moody-Adams, M. "Racism" in Frey, R.G. & Wellman, C.H. (ed) *Blackwell Companion to Applied Ethics.* (Blackwell Publishing, 2003)
- Nussbaum, M. & Sunstein, C. (ed.*) Clones and Clones*. Part III. (W.W. Norton and Company: New York and London, 1998)
- Rachels, J. "Active and passive Euthanasia" in Tom Beauchamp & LeRoy Walters (ed.) *Contemporary Issues in Bioethics* (Wadsworth Publishing, 1999)
- Ronald Dworkin *Life's Dominion: An Argument about Abortion, Euthanasia and Individual Freedom (*Knopf Doubleday Publishing Group, 1994)
- Thompson, J.J. "In Defense of Abortion" in LaFollette, H. (ed) *Ethics in Practice: An Anthology* (Blackwell Publishing, 1997, 2002)

TYBA PAPER VI

SEMESTER V & VI: LIVING ETHICAL ISSUES

The following question paper pattern for TYBA titled Living Ethical Issues (Semester V & VI) brought into effect from the academic year (2023-2024)

Internal Assessment [40 marks – 20 marks class test + 15 marks individual/group presentation + 5 marks for active participation in the class]

Any **One** of the above first two units

1. ONLINE TEST (Multiple Choice) - **20 marks class test**
2. INDIVIDUAL/GROUP - Project work/ Book review/ Symposium/ Written Test / Panel Discussion / Power Point Presentation/ Field Visit/ Report Writing/ Paper Presentation- **20 marks**

Topics for project work:

Semester V/VI- Environmental Activism Movement (Any one), Environmental Law based Case study, Health Policy based Case study analysis, Murder and Suicide, Whistle blowers, Poaching animals, Fanaticism

Semester End Exam Evaluation [60 marks]

1. There shall be four compulsory questions
2. Four questions shall correspond to the four units (with internal choice)
3. Each question shall carry a maximum of 15 marks

Q.1. Unit 1 – a or b 15
Q.2. Unit 2 – a or b 15
Q.3. Unit 3 – a or b 15
Q.4. Unit 4– a or b 15

Name of the Programme	Bachelor of Arts	Programme Code	SIUAPHI	Name of the Department	Philosophy

Class	Semester	Course Code	Course Name	No. of Lectures/PER WEEK	Credits	Marks
TYBA	**V**	**SIUAPHI 64**	**Philosophy of Bhagavad Gita**	**60**	**4**	**40 + 60 = 100**

Learning Outcomes –

Module 1: Moksha Marga (Paths to Liberation)
Module 2: Values highlighted in Gita
Module 3: Contemporary Thinkers on Gita
Module 4: Relevance of Gita

COs	Statements	Cognitive Levels	Affinity with	
			PO nos.	PSO nos.
CO1	Explain the significance of values as highlighted in the Gita and the teachings of it in personal and professional life.	U	2, 7	1, 3
CO2	Compare the modern commentaries and interpretations on the text.	AP	3, 4	3
CO3	Develop a holistic understanding of revisiting the text.	An, E	7	1, 3

PO- Program Outcome, PSO-Program Specific outcome; CO-Course Outcome;
Bloom's Taxonomy Levels: U-Understanding; Ap-Applying; An-Analyzing; E-Evaluating

Course Contents:

Module I: Moksha Marga (Paths to Liberation) **[15 Lectures]**

a. Karma yoga (II- 47, III- 1 to 43, IV- 18, 20, 23, XI- 33, XVIII-57)
b. Jnana yoga (IV- 1 to 21, 34 to 42, VII- 2,)
c. Bhakti yoga (IV- 9 to 12, VII- 14 to 22, IX- 1 to 3, 26 to 34, XI- 55, XII- 1 to 8, XVIII – 59 to 66)

Module II: Values highlighted in Gita **[15 Lectures]**

a. Daivi-Asuri Sampada (XVI- 1 to 23) Gunatita (XII- 18, XIV- 19 to 27) and Sthitaprajna(II-38, 54 to 72, XII- 19)
b. LokSamgraha and Lokhita (III- 20 to 24, V- 24 to 28)
a. Peace (VI – 7, XVIII – 62) Harmony and Equality (V- 18 to 23, VI- 7 to 9, 29 to 32, IX- 29 to 34)

Module III: Contemporary Thinkers on Gita **[15 Lectures]**

a. Tilak's Gita Rahasya (Activism, KarmaYoga)
b. Gandhi's Anasakti Yoga and Ahimsa
c. Sri Aurobindo's commentary (Integral Yoga)

Module IV: Relevance of Gita **[15 Lectures]**

a. Reconciliation of paths, idea of harmony and peace
b. Gita and Dhyana Yoga (Meditation and Mindfulness)
c. Gita and everyday living (Norms in life: personal and social)

Suggested References:

- Agarwal, S. *The Social Role of Gita,* Motilal Banarsidass, Delhi. 1998
- Bhave, V. *The Talks on Gita,* The Macmillan Company, U.S.A.1960

- Chinmayananda, *The Holy Gita,* Central Chinmaya Mission Trust, 10th ed. 1996
- Gandhi, M.K. *The Bhagvad Gita,* Jaico Publishers, India.2010
- Garg, R.S. *Gita for success in modern life,* New Age Books, India.2002
- Jnandeva, *Bhavartha Dipika-Jnaneshwari*, Samata Books, India. 2006
- Mudgal, S.G. *The Bhagvad Gita,* Vedic Books, London.2003
- Radhakrishnan, S. (ed.), *The Bhagavad Gita*, Harper Collins Publishers, India. 2014
- Ramanathan, V.*Bhagavad Gita for Executives*, Bhartiya Vidya Bhavan, India. 2001
- Ranade,R.D. *The BhagavadGita As A Philosophy Of God realization,* Aryabhushan Press, Poona.1959
- Tapasyananda, *Bhagvad Gita: The Scripture of Mankind,* Sri Ramkrishna Math, Chennai.2000
- Tilak, Martin, *Srimad Bhagvad Gita,* Vijay Goel Publisher, India. 2010

TYBA PAPER VII
SEMESTER V & VI: PHILOSOPHY OF BHAGAVAD GITA

The following proposed question paper pattern for TYBA titled Philosophy of Bhagavad Gita (Semester V & VI) brought into effect from the academic year (2023-2024)
Internal Assessment [40 marks – 20 marks class test + 15 marks individual/group presentation + 5 marks for active participation in the class]

Any One of the above first two units

1. ONLINE TEST (Multiple Choice) - 20 marks class test
2. INDIVIDUAL/GROUP - Project work/ Book review/ Symposium/ Written Test / Panel Discussion / Power Point Presentation/ Field Visit/ Report Writing/ Paper Presentation- 20 marks

Topics for project work: INDVIDUAL/GROUP

Semester V

1. Gita and other religious text

Semester VI

1. Gita and Shankara Bhashya; Gita and Ramanuja Gita Bhashya; Gita and Jnaneshwari
2. The song celestial
3. Views on the Gita by Gurudev Ranade, Vinoba Bhave, Swami Vivekananda and Dr. B.R. Ambedkar

Semester End Exam Evaluation [60marks]

1. There shall be four compulsory questions
2. Four questions shall correspond to the four units (with internal choice)
3. Each question shall carry a maximum of 15 marks

Q.1. Unit 1 – a or b 15
Q.2. Unit 2 – a or b 15
Q.3. Unit 3 – a or b 15
Q.4. Unit 4– a or b 15

Name of the Programme	Bachelor of Arts		Programme Code	SIUAPHI	Name of the Department	Philosophy
Class	Semester	Course Code	Course Name	No. of Lectures/PER WEEK	Credits	Marks
TYBA	**V**	**SIUAPHI 65**	**Formal Logic**	**60**	**4**	**40 + 60 = 100**

Learning Outcomes –

Module 1: Modern Logic
Module 2: Methods of Deduction
Module 3: Quantification (Predicate Calculus)
Module 4: Definitions

COs	Statements	Cognitive Levels	Affinity with	
			PO nos.	PSO nos.
CO1	Examine the fundamental differences between traditional and modern logic.	U	3	2
CO2	Analyse various methods of deduction in strategic thinking.	AP	3, 4	3
CO3	Compare different types of reasoning. Connect language and logic for effective communication.	An, E	8	1, 2

PO- Program Outcome, PSO-Program Specific outcome; CO-Course Outcome;
Bloom's Taxonomy Levels: U-Understanding; Ap-Applying; An-Analyzing; E-Evaluating

Course Contents:

Module I: Modern Logic [15 Lectures]

a. Drawbacks of traditional logic and advantages of modern logic
b. Modern classification of propositions: simple and compound, truth conditions of compound propositions
c. Shorter Truth Table method

Module II: Methods of Deduction [15 Lectures]

a. Formal proof of validity- justification and construction
b. Conditional Proof (CP) and Indirect Proof (IP)
c. Exercise on Formal proof & CP, IP

Module III: Quantification (Predicate Calculus) [15 Lectures]

a. Concepts: individual constant, individual variable, Propositional function, existential quantifier, universal quantifier, instantiation, generalization, relation between universal and existential quantification.
b. Symbolizing propositions (singular and general) by Quantification
c. Proving Validity by UG, EG, UI and EI.

Module IV: Definitions [15 Lectures]

a. Need for definitions
b. Types of Definitions (Lexical, Stipulative, Persuasive, Theoretical, Precising)
c. Identifying definitions from statements

Suggested References:

- Basantani, K.T., *Elementary Logic in LL.B.* Sheth Publishers, Mumbai
- Copi, *Symbolic Logic,* 5th Edition, Pearson Publication, U.K.2008
- Copi, Cohen, McMahon, *Introduction to Logic.* 14th edition, Pearson Publication, U.S.A.2013
- Firma, R.D, *Logic of truth-functions- An Introduction to Symbolic Logic.*, K.L. Mukhopadhyay, Calcutta, 1964
- Hughes, G.E., Londey, D.G., Mansukhani, G.N. *The Elements of Formal Logic.* B.I Publications, Bombay,1965
- Hunter, G. *Metalogic: An – Introduction to the Metatheroy of Standard First order Logic,*University of California Press, Rev. Ed.1996
- Hurley, Patrick J. & Watson, Lori. *A Concise Introduction to Logic*. (Cengage Learning India Pvt. Ltd. 2019)
- Jetli P & Prabhakar, M. Logic (Pearson: Delhi, Chennai and Chandigarh 2012)
- Kangle, R.P. Kautilya's Arthashastra. by Motilal Banarsidass Publishers Pvt. Ltd., New Delhi, India
- Pillai. Radhakrishnan, Inside Chanakya's Mind: Aanvikshiki and the Art of Thinking (2017) Penguin Random House India.
- Raghuramaraju, A. Debates in Indian Philosophy: Classical, Colonial and Contemporary (2006) Oxford University Press, New Delhi.
- Robert Lata and Alexander Macbeath, The Elements of Logic. (Macmillan & Co. Ltd.)

TYBA PAPER VIII
SEMESTER V & VI: LOGIC

The following question paper pattern for TYBA titled LOGIC (Semester V & VI) brought into effect from the academic year (2023-2024)

Internal Assessment [40 marks – 20 marks class test + 15 marks individual/group presentation + 5 marks for active participation in the class]

Any One of the above first two units

1. ONLINE TEST (Multiple Choice) - **20 marks class test**
2. INDIVIDUAL/GROUP - Project work/ Book review/ Symposium/ Written Test / Panel Discussion / Power Point Presentation/ Field Visit/ Report Writing/ Paper Presentation- **20 marks**

Topics for project work: INDIVIDUAL/GROUP

Semester V:

Anvikshiki: Classical Indian Science of Reasoning,
Nyaya Logic, Buddhist Logic, Jaina Logic, Navya Nyaya Logic,
Chanakya's Anvikshiki-vidya

Semester VI: Inductive Logic:

Analogical Reasoning, Moral reasoning, Legal reasoning, Critical thinking, Statistical reasoning, Hypothetical/Scientific reasoning

Semester End Exam Evaluation [60 marks]

1. There shall be four compulsory questions
2. Four questions shall correspond to the four units (with internal choice)
3. Each question shall carry a maximum of 15 marks

Q.1. Unit 1 – a or b 15
Q.2. Unit 2 – a or b 15
Q.3. Unit 3 – a or b 15
Q.4. Unit 4– a or b 15

Name of the Programme	Bachelor of Arts		Programme Code	SIUAPHI	Name of the Department	Philosophy
Class	Semester	Course Code	Course Name	No. of Lectures/PER WEEK	Credits	Marks
TYBA	**V**	**SIUAPHI 66**	**Philosophy of Yoga**	**45**	**3.5**	**40 + 60 = 100**

Learning Outcomes –

Module 1: Antarangasadhana (Inner discipline)
Module 2: Transcendental / Psycho-spiritual Yoga
Module 3: Yoga and other systems
Module 4: Applications of Yoga

COs	Statements	Cognitive Levels	Affinity with	
			PO nos.	PSO nos.
CO1	Write the nature and significance of Antaranga Yoga.	U	3, 8	2
CO2	Examine the relationship between Yoga and Buddhism, Vedanta with reference to metaphysics and ethics.	An	3, 4, 8	2, 3
CO3	Integrate the psycho-spiritual aspect of Yogic practices for healthy living.	Ap, E	4, 8	2, 3

PO- Program Outcome, PSO-Program Specific outcome; CO-Course Outcome
Bloom's Taxonomy Levels: U-Understanding; Ap-Applying; An-Analyzing; E-Evaluating

Course Contents:

Module I: Antarangasadhana (Inner discipline) [12 Lectures]

(a) Dharana and Dhyana – Definitions, nature and importance
(b) Samadhi – Definition, types and Significance.

Module II: Transcendental / Psycho-spiritual Yoga [11 Lectures]

(a) Siddhis/Vibhutis as obstacles to Samadhi and the Ideal of Kaivalya**.**
(b) God and Pranava-"tasyavacakahPranavah."(The primordial sound Om)

Module III: Yoga and other systems [11 Lectures]

(a) Yoga and Buddhism
(b) Yoga and Vedanta

Module IV: Applications of Yoga [11 Lectures]

(a) Yoga for health and integrated development
(b) Corporate yoga, Yogic counselling

Suggested References:

- Iyengar, B. K .S., *Light on Yogasutras of Patanjali,* Thorsons Publishers, U.K.2012
- Iyengar, B. K .S., *Light on Yoga,* Thorsons Publishers, U.K.2006
- Iyengar, B.K.S., *Yogadipika,* Orient Blackswan Pvt.Ltd., India.1997
- Rajarshi, Swami, *YOGA THE ULTIMATE ATTAINMENT*, Jaico Publishing House, India.1995.
- Satyaprakash Sarawati Swami, *Patanjala Raja Yoga*, S. Chand & Co., Delhi. 1984
- Suren (Aviyogi), *Cyclopedia of YogaVol.I&II*, Saru Publishing House, Meerut.1992
- Werner, K., *Yoga and Indian Philosophy,* Motilal Banarsidass, 2nd Ed., Delhi. 2017
- Yardi, M.R., *The Yoga of Patanjali*, Bhandarkar Oriental Research Institute, Pune,1979

TYBA PAPER IX
SEMESTER V & VI: PHILOSOPHY OF YOGA

The following question paper pattern for TYBA titled Philosophy of Yoga (Semester V & VI) brought into effect from the academic year (2023-2024)

Internal Assessment [40 marks – 20 marks class test + 15 marks individual/group presentation + 5 marks for active participation in the class]

Any One of the above first two units

1. ONLINE TEST (Multiple Choice) - **20 marks class test**

2. INDIVIDUAL/GROUP - Project work/ Book review/ Symposium/ Written Test / Panel Discussion / Power Point Presentation/ Field Visit/ Report Writing/ Paper Presentation- **20 marks**

Topics for project work: INDIVIDUAL/GROUP
Semester V/VI:
1. Meditation and Yoga
2. Yoga and Neuroscience
3. Yoga and Ayurveda

Semester End Exam Evaluation [60 marks]
1. There shall be four compulsory questions
2. Four questions shall correspond to the four units (with internal choice)
3. Each question shall carry a maximum of 15 marks

Q.1. Unit 1 – a or b 15
Q.2. Unit 2 – a or b 15
Q.3. Unit 3 – a or b 15
Q.4. Unit 4– a or b 15

AC/27.6.23/RS 1

SIES College of Arts, Science & Commerce (Autonomous)

RISE WITH EDUCATION

NAAC REACCREDITED - 'A' GRADE

(*Affiliated to University of Mumbai*)

Faculty: Science

Program: F.Y.B.Sc

Subject: ZOOLOGY

Academic Year: 2023 – 2024

Revised Syllabus in Zoology under
Choice Based Credit System (CBCS)
Approved by the Board of Studies in Zoology
Effective from academic year 2023-24 under the aegis of
National Education Policy (NEP)

Preamble

"Where the mind is without fear and the head is held high…. "

— A poem written by Nobel Laureate Rabindranath Tagore (Nobel Prize in Literature in 1913), the poem represents Tagore's vision of a new and awakened India (it is quoted in this preamble in the context of India's National Education Policy – New Education Policy).

The implementation of India's National Education Policy 2020 (NEP) in this academic year, has significant relevance, especially in the context of our institution, since, this year, our institution has been bestowed with 'Empowered Autonomous Status'. Universal high-quality education is fundamental for achieving full human potential, besides developing an equitable and just society, and promoting national development. It is the best way forward for developing and maximizing our country's rich talents and resources which eventually will determine the future of our country. Although, under the aegis of academic autonomy, our institution has the privilege of 'academic freedom', however, we are also aware of the fact that 'freedom' comes with 'responsibility' and moreover, it needs to be justified with 'academic excellence'. Therefore, one of the ways to achieve this, is through restructuring and refining the curriculum, which is pivotal in shaping the educational outcomes of an academic institution. Thus, a modest attempt has been made to design an effective syllabus that will preserve the essence of the subject, besides inculcating critical thinking and developing analytical reasoning amongst the students.

At the undergraduate level this syllabus will enable students to have a sound foundation of the Major subject - Zoology, besides encouraging an interdisciplinary approach by integration and inclusion of a few courses under Vocational Skill Course (VSC), Skill Enhancement Course (SEC), Generic/Open Electives (GE/OE), a course related to Indian Knowledge System (IKS), Ability Enhancement Course (AEC), Value Education Course (VEC), and Co-Curricular Courses (CC). Some of the key features of this revised syllabus are as follows:-

- ✓ *Mandatory/Core Course – A course which is aimed at understanding the fundamental concepts of Zoology by inclusion of topics such as Life Processes - vital processes that make life possible through an understanding of the adaptations animals have evolved that best suit the milieu in which they thrive; Ecology - to understand the relation between organisms and their environment through the study of "life at home"; Biodiversity - which will sensitize students about the bio wealth nature has bestowed on humans, and to treat the natural resources with humane and responsible attitude in this era of global warming Animal Biotechnology - so as to acknowledge the emerging field of Biotechnology that blends the technological advancements and the natural wealth – the living organisms, for improving human life.*
- ✓ *Vocation Skill Course – A course, which is aimed at providing hands-on training, competencies, proficiency to students to enhance their skills & employability. For example: Bioinstrumentation – to give students a hands-on experience of instrumentation used in laboratory facility which will enable them to operate instruments independently.*
- ✓ *Skill Enhancement Course – A course, which is aimed at imparting practical skills, nurturing soft skills etc., to enhance the employability of students. For example: Animal Systematics – to introduce the students to the diversity of animal life to understand that part of the world around us comprising of various life forms, besides gaining an insight into field biology which will enable them to be equipped with the skills of understanding taxonomy of animal kingdom.*
- ✓ *Generic or Open Elective – An elective course generally chosen from an unrelated subject / discipline with the intention to seek multidisciplinary exposure. For example, any one of the following elective courses such as: Understanding the History of Mumbai (Course offered by Department of History) or Basics of Banking and Finance (Course offered by Department of Economics) or Stress Management (Course offered by Department of Psychology) or Fundamentals of Advertising (Course offered by Department of Commerce).*
- ✓ *Indian Knowledge System – A course which will make students aware of the vast repositories of ancient traditional knowledge in India in fields such as Literature, Culture, Indian traditional systems of medicine, Astronomy, Yoga, Arthashastra, etc.*
- ✓ *Ability Enhancement Course – A course which is aimed at enabling the students to acquire & demonstrate the core linguistic skills, achieve competency in Modern Indian Language (such as Marathi / Hindi among others) and in English Language.*
- ✓ *Value Education Course – A course which is based upon the content that leads to knowledge enhancement through various areas of study such as Understanding India, Constitution of India, Environment studies, Sustainable Development.*
- ✓ *Co-Curricular Courses – A course which will provide student's a sense of identity & belonging, as well as appreciation of other cultures & identities; For example: courses such as National Cadet Corps (NCC), National Service Scheme (NSS), Yoga education, Health & Wellness, Sports, Cultural activities, courses related to Fine / Applied / Performing Arts etc.*

This syllabus is a collective and constructive effort of the faculty, experts from research institutions, alumni and the board members whose valuable suggestions and expertise were instrumental in materializing this syllabus. The comments and recommendations of the contributors and reviewers have been carefully considered and implemented wherever feasible.

For effective teaching-learning, teachers are advised not to follow the syllabus too rigidly, but to exercise their professional discretion and judgement in implementing it. After all teaching is about creating a conducive environment for learners to sustain enthusiasm about the subject. We sincerely hope that all stakeholders from faculty to learners exploring this course will appreciate the importance of a well-designed curricular framework in shaping educational outcomes.

In conclusion, we hope this syllabus will encourage and maximize learning among students to develop open, inquiring minds for holistic development, thereby justifying the essence and spirit of National Education Policy.

Dr. Satish Sarfare
Chairman, Board of Studies in the subject of Zoology
Email: satishs@sies.edu.in

Members of the Board of Studies in the subject of Zoology

- ✓ *Professor (Dr.) Manisha Kulkarni – Professor, Department of Zoology, Institute of Science, Mumbai (Vice Chancellor's Nominee)*
- ✓ *Professor (Dr.) Manoj Mahimkar – Principal Investigator, Cancer Research Institute, ACTREC, Kharghar, Navi Mumbai; (Subject expert from outside the Parent University to be nominated by the Academic Council)*
- ✓ *Dr. Sasikumar Menon – Director, Institute for Advanced Training & Research in Interdisciplinary Sciences (IATRIS), (Therapeutic Drug Monitoring Lab), Sion, Mumbai; Faculty, Pharma Analytical Sciences, Ruia College, Mumbai (Subject Expert from outside college/Industry expert)*
- ✓ *Mr. Kedar Gore – Director, The Corbett Foundation (Non-profit Organization), Mumbai, (Subject expert from outside college / Representative from Corporate sector / Allied area)*
- ✓ *Ms. Uma Bandekar – Clinical Team Manager with ICON plc (Postgraduate Meritorious Alumnus)*
- ✓ *Dr. Satish Sarfare – Head and Faculty, Department of Zoology, SIES College, Mumbai*
- ✓ *Mr. Pushparaj Shetty – Faculty, Department of Zoology, SIES College, Mumbai*
- ✓ *Dr. Rupali Vaity – Faculty, Department of Zoology, SIES College, Mumbai*
- ✓ *Dr. Madhavan Gopalan – Faculty, Department of Zoology, SIES College, Mumbai*
- ✓ *Dr. Aditya Akerkar – Faculty, Department of Zoology, SIES College, Mumbai*

Syllabus Committee

- ✓ *Dr. Satish Sarfare – Head and Faculty, Department of Zoology, SIES College, Mumbai*
- ✓ *Mr. Pushparaj Shetty – Faculty, Department of Zoology, SIES College, Mumbai*
- ✓ *Dr. Rupali Vaity – Faculty, Department of Zoology, SIES College, Mumbai*
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- ✓ *Dr. Aditya Akerkar – Faculty, Department of Zoology, SIES College, Mumbai*
- ✓ *Ms. Shraddha Patil – Faculty, Department of Zoology, SIES College, Mumbai*
- ✓ *Mr. Prathamesh Kulkarni – Faculty, Department of Zoology, SIES College, Mumbai*
- ✓ *Ms. Rutuja Nighot – Faculty, Department of Zoology, SIES College, Mumbai*
- ✓ *Dr. Sharvari Kudtarkar– Faculty, Department of Zoology, SIES College, Mumbai*

F.Y.B.Sc – Zoology – Semester I (Syllabus Grid)

Course name and code	Unit	Topic Headings	Credits
SEMESTER – I			
Major / Subject			
Mandatory/Core Paper: Life Processes – I, Ecology and Animal Biotechnology – I			
SIUZOCC111 Theory	1	Life Processes - I	**3**
	2	Ecology	
	3	Animal Biotechnology	
Practical	1	Practicals based on Mandatory paper	**1**
Vocational Skill Course (VSC): Bioinstrumentation (Semester I/II)			
SIUZOVS111 Theory	1	Principle, working and application of Microscope, Colorimeter, pH meter, Centrifuge, Electrophoresis and Chromatography	**1**
Practical	1	Practicals based on Vocational Skill Course	**1**
Skill Enhancement Course (SEC): Animal Systematics (Semester I/II)			
SIUZOSE111 Practical	1	Conceptual understanding of systematics, taxonomy, phylogeny to inculcate and develop skills for practical's based on Skill Enhancement Course	**2**
Generic or Open Elective (GE or OE) (Semester I/II)			
Theory and Tutorial	1	An elective course generally chosen from an unrelated subject / discipline with the intention to seek multidisciplinary exposure. For example, any one of the following elective courses such as: Understanding the History of Mumbai (Course offered by Department of History) or Basics of Banking and Finance (Course offered by Department of Economics) or Stress Management (Course offered by Department of Psychology) or Fundamentals of Advertising (Course offered by Department of Commerce)	**4**
Indian Knowledge System (IKS) (Semester I/II)			
Theory	1	Course which will make students aware of the vast repositories of ancient traditional knowledge in India in fields such as Literature, Culture, Indian traditional systems of medicine, Astronomy, Yoga, Arthashastra, etc.	**2**
Ability Enhancement Course (AEC) (Semester I/II)			
Theory	1	Course which is aimed at enabling the students to acquire & demonstrate the core linguistic skills, achieve competency in Modern Indian Language (such as Marathi / Hindi among others) and in English Language	**2**
Value Education Course (VEC) (Semester I/II)			
Theory	1	Course which is based upon the content that leads to knowledge enhancement through various areas of study such as Understanding India, Constitution of India, Environment studies, Sustainable Development	**2**
Co-Curricular Course (CC) (Semester I/II)			
Tutorial / Participation	1	Course which will provide students a sense of identity & belonging, as well as appreciation of other cultures & identities; Example: courses such as National Cadet Corps (NCC), National Service Scheme (NSS), Yoga education, Health & Wellness, Sports, Cultural activities, Fine/Applied/Visual/Performing Arts	**2**

F.Y.B.Sc – Zoology – Semester II (Syllabus Grid)

Course name and code	Unit	Topic Headings	Credits
SEMESTER – II			
Major / Subject			
Mandatory/Core Paper: Life Processes – II, Biodiversity and Animal Biotechnology – II			
SIUZOCC121 Theory	1	Life Processes - II	**3**
	2	Biodiversity	
	3	Animal Biotechnology	
Practical	1	Practicals based on Mandatory paper	**1**
Vocational Skill Course (VSC): Bioinstrumentation (Semester I/II)			
SIUZOVS111 Theory	1	Principle, working and application of Microscope, Colorimeter, pH meter, Centrifuge, Electrophoresis and Chromatography	**1**
Practical	2	Practicals based on Vocational Skill Course	**1**
Skill Enhancement Course (SEC): Animal Systematics (Semester I/II)			
SIUZOSE111 Practical	1	Conceptual understanding of systematics, taxonomy, phylogeny to inculcate and develop skills for practical's based on Skill Enhancement Course	**2**
Generic or Open Elective (GE or OE) (Semester I/II)			
Theory and Tutorial	1	An elective course generally chosen from an unrelated subject / discipline with the intention to seek multidisciplinary exposure. For example, any one of the following elective courses such as: An overview of cultural aspects of Maharashtra (Course offered by Department of History) or Credit and Insurance market (Course offered by Department of Economics) or Consumer Psychology (Course offered by Department of Psychology) or Introduction to e-commerce (Course offered by Department of Commerce)	**4**
Indian Knowledge System (IKS) (Semester I/II)			
Theory	1	Course which will make students aware of the vast repositories of ancient traditional knowledge in India in fields such as Literature, Culture, Indian traditional systems of medicine, Astronomy, Yoga, Arthashastra, etc.	**2**
Ability Enhancement Course (AEC) (Semester I/II)			
Theory	1	Course which is aimed at enabling the students to acquire & demonstrate the core linguistic skills, achieve competency in Modern Indian Language (such as Marathi / Hindi among others) and in English Language	**2**
Value Education Course (VEC) (Semester I/II)			
Theory	1	Course which is based upon the content that leads to knowledge enhancement through various areas of study such as Understanding India, Constitution of India, Environment studies, Sustainable Development	**2**
Co-Curricular Course (CC) (Semester I/II)			
Tutorial / Participation	1	Course which will provide students a sense of identity & belonging, as well as appreciation of other cultures & identities; Example: courses such as National Cadet Corps (NCC), National Service Scheme (NSS), Yoga education, Health & Wellness, Sports, Cultural activities, Fine/Applied/Visual/Performing Arts	**2**

Programme: Bachelor of Science, B.Sc. – Zoology

The characteristic graduate attributes comprising of Programme Outcomes, Programme Specific Outcomes and Course Outcomes for a science graduate in the subject of Zoology are as follows:

Note the list of abbreviations:
PO: Programme Outcome, PSO: Programme Specific Outcome, CO: Course Outcome
Cognitive Levels:- R: Remember, U: Understand, Ap: Apply, An: Analyze, E: Evaluate, C: Create

Serial Number	**Details of Programme Outcomes (POs)**
PO1 *(Skill Level)*	Problem Solving Ability *(U, Ap)* • Apply the knowledge of various courses learned under a program to break down complex problems into simple components. • Adopt and assimilate problem-based learning models and apply one's learning to solve real life problem situations.
PO2 *(Skill Level)*	Critical Thinking *(U, An, E)* • Develop critical thinking based on a rationale to identify assumptions, verifying the accuracy and validity of assumptions, and making informed decisions. • Inculcate the ability of logical reasoning to question the rationale behind concepts, ideas, and perspectives.
PO3 *(Skill Level)*	Effective Communication Skills *(Ap, C)* • Improve written and oral communication skills so as to express thoughts and ideas effectively. • Demonstrate the ability to listen carefully and imbibe soft skills to convey and receive instructions clearly. • Develop presentation skills to present complex information in a clear, lucid and concise manner.
PO4 *(Skill Level)*	Proficiency with Information and Communication Technology *(U, An, E)* • Demonstrate ability to access, evaluate and use a variety of relevant information resources inclusive of internet and electronic media for the purpose of collating and analysing data. • Understand the scope and limitations of tools or software's used in Information and Communication Technology.
PO5 *(Skill Level)*	Leadership Skills and Team Work *(U, Ap, An, C)* • Demonstrate leadership skills formulating an inspiring vision, thereby building a team, motivating and inspiring team members to engage and achieve that vision. • Develop management skills to guide people in taking tasks to their logical conclusion. • Inculcate the ability to facilitate coordinated effort as a group or team in the interests of common cause and recognise the contribution of team members.
PO6 *(Attitude Level)*	Self-directed and Lifelong Learning *(U, Ap, An)* • Demonstrate the ability to work independently and take responsibility for one's actions. • Acquire the ability to explore and evolve by becoming self-sufficient and self-reliant. • Adapt lifelong learning approaches to broaden one's horizons for personal growth and development.

PO7 *(Attitude Level)*	Ethical Values and Environmental Concerns *(U, Ap, E)* • Embrace moral or ethical values in conducting one's life and implement ethical practices in all aspects of life. • Create awareness and concern for environmental and sustainability issues. • Understand and realize the significance and relevance of co-habitation and co-evolution in attaining the needs of sustainable development.
PO8 *(Attitude Level)*	Gender Sensitization and Community Service *(U, Ap, An)* • Respect gender sensitivity, gender equity and gender justice. • Encourage mutual understanding and express empathetic social concern towards different value systems and different strata of society. • Engage in community service through Institutional Social Responsibility.

Serial Number	**Details of Programme Specific Outcomes (PSOs)**
PSO1	Conceptual Understanding and Emerging Applications *(R, U, Ap, An)* • Inculcate conceptual and coherent understanding of zoology, and demonstrate a broad understanding of animal diversity, including fundamental and systematic knowledge of the scientific classification, taxonomy and evolutionary relationships of major groups of animals. • Understand the nature and basic concepts of cell biology, biochemistry, animal physiology, molecular biology, ecology among other topics, so as to recognize the relationships between structure and functions at different levels of biological organization for the major groups of animals. • Demonstrate interest in different areas of zoology so as to analyse the scope of emerging applications of biological sciences in medicine, genetics, wildlife, etc and apply appropriate methodologies with cutting edge tools/techniques in biological sciences to seek solutions to emerging problems faced by mankind. • Demonstrate the relevance of the procedural subject knowledge that creates different types of professionals related to the disciplinary/subject area of zoology, including professionals engaged in research and development, teaching and government/public service.
PSO2	Analytical reasoning and Scientific Inquiry *(U, An, E)* • Inculcate a sense of inquiry and capability for asking relevant or appropriate questions, articulating problems or concepts or questions. • Encourage the ability to analyse, interpret and draw conclusions from qualitative/quantitative data and critically evaluate ideas, experiences, theories and concepts by following scientific approach to knowledge development froman open minded and reasoned perspective. • Develop analytical skills involving paying attention to detail and imbibe the ability to construct logical arguments using correct technical language related to the relevant subject. • Analyse and interpret data/information collected or related to experiments or investigations, using appropriate methods involving Biostatistics, Bioinformatics among others and report accurately the findings of the experiment/investigations while relating the conclusions/ findings to relevant theories of zoology.
PSO3	Laboratory Skills and Fieldwork *(R, U, E, C)* • Understand and apply standard operating procedures as per Good Laboratory Practices so as to develop laboratory skills and qualities required for successful career in teaching, research, industry, etc. • Demonstrate awareness regarding animal ethics, human ethics, conservation of flora and fauna, so as to promote safe environment and ecosystem, in the pursuit of disciplinary knowledge. • Develop instrumentation handling skills and laboratory techniques relevant to academia and industry, integrate knowledge, skills with technical competency, so as to create solutions for issues and problems related to biological sciences. • Demonstrate leadership qualities, command trust and respect, thereby, motivating and inspiring team members to work effectively in diverse teams during excursions or study tours. Realise the relevance of participation in field studies in the context of teamwork as well as life on the outdoors.

PSO4	Research Aptitude and Interdisciplinary Approach *(Ap, An, E, C)* • Inculcate and adapt to research aptitude and culture, integrate research-based knowledge in an interdisciplinary framework, and realise the relevance of choosing research as an alternative career option. • Demonstrate the awareness regarding compliance with research ethics, awareness about conflicts of interests and Intellectual Property Rights, and avoiding unethical behaviour such as fabricating, falsifying or misrepresenting data or to committing plagiarism. • Inculcate the ability to recognise cause and effect relationships, formulate hypothesis, reporting the results of an experiment or investigation, and application of research tools for analysis and interpretation of data. • Inculcate an interdisciplinary approach, to understand and consolidate fundamental concepts through inquiry based curriculum, develop critical thinking and problem solving ability required to solve different types of biology related problems with well-defined solutions, and tackle open-ended problems that may cross disciplinary-area boundaries.

Course Outcomes for FYBSc

At the root of all (science) education (Core Learning Outcome):

"The imaginative and original mind need not be overawed by the imposing body of present knowledge or by the complex and costly paraphernalia which today surround much of scientific activity. The great shortage in science now is not opportunity, manpower, money, or laboratory space. What is really needed is more of that healthy skepticism which generates the key idea – the liberating concept." *– P.H. Abelson*

Purity of mind leads to clarity in thought and action for creation of an original archaic work.
As well, to consciously attempt the basic pursuit of understanding human existence.

Semester I – Theory

Course Code: SIUZOCC111
Course Name: Mandatory/Core Paper: Life Processes – I, Ecology and Animal Biotechnology
The study of this course will accomplish the following outcomes:

Unit	Course Outcome (CO)	Cognitive Level	Affinity with PO/ PSO
Life Processes - I	**CO CC111.1:** Elucidate the interplay between structure and function in animal biology which has survival value. Facilitate clarity on the working of human machine through analysis of animal physiology (physiological processes – inner working of animals). Account for the bodily processes as movement and locomotion, nutrition, respiration and circulation.	*R, U*	*PO1, PO2, PO6* *PSO1, PSO2*
Ecology	**CO CC111.2:** Outline concepts of ecology – a study of where (place) and how (interaction) organisms live on earth, and realise that any imbalances in the delicate ecological networking of organisms could lead to problems of global environmental concern. Recognise that living things transform energy.	*R, U*	*PO1, PO2, PO6, PO7, PO8* *PSO1, PSO3, PSO4*

Animal Biotechnology	**CO CC111.3**: Introduction to biotechnology – a field of endeavour and a frontier open for invention by application of technological advancements to biological systems for human benefit. Insight into transgenesis, animal cloning, gene therapy for benefit of mankind, and application.	*R, U, An*	*PO2, PO6, PO7, PO8* *PSO1, PSO2, PSO3, PSO4*

PRACTICAL

"*Study nature not books.*" – An old dictum.
The practical course in Zoology is designed for first hand study of animal life through observation of preserved specimens, *in situ* organ systems, microscopic examination of permanent slides, etc. as wellas to perform experiments to strengthen the concept base.
It is an effort to invigorate a thought process that can analyse and reason for the sake of awareness, hence to reach a valid answer.

Semester I – Practical

Course Code: SIUZOCCP111 (Mandatory/Core)
Course Name: Practical based on SIUZOCC111

Course Outcome CO CCP111	**Details**	**Cognitive Level**	**Affinity with PO/ PSO**
	1. Explain essential life processes as digestion, excretion-osmoregulation and movement-locomotion by microscopic examination of one-celled animalcule, *Paramoecium*. 2. Account for functional morphology in animals by examining (preserved/ fresh, wherever applicable) nutritional apparatus, respiratory structures, hearts and blood smears of selected animals. 3. Emphasize the role of factors like pH and temperature for enzyme functioning by testing amylase activity, under physiology of digestion. 4. Examine a beating heart under light microscope and determine its rate by using crustacean arthropod *Daphnia*. 5. Explain coexistence and coevolution of animal forms through animal interaction study. 6. Insight into the chemistry of biomolecules – proteins and carbohydrates by their qualitative detection.	*R, U, Ap, An, E*	*PO1, PO2, PO6, PO7* *PSO1, PSO2, PSO3, PSO4*

Semester II – Theory

Course Code: SIUZOCC121
Course Name: Mandatory/Core Paper: Life Processes – II, Biodiversity and Animal Biotechnology – II
The study of this course will accomplish the following outcomes:

Unit	Course Outcome (CO)	Cognitive Level	Affinity with PO/ PSO
Life Processes - II	**CO CC121.1:** Elucidate the interplay between structure and function in animal biology which has survival value. Facilitate clarity on the working of human machine through analysis of animal physiology (physiological processes – inner working of animals). Account for the bodily processes as excretion andosmoregulation, control and coordination, and reproduction.	*R, U*	*PO1, PO2, PO6* *PSO1, PSO2*
Biodiversity	**CO CC121.2:** Insight into the wealth of living forms on earth for wise and sustainable usage of these natural resources for man's livelihood as well as recreational activity.	*R, U, An*	*PO2, PO6, PO7, PO8*
			PSO1, PSO2, PSO4
Animal Biotechnology	**CO CC121.3:** Introduction to biotechnology – a field of endeavour and a frontier open for invention by application of technological advancements to biological systems for human benefit. Insight on applications in food and enzyme technology and environmental biotechnology	R, U, Ap	*PO1, PO2, PO6, PO7, PO8* *PSO1, PSO2, PSO4*

Semester II – Practical

Course Code: SIUZOCCP121 (Mandatory/Core)
Course Name: Practical based on SIUZOCC121

Course Outcome CO CCP121	Details	Cognitive Level	Affinity with PO/ PSO

	1. Observe under light microscope the structure of an excretory organ – septal nephridium present in an invertebrate – earthworm 2. Analyse the Urine and detect normal and abnormal composition 3. Extraction/ detection of another biomolecule – nucleic acids (DNA and RNA) and confirm their presence by specific bio-chemical tests. 4. Differentiate between the two broad categories of bacteria using Gram staining, a method that can serve as preliminary diagnostic test for bacterial infection disease 5. Discuss and perform a simple method to evaluate the quality of milk sample by checking its bacterial load, which has a direct impact on fitness of milk for human consumption and hence on commercial value of milk. Understand the International Organization for Standardization (ISO) criteria for milk quality. 6. Immobilize Amylase and detect its optimum activity 7. Explain fermentation, an age-old process known to mankind and meat tenderization, both with applications in food industry for consumer satisfaction.	*R, U, AP, An*	*PO1, PO2, PO6, PO7, PO8* *POS1, POS2, PSO3, PSO4*

Vocational Skill Course (VSC) **Course Code: SIUZOVS111** **Course Name: Bioinstrumentation**			
Unit	**Course Outcome** **CO VS111**	**Cognitive Level**	**Affinity with PO/ PSO**
Bioinstrumentation	• Understand the Principle, working and application of Microscope, Colorimeter, centrifuge, electrophoresis and basic chromatography	*R, U, Ap, An*	*PO1, PO2, PO6, PO7* *PSO1, PSO2, PSO3 PSO 4*
Practicals based on Bioinstrumentation	• Analyze the importance of laboratory safety practices and safety symbols, for awareness regarding conduct as a science student. • Describe the handling and use/ function of basic laboratory equipments/ instruments	*R, U, Ap, An*	*PO1, PO2, PO6, PO7* *PSO1, PSO2, PSO3 PSO 4*

	in an undergraduate course laboratory. • Apply the knowledge of working of electrophoresis and basic chromatography		

Skill Enhancement Course (SEC) **Course Code: SIUZOSE111** **Course Name: Animal Systematics**			
Course Outcome **CO SE111**		**Cognitive Level**	**Affinity with PO/ PSO**
	• Discuss levels of organization in animal kingdom on which animal body plans are made. • Elaborate on animal diversity (Protozoa to Arthropoda) and inquire into the relatedness of taxa in animal kingdom by direct observation preserved specimens/ permanent slides of chosen representatives from each phylum. • Identify, describe and classify animal representatives of different phyla (Mollusca to Chordata) as well as analyse the evolutionary connect between them. • Discuss vital life processes – digestion, excretion, nervous control and reproduction, through observation of structures/ organs in different animal specimens (preserved or fresh) and permanent slides, and clarify their possession by these animals	*R, U, Ap, An*	*PO1, PO2, PO6, PO7* *PSO1, PSO2, PSO3 PSO 4*

Semester – I Theory
Mandatory/Core Paper SIUZOCC111
Life Processes – I, Ecology and Animal Biotechnology - I

Learning Objectives

- To attempt an inquiry into the vital processes that make life possible through an understanding of the adaptations animals have evolved that best suit the milieu in which they thrive.
- To understand the relation between organisms and their environment through Ecology i.e., the study of "life at home".
- To acknowledge the emerging field of Biotechnology that blends the technological advancements and the natural wealth – the living organisms, for improving human life.

Expected Outcomes

- ✓ Students will be equipped knowledge of functionality of life, diversity of animals and manipulating genomes for economic and social wellbeing.
- ✓ Students will be able to apply the knowledge gained for appearing competitive examinations in future.
- ✓ Enhanced knowledge of physiology can be excellent skill set for students pursuing career in biological sciences.

Unit 1: Life Processes – I **15 Lectures**

1.1 Movement and Locomotion

1.1.1 : Amoeboid movement
1.1.2 : Ultrastructure of cilia and ciliary movements
1.1.3 : Action of muscles (Role of muscles in movement)

1.2 Nutrition

1.2.1 : Types of nutrition: Autotrophic and heterotrophic
1.2.2 : Apparatus for nutrition:

a. Food vacuole: Animals without alimentary canal, ex. *Amoeba*
b. Animals with incomplete alimentary canal, ex. *Hydra*
c. Animals with complete alimentary canal, ex. Bird

1.2.3 : Physiology of digestion in vertebrates and symbiotic digestion in ruminants

1.3 Respiration

1.3.1 : Types of respiratory surfaces:

a. General body surface: Cell membrane, ex. *Amoeba*; Skin - ex. Earthworm and Frog
b. Specialized respiratory structures: trachea and spiracles, gills of fish, lungs of frog and human, air sacs of bird

1.3.2 : External respiration and cellular respiration with reference to human

1.4 Circulation

1.4.1 : Types of circulating fluids: water, coelomic fluid, lymph and blood
1.4.2 : Types of circulation: Protoplasmic streaming, open and closed circulation, single and double circulation
1.4.3 : Hearts: Heart in *Daphnia*, cockroach and chordates (one, two, three and four-chambered hearts)
1.4.4 : Structure of cardiac muscle

Unit 2: Ecology **15 Lectures**

2.1 : Concept of Ecosystem
2.2 : Concepts of energy flow, food chain and food web
2.3 : Biogeochemical cycles
2.3.1 : Carbon cycle, oxygen cycle, nitrogen cycle, phosphorus cycle and water cycle
2.3.2 : Human activities affecting biogeochemical cycles
2.4 : Animal interactions: Symbiosis - mutualism, commensalism, parasitism, predation and antibiosis

Unit 3: Animal Biotechnology – I **15 Lectures**

3.1 Biotechnology and Gene therapy

3.1.1 : Recombinant DNA technology in production of insulin, alpha-1-antitrypsin, tissue plasminogen activator (tPA) and Human growth hormone (hGH).
3.1.2 : Gene therapy: *Ex vivo* and *In vitro* approach; Gene therapy for Severe Combined Immunodeficiency (SCID) and Cystic fibrosis
3.1.3 : Ethical issues with reference to gene therapy

3.2 Transgenic Animals and Animal Cloning

3.2.1 : Transgenic animals
3.2.2 : DNA Micro injection, Retro-viral method of gene transfer
3.2.3 : Nuclear transfer technology
3.2.4 : Animal cloning experiments for "Dolly"

Semester – I Practical

Course Code: SIUZOCCP111 (Mandatory/Core)
Course Name: Practical based on SIUZOCC111

1. Study of *Paramoecium* culture to observe cyclosis, food vacuole, contractile vacuole and ciliary movement and irritability in *Paramoecium* by demonstration of release of trichocysts
2. Study of effect of pH and temperature on the activity of enzyme amylase/ trypsin
3. Rate of oxygen consumption by cockroach (demonstration only)
4. Determination of rate of heartbeat in Daphnia
5. Study of Animal interactions: -

a. Mutualism: Termite and *Trichonympha*

b. Antibiosis: Effect of antibiotics on bacterial growth in a petriplate
c. Parasitism: 1. Ectoparasite – Head louse and bed bug; 2. Endoparasite – *Trichinella spiralis*
d. Predation: Praying mantis and spider
6. Qualitative tests for Carbohydrates proteins and Lipids

Semester – II Theory
Mandatory/Core Paper SIUZOCC121
Life Processes - II, Biodiversity and Animal Biotechnology – II

Learning Objectives
- To attempt an inquiry into the vital processes that make life possible through an understanding of the adaptations animals have evolved that best suit the milieu in which they thrive.
- To acknowledge the importance of the natural treasure – the biodiversity around us, and to be judicious in the utilization of this natural economy.
- To acknowledge the emerging field of Biotechnology that blends the technological advancements and the natural wealth – the living organisms, for improving human life.

Expected Outcomes
- ✓ Students will be equipped knowledge of functionality of life, diversity of animals and manipulating genomes for economic and social wellbeing.
- ✓ Students will be able to apply the knowledge gained for appearing competitive examinations in future.
- ✓ Enhanced knowledge of physiology can be excellent skill set for students pursuing career in biological science.

Unit 1: Life Processes – II **15 Lectures**

1.1 Excretion and Osmoregulation
1.1.1 : Concepts of excretion and osmoregulation
1.1.2 : Categorization of animals on the basis of principal nitrogenous excretory products
1.1.3 : Ornithine cycle, formation of urea; deamination and detoxification

1.2 Control and Coordination
1.2.1 : Irritability
1.2.2 : Structure of neuron; sense organs – human eye and ear
1.2.3 : Conduction of nerve impulse: Resting potential, action potential and refractory period: Synaptic transmission
1.2.4 : Endocrine regulation: Hormones as chemical messengers; feedback mechanisms

1.3 Reproduction
1.3.1 : Gametogenesis; structure of egg and sperm of mammal 2.3.2: Fertilization in animals; *In vitro* fertilization
1.3.3: Oviparity, viviparity and ovoviviparity

Unit 2: Biodiversity and its Conservation **15 Lectures**

2.1 : Introduction to Biodiversity - Definition, Concepts, Scope and Significance
2.2 : Levels of Biodiversity - Introduction to Genetic, Species and Ecosystem Biodiversity
2.3 : Introduction of Biodiversity Hotspots- (Western Ghats and IndoBurma Border)
2.4 : Values of biodiversity - Direct and Indirect use value
2.5 : Threats to Biodiversity - Habitat loss and Man-Wildlife conflict
2.6 : Biodiversity conservation and management
2.6.1 : Conservation strategies: in situ, ex-situ, National parks, Sanctuaries and Biosphere reserves.
2.6.2 : Introduction to International efforts: International Union for Conservation of Nature and Natural Resources (IUCN).
2.6.3 : Introduction to National conservation efforts: Project Tiger, Project Rhinoceros (IVR2020)
2.6.4 : Introduction to Indian Wildlife (Protection) Act, 1972

Unit 3: Animal Biotechnology – II **15 Lectures**

3.1 Food Biotechnology
3.1.1 : Applications of biotechnology in making bread, beer, wine, yogurt and cheese

3.2 Enzyme Technology
3.2.1 : Enzymes as meat tenderizers
3.2.2 : Biodetergents
3.2.3 : Concept of enzyme immobilization

3.3 Environmental Biotechnology
3.3.1 : Bioremediation: Concepts and applications
3.3.2 : *Ex* situ and *In* situ Bioremediation
3.3.3 : Case studies related to Bioremediation

Semester – II Practical

Course Code: SIUZOCCP121 (Mandatory/Core)
Course Name: Practical based on SIUZOCC121

1. Mounting of septal nephridium of earthworm (from preserved specimen)
2. Urine analysis for detection of normal and abnormal constituents; Detection of uric acid from excreta of bird or cockroach
3. Extraction and qualitative detection of nucleic acids: DNA (SDS-NaCl extraction) and RNA (Phenol extraction)
4. Study of bacteria using Gram stain
5. To evaluate the quality of milk by Methylene Blue Reduction Test (MBRT)
6. Preparation and assay of of immobilization of enzyme amylase/ yeast cells in beads of calcium alginate (visual observation for comparing the colour intensity in test tubes)
7. To demonstrate fermentation of grape juice/ sugar cane juice or any fruit juice (Detection of alcohol generated during fermentation by benzoic acid)
8. Effect of Papain (raw papaya extract) as a meat tenderizer.

Semester I / II – Vocational Skill Course (VSC)
Course Code: SIUZOVS111
Bioinstrumentation

Learning Objectives
- To give students a hands-on experience of instrumentation used in laboratory facility.
- To expose students to concept in biological sciences by experiment-based learning.

Expected Outcomes
- ✓ Students will be able to operate instruments in laboratory facility independently.
- ✓ Students will be equipped with principle and working of instruments used in laboratory.
- ✓ Students will be gaining analytical skills based on experimental learning.

Unit 1: Bioinstrumentation **15 Lectures**

1.1 Principle, working and application of Microscope: Simple and Compound
1.2 Principle, working and application of Centrifuge: High speed Centrifuge
1.3 Principle, working and application of Colorimeter, pH meter

1.4 Principle, working and application of Electrophoresis: Agarose Gel Electrophoresis (AGE) and Poly Acrylamide Gel Electrophoresis (PAGE)
1.5 Principle, working and application of Chromatography: Paper and Thin Layer Chromatography (TLC)

Practicals Based on Bioinstrumentation

1. Introduction to basic laboratory safety: safety rules, safety symbols and precautions; safety practices with respect to accidents which may occur while working in a laboratory (chemical spillage, burns, etc.); principle, working and use of fire extinguishers.
2. Handling of common laboratory equipment's/ instruments: Burner, microscope, centrifuge, colorimeter, balance, homogenizer; Handling of glassware
3. Separation of amino acids by ascending paper chromatography
4. Thin layer chromatography of lipids using silica gel coated aluminium-backed TLC sheets and silica gel coated glass plates
5. Adsorption chromatography using chalk to separate plant pigments or other pigments/ dyes (Food colours)
6. Demonstrate agarose gel electrophoresis for the separation of egg white proteins and compare with a protein ladder or standard protein sample

Semester I / II – Skill Enhancement Course (SEC)
Course Code: SIUZOSE111
Animal Systematics

Learning Objectives
- To do an introductory survey of the diversity of animal life to understand that part of the world around us comprising of various life forms. Also, to gain an insight into field biology.

Expected Outcomes
- ✓ Students will be equipped with the skill of understanding taxonomy of animal kingdom.
- ✓ Students will be able to gain and apply the practical knowledge in field studies in future.
- ✓ Enhanced knowledge of classification can be an excellent skillset for students pursuing career in field biology.

Practicals based on Animal Systematics - I

1. Levels of Organization in Animal Kingdom
a. Symmetry:
1. Asymmetric organization: *Amoeba*
2. Radial symmetry: Sea anemone, *Aurelia*
3. Bilateral symmetry: *Planaria*/ liver fluke
b. Coelom condition:
1. Acoelomate: T.S. of *Planaria*/ liver fluke
2. Pseudocoelomate: T.S. of *Ascaris*
3. Coelomate: T.S. of earthworm
c. Metamerism: Ametamerism, Psuedometamerism and Eumetamerism
d. Specialization of body parts for division of labour: Insect – Head, thorax and abdomen
e. Cephalization:
1. Cockroach – Head
2. Prawn/ crab – Cephalothorax
2. Animal Diversity
a. Phylum Protozoa: *Amoeba, Paramoecium, Euglena, Plasmodium*
b. Phylum Porifera: *Leucosolenia*, Bath sponge
c. Phylum Cnidaria / Coelenterata: *Hydra, Obelia colony, Aurelia,* Sea anemone, any one coral

d. Phylum Platyhelminthes: *Planaria*, liver fluke and tapeworm
e. Phylum Nemathelminthes: *Ascaris* (male and female)
f. Phylum Annelida: *Nereis*, earthworm and leech
g. Phylum Arthropoda: Crab, lobster, *Lepisma*, beetle, dragonfly, butterfly, moth, spider, centipede, millipede
h. Phylum Mollusca: *Chiton*, *Dentalium*, *Pila*, bivalve, Sepia and *Nautilus*
i. Phylum Echinodermata: Starfish, brittle star, sea urchin, sea cucumber, feather star

3. Field visit to Zoo / Aquarium / Museum / Natural habitats

Practicals based on Animal Systematics - II

1. Animal Diversity
a. Phylum Hemichordata: *Balanoglossus*
b. Subphylum Urochordata: *Herdmania*
c. Subphylum Cephalochordata: *Amphioxus*
d. Division Agnatha: Class Cyclostomata: *Petromyzon*/ *Myxine*
e. Class Pisces: Subclass Chondrichthyes: Shark, skates, sting ray/ electric ray Subclass Osteichthyes: *Sciaena*, flying fish
f. Class Amphibia: Frog, toad, caecilian, salamander
g. Class Reptilia: Chameleon, *Calotes*, turtle/ tortoise, snake, alligator/ crocodile
h. Class Aves: Kite, kingfisher, duck
i. Class Mammalia: Shrew, hedgehog, guinea pig, bat
2. Study of wheel organ of *Amphioxus*, scroll valve of shark, digestive system of pigeon, ruminant stomach
3. Observation of sagittal section of mammalian kidney, Bowman's capsule (under high power)
4. Observation of hen's egg with developing embryo at any stage of development
5. Study of mammalian brain (entire and sagittal section with the help of specimen/ model); observation of T.S. of mammalian spinal cord.
6. Geographical Mapping of National Parks and Sanctuaries
7. Field visit to Zoo / Aquarium / Museum / Natural habitats

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