# SYLLABUS OF BACHELOR OF EDUCATION (SECONDARY) PROGRAMME 2017-18

## **DEPARTMENT OF B.ED**



TRUCK OFFIC TRUCK OF ALL BURGERS

SHAILABALA WOMEN'S AUTONOMOUS COLLEGE, CUTTACK

## Syllabus for

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# **Bachelor of Education (Secondary)**

Programme

(Based on NCTE Curriculum Framework):

(Two-Year B.Ed. Programme)

(2017-18)

# SHAILABALA WOMEN'S AUTONOMOUS,

## COLLEGE, CUTTACK

## 3. **Course Objective**

The Syllabus for the two-year B.Ed. (Secondary) Programme is designed to attain the following broad objectives.

One the completion of the course, the student-teacher shall :

- Understand the central concept, tools of inquiry, and structures of the disciplines and can create learning experiences that make these aspects of subject matter meaningful.
- Understand how children learn and develop, how they differ in their approcahces to learning and create learning opportunities that are adopted to diverse learners and learning contexts.
- Plan learning experience that are based on learner's existing proficiency, interests, experiences including misconceptions and errors, and understand how students come to view, develop and make sense of subject matter contained in the learning experiences.
- Use knowledge of effective verbal, nonverbal and media communiation techniques to foster active inquiry, collaboration, and supportive interaction in the classroom.
- Understand and use formal and informal assessment strategies to evaluate and ensure the continuous intellectual, social and physical developments of the learner.
- Develop self identity as a teacher through school-based experience and reflective practices that continually evaluated the effects of his/her choices and actions.

## 4. Modes of learning Engagement

With a view to moving away form theoretical discourses and lectures, the studentteacher is required to be engaged in various kind of learning experience. This programme intends to provide him/her with the specific engagements that are spelt out under each course. However, the nature of engagement of the student-teachers will be of following kind:

- Lecture-Discussion Session : The teacher education provides the student-teachers a platform to review their experiences, helps them to develop insights in to the disciplinary knowledge base and to relate them to the school relaties:
- Focused Reading and Reflection: Student-teachers would be led to focused readings of various themes with questions inviting reflections either individually or in small groups.
- **Observation-Documentation-Analysis**: Simulated and real school/community experiences would be arranged for the student teachers to observe, document in the form of record/journal/diary and analyze with an intention to revisit their own understandings or develop new insights.
- Projects:
- Group Presentations:

**Seminar** : Students will undertake thematic/topical study, prepare write-up and make seminar presentation followed by open-house discussion with a view to enhance their knowledge base and repertoire of skills in presentation.

## A. Perspectives in Education (PE)

- PE 1 Education, School and Society.
- PE-2 Childhood and Growing UP
- PE 3 Learning and Teaching
- PE- 4 Contemporary Concerns in Education
- PE 5 Knowledge and Curriculum
- PE 6 Management of Eduation
- PE 7 a. Creating and Inclusive School
  - b. General, School and Society
- PE 8 a. Action Research and Innovation

b. Guidance and Counselling

## B. Curriculum and Pedagogic, Studies (CPS)

CPS – 1 Language across the Curriculum

CPS - 2 Learning Assessment

CPS – 3 (a & b) Pedagogy of School Subjects (Any two school subjects to be offered by each student - teacher)

## C. Engagement with the Field

- Activities and assignments that run through all the courses and indicated against each course.
- School Internship & Community Activities
- Courses on Enhancing Profession Capacities (EPC)

EPC – 1 Critical Understanding of ICT

ERC – 2 Understanding the Self

EPC – 3 Fine Art/Performing Art (Drama)/Performing Art (Indian Music)

EPC - 4 Physical Education and Yoga

Optional Courses for Skill Development (OCSD)

OCSD – 1 Food Preservation

OCSD – 1 Spinning and Weaving

OCSD – 3 Tailoring

OCSD – 4 Wood Work

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Course	litle of the					Contact
	Lourse	External	Internal	Total		Hours
PERSPEC	TIVES IN EDUCATIC	<u>N</u>	·····	· · · · · ·		
PE-1	Education, School and Society	80	20	100	04	64(5)
PE-2	Childhood and Growing up	80	20	100	04	64(5)
PE-3	Learning and Teaching	80	20	100	04	64(5)
PE-4	Contemporary Concern in Education	80	20	100	04	64(5)
	Total	320	80	400	16	
CURRICU	LUM AND PEDAGOO	IC STUDIES	S			
CPS-2	Learning Assessment	80	20	100	04	64(5)
CPS-3 (a & b)	Pedagogy of School Subject	80	20	100	04	64(5)
	Total	160	40	200	08	
COURSES	<b>SENHANCING PROFI</b>	ESSIONAL C	APACITIES	s <u></u>		
EPC-3	Fine Art/Assessment ۲		50	50	02	32(2.5)
EPC-4	Physical Education and Yoga		50	50	02	32(2.5)
	Total		100	100	04	8 Weeks
Schoo	1 Internship m	Jogonone i	162	100)	24	SHEEK
OPTIONA Any One	AL COURSES FOR SK Course	ILL DEVELO	PMENT	<b>_</b>	1	/
OCSD-1	Fruit and Vegetable Preservation		50	50	02	
OCSD-2	Spinning and Weaving		50	50	02	16 (01)
OCSD-3	Tailoring		50	50	02	
OCSD-4	Wood Work		50	50	02	
Total			50	50	02	
TOTAL (I	First Year)	480	370	850	34	

First Year

Note : Figures Within parentheses indicate hours per week

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Year Wise Distribution of Courses

		Secona	теаг		<b></b>	
	Title of the		Marks		Cradits	Contact
Course	Course	External	Internal	Total	creuits	Hours
PERSPEC	TIVES IN EDUCATIO	N	<b>L</b> ( <b>111 - 111</b> - 111 -			, <u>-</u>
PE-5	Knowledge and	80	20	100	04	64(5)
PE-6,	Education	80	20	100	04	64(5)
PE-7a-	Creating an Inclusive School	40	10	50	02	32(2.5)
PE-76	Gander, School and Society	40	10	50	02	32(2.5)
• PE-8 ~	Action Research	40	10	50	02	32(2.5)
. PE-8a.	Guidance and Counseling	40	10	50	02	32(2.5)
	Total	320	80	400	16	
CURRICI	JLUM AND PEDAGOO	<b>GIC STUDIE</b>	S			<u>.</u>
CPS-1	Language across the Curriculum	40	10	50	02	32(2.5)
CPS-3 (a & b)	Pedagogy of a School Subject	80	20	100	04	64(5)
1/	Total	120	30	150	06	
COURSE	S ENHANCING PROF	ESSIONAL	CAPACITIE	S		
EPC-1	Critical Understanding of		50	50	02	64(4.5)
	Understanding Self		50	50	02	64(3)
	Total		100	100	04	
, wat)						. <u></u>
SCH	PART-II		150	150	06	12 Weel
COMN	UNITY ACTIVITES	<u> </u>	50	50	02	
Tot	al (Second Year)	440	410	850	34	
(First )	RAND TOTAL (ear + Second Year)	920	780	1700	68	

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Note : Figures Within parentheses indicate hours per week

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## School Internship

### Objectives

- Developing professional capacities, teacher sensibilities and sustained engagement of student-teachers (Prospective teacher) with learners and schools.
- Equipping the student-teachers with required skills and competencies to cater to diverse
- Exposing the Student-teachers to multicultural contexts of the society which influence the school environment and its functioning.
- Validating the theoretical understanding of the student-teaches developed through various perspective and pedagogic courses.
- Enabling the student-teachers internalize the role of a teacher as a facilitator of learning, classroom manager, resource mobilize and manager, innovator, evaluator of learner performance, planner and organizer of other curricular activities, mentor and counsellor for children, service provider for the community and parents, developer and evaluator of curriculum text books other TLMs etc.

### Duration

- Eight (08) weeks in first year
- Twelve (12) weeks in the 2<sup>nd</sup>/final year

## Levels

- Upper Primary Level (Classes VI VIII)
- Secondary Level (Classes IX X) or Higher Secondary Level (Classes XI XII)

## Organization

- a. Pre-internship Activities
  - Orientation of the student-teachers
  - Observation of school site and activities by the student-teachers (timetable, work allocation among teaching and non-teaching staff, regular classroom with regular teacher, day to day other school activities etc.)
  - Sharing meeting with the teachers and Headmasters of the cooperating schools in the institution and working out the programme details for the internship
  - Demonstration lesson by the faculty members followed by each student-teacher in any one of the methods opted) under the supervisory support of the method teachers, attended by all student-teachers of the method concerned.
  - Placement of student-teachers in cooperating schools for internship activates.



- b. During internship Activities
  - Preparation of lesson plans by the student-teachers in their concerned method subjefts
  - Delivery of practice lessons with supervisory support and feedback from faculty members. Each student-teacher shall deliver 40 lessons (20 lessons in each method subject) excluding the criticism lesson. Out of the 40 lessons, 30% (12 nos.) shall be delivered in the upper primary (classes VI to VIII) and the remaining 70 % (28 nos.) lessons in the secondary classes (Classes IX and X)
  - Observation of five peer-lesson and recording of the performance of the peer studentteachers with authentication by concerned supervisors.
  - Feedback session in the Teach Education Institution after each spell of ten-day practice teaching to be attended by all student-teachers for sharing their experiences.
  - Administration of diagnostic tests on the students and identifying their learning difficulties by the student-teachers.
  - Attendance in school assemble
  - Participating in campus cleaning and beautifications activities.
  - Taking arrangement classes when required
  - Organization and participation in literary and recreational activities of the school
  - Participation in school games and sports activates
  - Organization and participation of science exhibition, science fair, science club/nature study club/eco club activities.
  - Organization of awareness campaign on HIV/AIDS, blood donation, conservation and protection of environments etc.
  - Organization of blood donations campus
  - Preparation of report on Annual sport and celebration of important occasions and events
  - Preparation of report on maintenance of registers and records by the school
  - Preparation of scheme of lessons in any subject for any class
  - Dialoguing with SMC/SMDC members and preparation of reports on their meetings in the school
- Conducting case studies/action research
- Liaison with parents community and authorities
- Sharing learner perceptions, teacher perceptions and parental/community perceptions
- c. Post-Internship Activities
  - Overall sharing of student-teachers internship experiences in the institution.
  - Suggestions and feedback from the teachers and Heads of the practicing schools for further improvement of the internship activities
  - Exhibition/demonstration of innovative and creative work done by the student-teachers during internship.
  - Student-teacher's feedback on overall organization of internship programme by the institution for future action.



Assessment of Internship Performance

 Assessment by supervisors, cooperating teachers and headmasters, and peer assessment on the basis of observation and records.

## Attendance

The minimum attendance of Student-teachers for school internship programme shall ٠

## Assessment of Internship Performance

Internal assessment of internship activities and records : 250 marks (100 marks in • first year, 150 marks in second year)

## First Year

- $\checkmark$  Assessment of overall activities of the student-teacher in the school during
- ✓ Assessment of lesson plan record (method 1) : 20 marks
- ✓ Peer assessment of lessons delivered (method 1) : 10 marks
- ✓ Faculty assessment of lesion delivered (Method 1) 20 marks
- ✓ Innovative practices and TLM : (10+10) 20 marks

## Second Year

- $\checkmark$  Assessment of overall activities of the student-teachers in the school during
- ✓ Assessment of lesson plan record (Method 2) : 20 Marks
- ✓ Peer assessment of lessons delivered (Method 1) : 10 Marks
- ✓ Faculty assessment of lessons delivered (Method 1) : 20 Marks
- ✓ Innovative practices and TLM : (10+10) 20 marks
- Assessment of observation record and scheme of lessons by faculty : 10 Marks ✓ Assessment of reports prepared on school activities : 20 Marks
- ✓ Assessment of school-based project : 20 Marks

Each Teacher Education Institution has to prepare a detailed plan on school internship programme for each academic year in consideration of the activities indicate above under pre-internship, during internship and post internship activities.

## **Community Activities : 50 Marks**

- Organisation and participation in any community awareness building programme, ۲ and preparation of report : 10 marks
- Conducting any Community activity like plantation, mass safai, public utility service (road repair, cleaning water sources and public places etc.), blood donation camp, health check-up and submission of a report : 10 marks
- Survey of Community resources and their utilization in school improvement : 10
- Survey and mobilization of out of school children in the community and preparation of a report : 20 Marks.

(N.B: The first two activities shall be undertaken in the First Year and the remaining two activities shall be under taken in the second year. However, the marks awarded to the student-teacher in all the four community activities shall be included in the aggregate marks of Second Year Examination.)



# STATE MODEL SYLLABUS FOR UNDER GRADUATE COURSE IN SANSKRIT (Bachelor of Arts Examination)

# UNDER CHOICE BASED CREDIT SYSTEM

## SANKRIT

Framework of CBCS Syllabus for SANSKRIT (Honours) from 2019-20							
Abbrevia Enhancer Total Ma Total Cr	ations used: CC- Core Course, DS nent Course, AECC-Ability Enhan arks- CC(1400)+DSE(400)+GE(40 edits- CC(84)+DSE(24)+GE(24)+	E-Discipline Spec cement Compulso 0)+SEC(200)+AE SEC(8)+AECC(8)	ific Elective, <b>GE-C</b> ry Course CC(200) = 2600 =148	Generic Elective, SE	C-Skill		
			SEC	DSE			
Semester	14 papers	2 Papers	2 Papers	4 Papers	GE 4 Papers		
Ι	CC-1: Moral Teachings and Basics of Sanskrit CC-2: Drama-I & History of	AECC-I: EVS & DM			GE I: Moral Teachings and Basics of Sanskrit		
	Sanskrit Literature -I						
	CC-3: Drama-II & Dramaturgy	AECC-II M.I.L.			GE II: Khandakavya		
II	CC-4: An Introduction to the Technique of Paninian Grammar& Prosody				Darsanakavya		
	CC-5: Poetry & History of Sanskrit Literature- II		SEC I: Communicative English				
III	CC-6: Meta-Rules of Paninian Grammar, Poetics and Figures of Speech						
	CC-7: Cases and Case Endings in Paninian Grammar & Translation-I						
IV	CC-8: Upanisad, Ramayana & Bhagavadgita		SEC II: Quantitative & Logical Thinking				
	CC-9: Case and Case Endings of Paninian Grammar, Translation- II & Lexicon						
	Classical Sanskrit						
v	CC-11: Ornate Poetry in Sanskrit			DSE-1: Socio- Political Thought in Ancient India			
	CC-12: Veda, Vedic Grammar & History of Vedic Literature			DSE-2: Ethical Literature in Sanskrit			
VI	CC-13: Ayurveda & Vrksayurveda			DSE-3: Translation, Editing and Writing Skill			
	CC-14: Technical Literature in Sanskrit			DSE-4: Project Preparation and Presentation)			

### Discipline Specific Elective-IV PREPARATION AND PRESENTATION OF PROJECT

### **Project and Presentation**

(The Project work should be done preferably on Creative writings and Translation works of Sanskrit Language.)

### Generic Elective Paper I MORAL TEACHINGS AND BASICS OF SANSKRIT

1Hitopodeśa Mitralábha (Prastávaná, Kathāmukha, Brddhavyághrapathiakakathá, Mrgajambukakathá & Grdhravidálakathá)

2 Yaksapra'sna of Mahabharata (Aranyakaparva, ch.313 from Verses no. 41 to 133)

3 Śabdarúpa & Dháturúpa.

('a' káránta, 'i' káránta, 'ī' káránta, 'u' káránta, 'ū' káránta, 'in' bhágánta, Mātr, Pitr, Asmad, Yusmad, Tad(sabdarupas).Lat, Lan, Vidhilin, Lrt, Lot and Litlakaras path,Ni, Kr, Sev, Han, Pā, Dā, Śru, Śī and Krīn in the form of Ātmanepada, Parasmaipada or Ubhayapada whichever is applicable. (Dháturúpa)

Unit-I & II: *Hitopodeśa Mitralábha and Śabdarúpa* Translation of a textual verse Śabdarúpa- 4

Unit-III & IV: Yaksaprasna of Mahábhárata and Dháturúpa. Explanation- 1(About 150 words each) Translation of a textual verse Dháturúpa

## **Core Readings:**

- 1. Hitopadesah (Mitralabhah) (Ed.) Kapildev Giri, Chaukhamba Publications, Varanasi.
- 2. Mahabharata, Gitapress, Gorakhpur (Prescribed Text)
- 3. *Vyakaranadarpana*, The Odisha State Bureau of Text Book Preparation and Production, Bhubaneswar, 2013.

## **Suggested Readings:**

- 1. *Hitopadesah* (*Mitralabhah*) (Ed.) N.P. Dash and N.S. Mishra, Kalyani Publishers, New Delhi
- 2. Hitopadesah (Mitralabhah) (Ed.) B.S. Mishra, Vidyapuri, Cuttack
- 3. Yaksaprasna, T. K. Ramaayiyar, R. S. Vadhyar & Sons. Palkad, Kerala
- 4. Yaksaprasna, Ed. Dr. Nirmal Sundar Mishra, A.K. Mishra Agency, Cuttack, 2016

## Generic Elective Paper II KHANDAK Á VYA & DARSANAK Á VYA

- 1. Meghadutam (Purvamegha)
- 2. Bhagavad Gitá

*1. Meghadutam* Unit-I , II & III: Purvamegha

2. Bhagavadgita Unit-IV: (Chap.XV)

# STATE MODEL SYLLABUS FOR UNDERGRADUATE COURSE IN ANTHROPOLOGY

(Bachelor of Arts Examination)

Under Choice Based Credit System

				Marks	C	redit			
S1 No	Compostor	Nomo	Title of the Course	Theory-60					
51.INO	Semester	Iname	The of the Course	Mid-Term-15	Theory-4	Practical-2			
				Practical-25					
			Introduction to						
			Biological	75					
1		CORE PAPER-1	Anthropology			6			
			Practical	25					
			Introduction to Socio-	75					
2		CORE PAPER -2	cultural Anthropology	/5	6				
			Practical	25					
	1st		Introduction to						
			Biological	75					
3			GE1.	Anthropology			6		
				Practical	25				
		-	-	_	ABILITY				
		ENHANCEMENT		100					
4		COMPULSORY		100		4			
		COURSE-1							
			Archaeological	75					
5		CORE PAPER -3	Anthropology	15		6			
			Practical	25					
			Fundamentals of						
					Human Origin &	75			
6		CORE PAPER -4	Evolution		_	6			
			Practical	25					
	2nd		Introduction to Socio-	75	1				
7		GE2.	Cultural Anthropology	15		6			
			Practical	25					
		ABILITY							
8		ENHANCEMENT							
		COMPULSORY		100		4			
		COURSE-2							
9		CORE PAPER -5	Tribes and Peasants in	75		6			
	3rd		India						

## ANTHROPOLOGY UNDERGRADUATE SYLLABUS FOR HONOURS

			Practical	25	
10	-	CORE PAPER -6	Human Ecology	75	6
			Practical Biological Diversity in	25	~ 
			Biological Diversity in	75	
11		CORE PAPER -7	Human Populations		6
			Practical	25	
		SKILL			4
12		ENHANCEMENT		100	
		COURSE-1			
			Theories of Culture and	75	
13		CORE PAPER -8	Society	15	6
			Practical	25	
			Human Growth and		
14		CORE PAPER -9	Development	15	6
			Practical	25	
1.5	4th		Research Methods	75	
15		CORE PAPER-10	Practical	25	6
		SKILL			4
16		ENHANCEMENT		100	
		COURSE-2			
			Prehistoric Archaeology	75	
17		CORE PAPER -11	of India	15	6
			Practical	25	
			Anthropology in		
18		CORE PAPER-12	Practice	75	6
			Practical	25	
			Anthropology of		
	<b>5</b> .1		Religion Politics and		
	Sth			75	
19		DSE1	Economy		6
			(Compulsory)		
			Practical	25	
		Tactical			
			Tribal Cultures of	75	
20		DSE2.	India(Compulsory)	15	6
-			Practical	25	

21		CODE DADED 12	Forensic Anthropology	75	6
21		CORE PAPER-13	Practical	25	0
			Fieldwork and		
22		CORE PAPER -14	Dissertation	100	6
23		DSE <mark>-</mark> 3	Anthropology of India	75	6
	6th		Practical	25	
24	oui	DSE-4	Museum and Museology	75	6
24		DSL-4	Practical	25	0
TOTAL				2600	148

## HONOURS PAPERS:

Core Papers – 14 papers

Discipline Specific Elective (DSE) – 4 papers

Generic Elective (GE) for non Anthropology students – 4 papers, If the university prescribes two papers Please take GE1 and GE2

Marks per paper - Midterm : 15 marks, End term : 60 marks, Practical: 25 Total – 100 marks Credit per paper – Theory : 4, Practical : 2 Total- 6

Teaching hours per paper -40 hours (theory) +10 hours (practical)

## Programme Outcomes

PO-1: After the completion of this B.A in anthropology programme Students will

acquire broad knowledge of Anthropology.

**PO-2**: Students will able to use Anthropological methods of research to address problem in all fields of anthropology.

**PO-3**: Students will able to apply anthropological concepts knowledge and research methods to the discussion ad resolution of real world problems.

PO-4: Students will able to communicate effectively about different topics anthropology.

## CORE PAPER 14 Fieldwork and Dissertation

### **COURSE OUTCOMES:**

CO 14.1 : The aim of this course is t provide a comprehensive understanding about the anthropological research and make students acquainted with various types of data collection. Students will able to know about data analysis and report writing.

Empirical study among the tribal, rural and urban communities of Odisha is to be conducted for a minimum period of 21 days in semester VI under the guidance of a teacher or teachers. Two copies of dissertations are to be submitted for examination on the basis of fieldwork and presentation of seminar. The Examination of Dissertation shall be conducted by an internal and an external examiner.

Mid-term Examination	= 15 marks					
(Seminar presentation by the student based on his/her fieldwork/field topic)						
End-term Examination						
Dissertation based on 21 days fieldwork	=60 marks					
Field diary (15 marks) and Viva-voce (10 marks)	=25 marks					

\*The dissertation has to be submitted by the student positively before the end semester examination. The dissertation will be evaluated both by the internal and external examiners

## DSE 1-COMPULSORY Anthropology of Religion, Politics and Economy

### **COURSE OUTCOMES:**

**CO DSE-1**: The students will gather basic understanding about the anthropological approaches to understand religion, religious specialists and theories of religion.

### Theory

**Unit I:** Anthropological approaches to understand religion- magic, animism, animatism, totemism, naturism; witchcraft and sorcery; Religious specialists: shaman, priests, mystics; Overview of Anthropological Theories of Religion; Religion as the sacrality of ecological adaptation and socialness

**Unit II:** Economic institutions: principles of production, distribution, and consumption insimple and complex societies; critical examination of relationship between economyand society through neo-classical, substantivist, and neo-marxist approaches, variousforms of exchange: barter, trade and market; Forms of currencies; reciprocities:generalized, balanced

### DSE-:4- MUSEUM AND MUSEOLOGY

### **COURSE OUTCOMES**

DSE-4.1 Museological background will build solid background so that it will allow the students more connected with art and history through technological objects and scientific advancement. Students will also develop an aesthetic eye, as well as critical thinking skill. The in-depth study provides an overview on the history, politics and changing roles of anthropology museum. It also enhances the skill or the structures to make employability in museum along on to depth knowledge on socio-cultural aspect of different culture and society.

A report will be prepared by visiting an Anthropological Museum and doing empirical study on ethnographic specimens of material cultures of tribal, rural communities of Odisha. The museumvisit is to be conducted for a minimum period of 10 days in semester V<sup>th</sup> under the guidance of a teacher or teachers. Two copies of report are to be submitted for examination on the basis of museum visit. The Examination of Report shall be conducted by an internal and an external examiner.

<u>Mid-term Examination</u> (Each student has to answer one elective question of **15 marks** from the two units On Museum and Museology given below for the Mid Term Examination) =15 marks

#### End – term Examination=85 marks

Practical Record on ethnographic Specimens of material culture	=15 marks
Viva- Voce	=10 marks

Report\* on 10 days Museum visit of anthropological /tribal/cultural museums=60 marks

\*The Report\* on 10 days Museum visit of an Anthropological Museum has to be submitted by the student positively before the end semester examination. The Report\* will be evaluated both by the internal and external examiners.

**MUSEOLOGY**: The students are to be taught on the following aspects **Museum and of Museology** pertaining to perspectives of Museology and the basic principles of museum:

Unit - I: Museums : Meaning and scope; History and development of museums in India;

Types of Museums in India; Role of Anthropological museums in education.

Unit –II: Museology and Basic Principles of Museum: Modes and ways of acquisition of museum specimens; Principles of display and arrangement in museum; Basic principles of museum, Documentation, labeling, display of the museum specimens of material cultures of tribal and rural people.

Each student has to answer one elective question of **15 marks** from the above aspects of Museum and Museology in the Mid Term Examination.

The students are required to learn the basic principles of museum, documentation, labelling and display of the museum specimens of material cultures of tribal and rural people. Each student has to apply the above methods, whichever is applicable , on specimens of following materials.

- a. Plant remains: Wood, Bamboo
- b. Fibre remains: Cloth/ Linen
- c. Metal remains: iron, brass, copper, silvers.
- d. Animal remains: Bone, antler, horn, leather/hide

## SHAILABALA WOMEN'S AUTONOMOUS COLLEGE, CUTTACK STATE MODEL SYLLABUS FOR UNDERGRADUATE COURSE IN BOTANY

(Bachelor of Science Examination)

# UNDER CHOICE BASED CREDIT SYSTEM

Course Structure of U.G. Botany Honours							
Semester	Course	Course Name	Credit	Total marks			
	AECC-I		4	100			
	C-1 (Theory)	Microbiology and Phycology	4	75			
	C-1 (Practical)	Microbiology and Phycology	2	25			
Compostor I	C-2 (Theory)	Biomolecules and Cell Biology	4	75			
Semester-1	C-2 (Practical)	Biomolecules and Cell Biology	2	25			
	GE -1A (Theory)	Biodiversity (Microbes, Algae, Fungi & Archegoniate)	4	75			
	GE -1A(Practical)	Biodiversity (Microbes, Algae, Fungi & Archegoniate)	2	25			
	AECC-II		4	100			
	C-3 (Theory)	Mycology and Phytopathology	4	75			
	C-3 (Practical)	Mycology and Phytopathology	2	25			
Semester-II	C-4 (Theory)	Archegoniate	4	75			
	C-4 (Practical)	Archegoniate	2	25			
	GE -2A (Theory)	Ecology & Taxonomy	4	75			
	GE -2A(Practical)	Ecology & Taxonomy	2	25			
	C-5 (Theory)	Anatomy of Angiosperms	4	75			
	C-5 (Practical)	Anatomy of Angiosperms	2	25			
	C-6 (Theory)	Economic Botany	4	75			
Compositor	C-6 (Practical)	Economic Botany	2	25			
III	C-7 (Theory)	Genetics	4	75			
	C-7 (Practical)	Genetics	2	25			
	SEC-1		4	100			
	GE -1B (Theory)	Plant Ecology & Taxonomy	4	75			
	GE -1B (Practical)	Plant Ecology & Taxonomy	2	25			
	C-8 (Theory)	Molecular Biology	4	75			
Semester- IV	C-8 (Practical)	Molecular Biology	2	25			
	C-9 (Theory)	Plant Ecology & Phytogeography	4	75			

	C-9 (Practical)	Plant Ecology & Phytogeography	2	25
	C-10 (Theory)	Plant Systematics	4	75
	C-10 (Practical)	Plant Systematics	2	25
	SEC II		4	100
	GE-2B (Theory)	Plant Anatomy , Embryology & Biotechnology	4	75
	GE-2B(Practical)	Plant Anatomy , Embryology & Biotechnology	2	25
	C-11 (Theory)	Reproductive Biology of Angiosperms	4	75
	C-11 (Practical)	Reproductive Biology of Angiosperms	2	25
	C-12 (Theory)	Plant Physiology	4	75
	C-12 (Practical)	Plant Physiology	2	25
Semester-V	DSE - 1 (Theory)	Analytical Techniques in Plants Sciences	4	75
	DSE - 1 (Practical)	Analytical Techniques in Plants Sciences	2	25
	DSE - 2 (Theory)	Natural Resource Management	4	75
	DSE - 2 (Practical)	Natural Resource Management	2	25
	C-13 (Theory)	Plant Metabolism	4	75
	C-13 (Practical)	Plant Metabolism	2	25
	C-14 (Theory)	Plant Biotechnology	4	75
	C-14 (Practical)	Plant Biotechnology	2	25
Semester- VI	DSE - 3 (Theory)	Horticulture Practices & Post Harvest Technology	4	75
	DSE-3 (Practical)	Horticulture Practices & Post Harvest Technology	2	25
	DSE- 4 Project work	Project Work/ Industrial Management	6	100
		Total	148	2600

#### Unit-IV

Horticultural crops - conservation and management: Documentation and conservation of germplasm; Role of micropropagation and tissue culture techniques; Varieties and cultivars of various horticultural crops; IPR issues; National, international and professional societies and sources of information on horticulture.

#### PRACTICAL

Practical related to theory

#### **Text Books:**

1. K. V. Peter. (2009). Basics of Horticulture, Kalyani Publishers, New Delhi.

#### **Reference Books:**

- 1. Singh, D. & Manivannan, S. (2009). Genetic Resources of Horticultural Crops. Ridhi International, Delhi, India.
- 2. Swaminathan, M.S. and Kochhar, S.L. (2007). Groves of Beauty and Plenty: An Atlas of Major Flowering Trees in India. Macmillan Publishers, India.
- 3. NIIR Board (2005). Cultivation of Fruits, Vegetables and Floriculture. National Institute of Industrial Research Board, Delhi.
- 4. Kader, A.A. (2002). Post-Harvest Technology of Horticultural Crops. UCANR Publications, USA.
- 5. Capon, B. (2010). Botany for Gardeners. 3rd Edition. Timber Press, Portland, Oregon.
- 6. P. H. Pandey (2007). Principles and Practices of Post Harvest Technology, Kalyani Publishers, New Delhi.

#### **Discipline Specific Elective Paper-1V**

### INDUSTRIAL AND ENVIRONMENTAL MICROBIOLOG

#### Unit-I

- (i) Scope of microbes in industry and environment: Bioreactors/Fermenters and fermentation processes: Batch and continuous fermentations. Components of a typical bioreactor, Types of bioreactors- laboratory.
- (ii) Microbial production of industrial products: Microorganisms involved, media, fermentation conditions, downstream processing: Filtration, centrifugation, cell disruption, solvent extraction, precipitation and ultrafiltration.

### Unit-II

Microbial enzymes of industrial interest and enzyme immobilization: Microorganisms for industrial applications and hands on screening microorganisms for casein hydrolysis; starch hydrolysis; cellulose hydrolysis. Methods of immobilization, advantages and applications of immobilization.

### Unit-III

Microbes and quality of environment: Distribution of microbes in air; Isolation of microorganisms from soil, air and water.

Microbial flora of water: Water pollution, role of microbes in sewage and domestic waste water treatment systems. Determination of BOD, COD, TDS and TOC of water samples; Microorganisms as indicators of water quality.

### Unit-IV

Microbes in agriculture and remediation of contaminated soils: Biological fixation; Mycorrhizae; Bioremediation of contaminated soils. Isolation of root nodulating bacteria, arbuscular mycorrhizal colonization in plant roots.

### PRACTICAL

1. Principles and functioning of instruments in microbiology laboratory

2. Hands on sterilization techniques and preparation of culture media

3. Screening microorganisms for industrial use.

4. Mycorrhiza, arbuscular mycorrhizal colonization in plant roots

5. Determination of BOD, COD, TDS and TOC of water samples;

6. Microorganisms as indicators of water quality

#### **Text Books:**

1. P. D. Sharma. (2017) Environmental Microbiology. Rastogi Publications, Meerut.

#### **Suggested Readings**

1. Pelzar, M.J. Jr., Chen E.C. S., Krieg, N.R. (2010). Microbiology: An

application based approach. Tata McGraw Hill Education Pvt. Ltd., Delhi.

2. Tortora, G.J., Funke, B.R., Case. C.L. (2007). Microbiology. Pearson Benjamin Cummings, San Francisco, U.S.A. 9th edition.

3. Pradipta K. Mohapatra (2008). Text Book of Environmental Microbiology, I. K. International Publishing House, New Delhi

4. A. K. Rath (2018). Industrial and Environmental Microbiology, Kalyani Publishers, New Delhi.

	UK						
DISSERTATION / PROJECT WORK**							
F							
	Identification of problem	Review of Literature	Methodology	Findings	Analysis	Viva-Voce	Total
	10	10	10	25	25	20	100

\*\* = Students who score more than  $\geq 60\%$  in aggregate are eligible for project wo

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# STATE MODEL SYLLABUS FOR UNDER GRADUATE COURSE IN CHEMISTRY (Bachelor of Science Examination)

# UNDER CHOICE BASED CREDIT SYSTEM

Semester	Course	Course Name	Credits	Total marks
Ι	AECC-I	EVS & DM	04	100
	C-I	Inorganic Chemistry-I	04	75
	C-I Practical	Inorganic Chemistry-I Lab	02	25
	C-II	Physical Chemistry-I	04	75
	C-II Practical	Physical Chemistry-I Lab	02	25
	GE-I	Atomic Structure, Bonding,	04	75
	GE-I Practical	General Organic Chemistry& Aliphatic Hydrocarbons		
		GE-I Lab	02	25
			22	400
II	AECC-II	MIL	04	100
	C-III	Organic Chemistry-I	04	75
	C-III Practical	Organic Chemistry-I Lab	02	25
	C-IV	Physical Chemistry-II	04	75
	C-IV Practical	Physical Chemistry-II	02	25
	GE-II	Chemical Energetics, Equilibria & Functional Organic Chemistry	04	75
	GE-II Practical	GE-II Lab	02	25
			22	400
Ш	C-V	Inorganic Chemistry-II	04	75
	C-V Practical	Inorganic Chemistry-II Lab	02	25
	C-VI	Organic Chemistry-II	04	75
	C-VI Practical	Organic Chemistry-II Lab	02	25
	C-VII	Physical Chemistry-III	04	75
	C-VII Practical	Physical Chemistry-III Lab	02	25
	GE-III	GE-III	04	75
	GE-III Practical	GE-III Lab	02	25
	SEC-I	English Communication	04	100
			28	500
IV	C-VIII	Inorganic Chemistry-III	04	75
	C-VIII Practical	Inorganic Chemistry-III Lab	02	25

## Course structure of UG Chemistry Honours

	C-IX	Organic Chemistry-III	04	75
	C-IX Practical	Organic Chemistry-III Lab	02	25
	C-X	Physical Chemistry-IV	04	75
	C-X Practical	Physical Chemistry-IV Lab	02	25
	GE-IV	GE-IV (Theory)	04	75
	GE-IV Practical	GE-IV (Practical)	02	25
	SECC-II	Quantitative & Logical Thinking	04	100
			28	500
V	C-XI	Organic Chemistry-IV	04	75
	C-XI Practical	Organic Chemistry-IV	02	25
	C-XII	Physical Chemistry-V	04	75
	C-XII Practical	Physical Chemistry-V	02	25
	DSE-I	DSE-I	04	75
	DSE-I Practical	DSE-I Lab	02	25
	DSE-II	DSE-II	04	75
	DSE-II Practical	DSE-II Lab	02	25
			24	400
VI	C-XIII	Inorganic Chemistry- IV	04	75
	C-XIII Practical	Inorganic Chemistry-IV	02	25
	C-XIV	Organic Chemistry-V	04	75
	C-XIV Practical	Organic Chemistry-V	02	25
	DSE-III	DSE-III	04	75
	DSE-III Practical	DSE-III Lab	02	25
	DSE-IV		04	75
	DSE-IV Practical	DSE-IV (Inorganic Materials of Industrial Importance OR	02	25
		Analytical Methods)		
		DSE-IV Lab		
	OR			
	DSE-IV	Dissertation	06	100*
			24	400
		TOTAL	148	2600

## CHEMISTRY

## **HONOURS PAPERS:**

Core course – 14 papers

Discipline Specific Elective – 4 papers (out of the 6 papers suggested)

- Felder R.M. and Rousseau R.W., *Elementary Principles of Chemical Processes*, Wiley Publishers, New Delhi.
- 2. Dara S. S., *A Textbook of Engineering Chemistry*, S. Chand & Company Ltd. New Delhi.
- 3. Miller G.T., Environmental Science, 11th edition. Brooks/ Cole (2006).
- 4. Mishra, Environmental Studies, Selective and Scientific Books, New Delhi (2005).

## **Discipline Specific Elective Paper III LAB**

- 1. Determination of Dissolved Oxygen (DO) in water.
- 2. Determination of Chemical Oxygen Demand (COD)
- 3. Determination of Biological Oxygen Demand (BOD)
- 4. Percentage of available chlorine in bleaching powder.
- 5. Measurement of chloride, sulphate and salinity of water samples by simple titration method (AgNO<sub>3</sub> and potassium chromate).
- 6. Estimation of total alkalinity of water samples (CO  $^{2-}$ , HC<sub>3</sub> O  $^{-}$ ) usin<sub>3</sub>g double titration method.
- 7. Measurement of dissolved CO<sub>2</sub>.
- 8. Study of some of the common bio-indicators of pollution.
- 9. Estimation of SPM in air samples.
- 10. Preparation of borax/ boric acid.

## **Reference Books:**

- Dara S. S., A Textbook on Experiments and Calculations in Engineering Chemistry S Chand & Company; 9<sup>th</sup> revised edition (2015).
- 2. E. Stocchi: Industrial Chemistry, Vol-I, Ellis Horwood Ltd. UK.
- 3. R.M. Felder, R.W. Rousseau: *Elementary Principles of Chemical Processes*, Wiley Publishers, New Delhi.
- 4. A. Kent: Riegel's Handbook of Industrial Chemistry, CBS Publishers, New Delhi.
- 5. S. M. Khopkar, *Environmental Pollution Analysis*: Wiley Eastern Ltd, New Delhi.

### Discipline Specific Elective Paper-IV DISSERTATION

A project work is to be carried out by the student in consultation with the teachers of the department. The report of work (dissertation) in a standard format is to be submitted and presented for evaluation.

## Distribution of marks

- (a) Project Report/Dissertation (Proper documentation of literature, data, discussion etc. and logical flow of work undertaken): 50 Marks
- (b) Seminar/Presentation: 30 marks
- (c) Viva voce: 20 marks

## **Brief Guidelines to Project Work:**

- Students shall undertake the project work (experimental/theoretical) related to any branch of chemistry/Chemical science under the guidance of teacher(s) from the department or jointly with teachers/research personnel of other institutes.
- 2. The following activities have been outlined as guidelines (not exhaustive):
  - Physiochemical studies (pH, conductivity, turbidity, etc.) of different wetlands (ponds, lakes, river etc.)
  - Analysis of iron in pond / tube well / river water.
  - Analysis of Hardness of water samples.
  - Adulteration detection activities in food stuff and other edible items.
  - Extraction and preliminary characterization of useful chemicals (as far as possible) from plants.
  - Solubility, surface tension, and viscosity measurements of some solution of practical

## SYLLABUS FOR UNDERGRADUATE COURSE IN COMMERCE

(Bachelor of Commerce Examination)

Under Choice Based Credit System

U.G. Commerce Common Syllabus, Odisha

Paper	Subject	Paper Code	Full Marks	End- term Marks	Mid- term Marks	Credit Points	
	Semester I			iviui is	ivia iss		
1.1	Environmental Science	AECC -1	100	80	20	4	
1.2	Financial Accounting	CORE- 1	100	80	20	6	
1.3	Business Law	C-2	100	80	20	6	
1.4	Micro Economics	GE-1	100	80	20	6	
	Total		400			22	
	Semester II						
2.1	Communicative English/MIL	AECC-2	100	80	20	4	
2.2	Cost Accounting	CORE- 3	100	80	20	6	
2.3	Corporate Law	CORE- 4	100	80	20	6	
2.4	Macro & Indian Economy	GE-2	100	80	20	6	
	Total		400			22	
	Semester III						
3.1	Corporate Accounting	CORE- 5	100	80	20	6	
3.2	Income-tax Law and Practice	CORE- 6	100	80	20	6	
3.3	Management Principles and Application	CORE- 7	100	80	20	6	
3.4	Business Statistics	GE-3	100	80	20	6	
3.5		SEC-1	100	80	20	4	

	Total		500			28
	Semester IV					
4.1	GST and Indirect Taxes	CORE- 8	<mark>1</mark> 00	80	20	6
	Fundamentals of Data		100	60+25	15	<mark>6</mark>
4.2	Management (End Term Exam = 60, Protical = 25	CORE- 9				
	Mid-term $= 15$					
4.3	Management Accounting	CORE- 10	100	80	20	6
4.4	Principles of Marketing	GE-4	100	80	20	6
4.5		SEC-2	100	80	20	4
	Total		500			28
	Total Semester V		500			28
5.1	TotalSemester VComputerizedAccounting& E-filling of TaxReturns (EndTerm Exam =60, Practical =25, Mid-term =15	CORE- 11	<b>500</b> 100	60+25	15	28 6
5.1	TotalSemester VComputerizedAccounting& E-filling of TaxReturns (EndTerm Exam =60, Practical =25, Mid-term =15Fundamentals ofFinancialManagement	CORE- 11 CORE- 12	<b>500</b> 100 100	60+25	15 20	<b>28</b> 6
5.1 5.2 5.3	TotalSemester VComputerizedAccounting& E-filling of TaxReturns (EndTerm Exam =60, Practical =25, Mid-term =15Fundamentals ofFinancialManagementElective I (Anyone of thefollowing)	CORE- 11 CORE- 12 DSE-1	<b>500</b> 100 100 100	60+25 80 80	15 20 20	<b>28</b> 6 6

5. 4	Accountin g and Finance Elective II ( thefollowing	Markets, Institutio ns &Service s (Any <i>one</i> of g)	DSE-2	10 0	8 0	2 0	6
	A. Accountin g and Finance	Financial Statement Analysis and Reporting					
	Total			400			2 4
	Semester V	[					
6.1	Auditing and Corporate Governance		COR E-13	10 0	8 0	2 0	6
6.2	2 Business Mathematics		COR E-14	10 0	8 0	2 0	6
6.3	Elective III (Any one of thefollowing)		DSE-3	10 0	8 0	2 0	6
	A. Accountin g and Finance B. Banking	Fundamenta lsof Corporate Tax Planning Fundamenta					
	and Insuranc e	lsof Investment					

	C. Manageme nt	Consume r Affairs and Customer Care				
4	Business Research Methods andProject work	End Term Exam = 50 Project = 30 Viva- voce =20	DSE-4	10 0	50 30 Project 20 Viva- voce	6
	Total			400		24
	Grand Total			2600		148

### COMMERCE

### HONOURS PAPERS:

Core course –14 papersDiscipline Specific Elective –4 papersGeneric Elective for non commerce students – 4 papers.(Universities can exercise option of prescribing 2GE in which case from the list of GEsgiven in thesyllabus GE1 and GE2 only are to be taken.Marks per paper - Midterm: 20 marks, End term : 80marks, Total – 100 marks for paperswithout practical;For papers with Practicals the mark distributionwould be 60+25+15 Credit per paper – 6Teaching hours per paper – 50 hours + 10 hours tutorial

## DSE-4 Semester – VI Business Research Methods and Project Work

**Objective:** This course aims at providing the general understanding of business research and the methods of business research. The course will impart learning about how to collect, analyze, present and interpret data.

# Section A: Business Research Methods 50 Marks Unit-I

**Introduction:**Meaning of research; Scope of Business Research; Purpose of Research – Exploration, Description, Explanation; Unit of Analysis – Individual, Organization, Groups, and Data Series; Conception, Construct, Attributes, Variables, and Hypotheses.

## Unit-II

**Research Process:** An Overview; Problem Identification and Definition; Selection of Basic Research Methods- Field Study, Laboratory Study, Survey Method, Observational Method Existing Data Based Research, Longitudinal Studies, Panel Studies

## Unit-III

**Measurement:** Definition; Designing and writing items; Unidimensional and Multi- dimensional scales; Measurement Scales-Nominal, Ordinal, Interval, Ratio; Ratings and Ranking Scale, Thurst one, Likert and Semantic Differential scaling, Paired Comparison; Sampling –Steps, Types, Sample Size Decision; Secondary data sources

Hypothesis Testing: Tests concerning means and proportions;

ANOVA, Chi-square test and other Non-parametric tests; testing the assumptions of Classical Normal Linear Regression.

Section B – Project Report Marks (30 + 20)

**Unit-IV Report Preparation:** Meaning, types and layout of research report; Steps in reportwriting; Citations, Bibliography and Annexure in report; JEL Classification **Note:** 

- 1. There shall be a written examination of 50% Marks on the basis of Unit I to III.
- 2. The student will write a project report under the supervision of a faculty member assigned by the college/institution based on field work. The Project Report carries 50% Marks and will be evaluated by University appointed examiners.

**Learning Outcome:** After completion of this paper, the students will be able to assess andapply a range of research method on a practical project.

## **Text Books Recommended**

Mishra Business Research Methods, Oxford University Press. Business Research Methods and Project work, Priyaranjan Dash,

VrindaPublications (P)Ltd

## Suggested Readings:

- 1. Business Research methods, S.C. Agarwal, V.K. Global Pub. Pvt. Ltd., NewDelhi.
- 2. Upagade& Shende Research Methodology S. Chand
- 3. A.K.P.C. Swain, Business Research methods and Project work, KalyaniPublishers, New Delhi
- 4. Dangi, H.K. Business Research methods, Cengage Learning

# SYLLABUS FOR UNDER GRADUATE COURSE IN COMPUTER SCIENCE

(Bachelor of Science Examination)

## UNDER CHOICE BASED CREDIT SYSTEM
#### COMMON SYLLABUS FOR B.Sc. COMPUTER SCIENCE

B.Sc. (Honours) Computer Science (CBCS)

Preamble

Information and Communication Technology (ICT) has today become integral part of all industry domains as well as fields of academics and research. The industry requirements and technologies have been steadily and rapidly advancing. Organizations are increasingly opting for open source systems. The students too these days are thinking beyond career in the industry and aiming for research opportunities. A genuine attempt has been made while designing the new syllabus for this 3- year B. Sc. Computer Science (H) course. Not only does it prepare the students for a career in Software industry, it also motivates them towards further studies and research opportunities. The core philosophy of overall syllabus is to:

- 1. Form strong foundation of Computer science,
- 2. Introduce emerging trends to the students in gradual way,
- 3. Groom the students for the challenges of ICT industry

The Government of Odisha has initiated several measures to bring equity, efficiency and excellence in the Higher Education System of the State of Odisha in line with the University Grants Commission (UGC). The important measures taken to enhance academic standards and quality in higher education include innovation and improvements in curriculum, teaching- learning process, examination and evaluation systems, besides governance and other matters.

The Government of Odisha has formulated various regulations and guidelines from time to time to improve the higher education system and maintain minimum standards and quality across the Universities & Colleges in Odisha in line with UGC. The academic reforms recommended by the UGC in the recent past have led to overall improvement in the higher education system. However, due to lot of diversity in the system of higher education, there are multiple approaches followed by universities towards examination, evaluation and grading system. While the Universities and Colleges must have the flexibility and freedom in designing the examination and evaluation methods that best fits the curriculum, syllabi and teaching-learning methods, there is a need to devise a sensible system for awarding the grades based on the performance of students. Presently the performance of the students is reported using the conventional system of marks secured in the examinations or grades or both. The conversion from marks to letter grades and the letter grades used vary widely across the Universities and Colleges in the states as well as the country. This creates difficulty for the academia and the employers to understand and in fir the performance of the students graduating from different universities and colleges based on grades.

The grading system is considered to be better than the conventional marks system and hence it has been followed in the top institutions in India and abroad. So, it is desirable to introduce uniform grading system. This will facilitate student mobility across institutions within and

Across countries and also enable potential employers to assess the performance of students. To bring in the desired uniformity, in grading system and method for computing the cumulative grade point average (CGPA) based on the performance of students in the examinations, the UGC has formulated these guidelines, which is being adopted by the state of Odisha.

CHOICE BASED CREDIT SYSTEM (CBCS): The CBCS provides an opportunity for the students to choose courses from the prescribed courses comprising core, elective/minor or skill based courses. The courses can be evaluated following the grading system, which is considered to be better than the conventional marks system. Therefore, it is necessary to introduce uniform grading system in the entire higher education in Odisha. This will benefit the students to move across institutions within Odisha to begin with and across states and countries. The uniform grading system will also enable potential employers in assessing the performance of the candidates. In order to bring uniformity in evaluation system and computation of the Cumulative Grade Point Average (CGPA) based on student's performance in examinations, the UGC has formulated the guidelines to be followed.

Outline of Choice Based Credit System:

1. **Core Course:** A course, which should compulsorily be studied by a candidate as a core requirement is termed as a Core course.

2. **Elective Course:** Generally, a course which can be chosen from a pool of courses and which may be very specific or specialized or advanced or supportive to the discipline/ subject of study or which provides an extended scope or which enables an exposure to some other discipline/subject/domain or nurtures the candidate's proficiency/skill is called an Elective Course.

**Discipline Specific Elective (DSE) Course:** Elective courses may be offered by the main discipline/subject of study is referred to as Discipline Specific Elective. The University/Institute may also offer discipline related Elective courses of inter disciplinary nature (to be offered by main discipline/subject of study).

**Dissertation/Project:** An elective course designed to acquire special/advanced knowledge, such as supplement study/support study to a project work, and a candidate studies such a course on his

own with an advisory support by a teacher/faculty member is called dissertation/project.

**Generic Elective (GE) Course:** An elective course chosen generally from an unrelated discipline/subject, with an intention to seek exposure is called a Generic Elective.

P.S.: A core course offered in a discipline/subject may be treated as an elective by other discipline/subject and vice versa and such electives may also be referred to as Generic Elective.

3. Ability Enhancement Courses (AEC)/Competency Improvement Courses/ Skill Development Courses/ Foundation Course: They (I) Environmental Science, (ii) English /MIL Communication) are mandatory for all disciplines. AEC courses are value-based and/or skill- based and are aimed at providing hands-on-training, competencies, skills, etc.

Project work/Dissertation is considered as special course involving application of knowledge in solving / analyzing /exploring a real life situation / difficult problem. A Project/Dissertation work would be of 6 credits. A Project / Dissertation work may be given in lieu of a discipline

#### **GUIDELINES FOR PROJECT FORMULATION**

As the project work constitutes a major component in most of the professional programs and it is to be carried out with due care and should be executed with seriousness by the candidates.

#### TYPEOFPROJECT

As majority of the students are expected to work out a real-life

project in some industry/research and development laboratories/educational institutions/software companies, it is suggested that the project is to be chosen which should have some direct relevance in day-to-day activities of the candidates in his/her institution. It is not mandatory for a student to work on a real-life project. The student can formulate a project problem with the help of Guide.

#### PROJECT PROPOSAL (SYNOPSIS)

The project proposal should be prepared in consultation with the guide. The project proposal should clearly state the project objectives and the environment of the proposed project to be undertaken. The project work should compulsorily include the software development. The project proposal should contain complete details in the following form:

- 1. Title of the Project
- 2. Introduction and Objectives of the Project. Project Category (RDBMS/OOPS/Networking/Multimedia/Artificial Intelligence/ Expert Systems etc.)
- 3. Analysis (DFDs at least up to second level, ER Diagrams/ Class Diagrams/ Database Design etc. as per the project requirements).

- 4. A complete structure which includes: Number of modules and their description to provide an estimation of the student's effort on the project. Data Structures as per the project requirements for all the modules. Process Logic of each module. Testing process to be used. Reports generation
- 5. Tools/Platform, Hardware and Software Requirement specifications.
- 6. Future scope and further enhancement of the project.

SEM	COURSEOPTED	COURSENAM	CREDIT
Ε		E	S
STER			
Ι	AbilityEnhancementCours	AECC-	2
	e-1	1(Environmental	
		Science)	
	Core Course-1	Programming using C	4
	Core Course-1 Practical	Programming using C LAB	2
	Core Course-2	Digital Logic	4
	Core Course-2 Practical	Digital Logic Lab	2
Π	AbilityEnhancementCours e-2	AECC-2(MIL)	2
	Core Course-3	Programming using C++	4
	Core Course-3 Practical	Programming using C++ LAB	2
	Core Course-4	Data Structures	4
	Core Course-4 Practical	Data Structures LAB	2
Ш	Core Course-5	JAVA Programming	4
	Core Course-5 Practical	JAVA	2
		Programming LAB	
	Core Course-6	Database Systems	4
	Core Course-6 Practical	Database Systems LAB	2
	Core Course-7	Discrete Mathematical Structures	4
	Core Course-7 Practical	Discrete Mathematical Structures LAB	2
	Skill Enhancement	SEC-1	2

	Course-1		
IV	Core Course-8	Operating Systems	4
	Core Course-8 Practical	Operating Systems LAB	2
	Core Course-9	Computer Networks	4
	Core Course-9 Practical	Computer Networks LAB	2
	Core Course-10	Computer Graphics	4
	Core Course-10Practical	Computer Graphics LAB	2
	SkillEnhancementCourse-2	SEC-2	2
V	Core Course-11	Web Technology	4
	Core Course-11Practical	Web Technology LAB	2
	Core Course-12	Software Engineering	4
	Core Course-12Practical	Software Engineering Lab	2
	DisciplineSpecificElective -1	DSE-1	<mark>4</mark>
	DisciplineSpecificElective -1 Practical	DSE-1LAB <mark>/</mark> Tutorial	2
	DisciplineSpecificElective -2	DSE-2	<mark>4</mark>
	Disciplin eSpecificElective -2 Practical	DSE-2LAB <mark>/</mark> Tutorial	2
VI	Core Course-13	Artificial Intelligence	4
	Core Course-13Practical	Artificial Intelligence	2

	LAB	
Core Course-14	Algorithm	<mark>4</mark>
	Design	_
	Techniques	
Core Course-14Practical	Algorithm	2
	Design	_
	Techniques LAB	
DisciplineSpecificElective	DSE-3	<mark>4</mark>
-3		
DisciplineSpecificElective	DSE-3LAB/	2
-3	Tutorial	
Practical		
Disciplin e Specific	DSE-4	<mark>4</mark>
Elective-4		
Discipline Specific	DSE-4LAB/	2
Elective-4	Tutorial	
Practical		

- **CORE Papers: (Credit: 06 each)**
- **CORE-1: Programming Using C**
- **CORE 2: Digital Logic**
- CORE-3: Programming Using C++
- **CORE 4: Data Structure**
- **CORE-5: Java Programming**
- **CORE 6: Database Systems**
- **CORE-7: Discrete Mathematical Structures**
- **CORE 8: Operating System**
- **CORE 9: Computer Network**
- **CORE 10: Computer Graphics**
- **CORE 11: Web Technologies**
- **CORE–12: Software Engineering**
- **CORE 13: Artificial Intelligence**
- **CORE–14: Algorithm Design Techniques**

**Discipline Specific Electives (DSE) Papers: DSE– 1: Numerical Techniques**  sum of then numbers ton

- 3. Write a program that prints a multiplication table for numbers upto 12.
- 4. Write a function that returns the largest elementinalist.
- 5. Write a function that computes the running total of a list.
- 6. Write a function that tests whether a string is a palindrome.
- 7. Implement linear search.
- 8. Implement binary search.
- 9. Implement matrices addition, subtraction and Multiplication
- 10. Fifteen students were enrolled in a course. There ages were:

#### 202020202021212122222222232323

- i. Findthemedianageofallstudentsunder22years.
- ii. Find the median age of all students.
- iii. Find the mean age of all students.
- iv. Find the modal age for all students.
- v. Two more students enter the class. The age of both students is 23. What is now mean, mode and median?

#### DSE-4:PROJECTWORK/DISSERTATION

# SYLLABUS FOR UNDER GRADUATE COURSE IN ECONOMICS (Bachelor of Arts Examination)

## UNDER CHOICE BASED CREDIT SYSTEM

### **Course structure of UG Economics Honours**

Semester	Course	Course Name	Credits	Total marks
Ι	AECC- I	AECC-I	04	100
	C-I	Introductory Microeconomics	06	100
	C-II	Mathematical Methodsfor Economics I	06	100
	GE-I	Indian Economy	06	100
			22	
II	AECC- II	AECC-II	04	100
	C-III	Introductory Macroeconomics	06	100
	C-IV	Mathematical Met for Economics II	06	100
	GE-II	Indian Economy II	06	100

				2	22	
III	C-V	Microeconomics I		06		100
	C-VI	Macroeconomics I		(	)6	100
	C-VII	Statistical Methods for Economics	(	)6	100	
	SEC-I	SEC-I		(	)4	100
				2	28	
IV	C-VIII	Microeconomics II		(	)6	100
	C-IX	Macroeconomics II		(	)6	100
	C-X	Research Methodology		(	)6	100

SECC-	SECC-II	04	100

	II			
			28	
Semester	Course	Course Name	Credits	Total marks
V	C-XI	Indian Economy I	06	100
	C-XII	Development Economics I	06	100
	DSE-I	1.Public Economics	06	100
	DSE- II	<ol> <li>Introductory Econometrics</li> <li>Money and Banking</li> </ol>	06	100
			24	
VI	C-XIII	Indian Economy II	06	100
	C-XIV	Development Economics II	06	100

DSE- III	1.Environmental Economics	<mark>06</mark>	100
DSE- IV	<ol> <li>International Economics or</li> <li>Project/Dissertation</li> </ol>	06	100
		24	

#### **ECONOMICS**

HONOURS PAPERS:

Core course – 14 papers

Discipline Specific Elective -4 papers (out of the 9 papers suggested) Generic Elective for non Public Administration students -4 papers. Incase University offers 2 subjects as GE, then papers 1 and 2 will be the GE paper.

Marks per paper - Midterm : 20 marks, End term : 80 marks, Total – 100 marks Credit per paper – 6 Teaching hours per paper – 50 hours + 10 hours tutorial Dissertation : (content : 50; Seminar : 30; Viva Voce : 20)l • Mannur H. G (Recent Edition) *International Economics*, Vikash Publishing

#### **Reference Books:**

• SalvatoreDominick, InternationalEconomics, WileIndia.

• SoderstenBo andReedJ, *InternationalEconomics*, McMillanPublisher

#### DSE Paper –4

#### **DISSERTATION / RESEARCH PROJECT**

## (College can give this choice only for students with above 60% aggregate marks)

**Introduction :** The project is intended to establish the connection between Economics as confined to the text books and class rooms and Economics at play in the ground. It is expected to give an empirical content to the subject. Economics is defined as the study of mankind in the ordinary business of life. It studies individual as well as group behavior.

Project work at the undergraduate level is an in-depth study on a topic chosen by the student. The objective of the project work for the students at undergraduate level is to expose students to the social and real world contexts in which the subjects taught in the classroom have applications. Therefore, the topic must be related to the field of study the student is enrolled. It is undertaken with the guidance of a faculty supervisor, and involves a prolonged period of investigation and writing. The supervisor is supposed to help the student and mentor him/her throughout, from selection of the topic to submission of the project report.

The project output will be a project report written on the topic, chosen by the student and approved by the guide, in about 10000 words.

The process of project preparation typically comprises of an investigation of a particular topic, based on the application of philosophical and theoretical knowledge available in the already existing scientific literature and other published sources of information. The student may use already available data (texts, documents, artworks or existing data sets) or she may go for collection of data from the field. The final report should ideally have the following sections.

(1) Abstract (in about 500 words) containing a summary of the entire report.

(2) Introduction of the topic, arguments for choosing such a topic and the key investigation propositions.

(3) A review of the existing knowledge on the topic

(4) Information on the data and data treatment tools used in the study

- (5) An analysis of data and findings
- (6) Conclusions
- (7) References

A good research project requires sincere efforts and honest dedication from students. Moreover, it requires an engagement of the student with an issue under probe for a fairly long period of time compared to their preparations of subjects for the examination.

A successful completion of the project report has several positive learning outcomes for the student. It empowers the student with the

# STATE MODEL SYLLABUS FOR UNDER GRADUATE COURSE IN EDUCATION (Bachelor of Arts Examination)

# UNDER CHOICE BASED CREDIT SYSTEM

Page 1 of 70

Semester	Course Course Name		Credits	Total marks
Ι	AECC-I	EVS &DM	04	100
	C-I	Educational Dhilosophy	04	75
	C-I Practical	Educational Fillosophy	02	25
	C-II Educational Psychology		04	75
	C-II Practical	Educational Psychology	02	25
	GE-I	Educational philosophy	04	75
	<b>GE-I Practical</b>		02	25
			22	
Π	AEC-II	MIL	04	100
	C-III	Educational Sociology	04	75
	C-III Practical	Educational Sociology	02	25
	C-IV	Changing Pedagogical	04	75
	C-IV Practical	Perspective	02	25
	GE-II	Educational psychology	04	75
	GE-II Practical		02	25
			22	
III	C-V	Educational Assessment and	04	75
	C-V Practical	Evaluation	02	25
	C-VI	Educational Pasaarch	04	75
	C-VI Practical	Educational Research	02	25
	C-VII	Statistics in Education	04	75
	C-VII Practical	Statistics III Education	02	25
	SEC-I	Communicative English	04	100
			28	
IV	C-VIII	History of Education in India	04	75
	C-VIII Practical		02	25
	C-IX	Curriculum Development	04	75
	C-IX Practical		02	25

### Course structure of UG Education Honours

	C-X		04	75
	C <mark>-</mark> X Practical	Guidance and Counseling	02	25
	SEC-II	Quantitative & Logical Thinking	04	100
			28	
Semester	Course	Course Name	Credits	Total marks
V	C-XI	Development of Education in	04	75
	C-XI Practical	Odisha	02	25
	C-XII	Information and	04	75
	C-XII Practical	Communication Technology in	02	25
		Education		
	DSE <mark>-</mark> I	A. Pedagogy of language	04	75
	DSE <mark>-</mark> I Practical	(English)	02	25
		Odia)		
	DSE <mark>-</mark> II	A. Pedagogy of Social	04	75
	DSE-II Practical	Sciences	02	25
		B. Pedagogy of Mathematics		
			24	
VI	C-XIII	Contemporary Trends and	04	75
	C-XIII Practical	Issues in Indian Education	02	25
	C <mark>-</mark> XIV	Educational Management and	04	75
	C-XIV Practical	Leadership	02	25
	DSE-III	A. Policy and Practices in	04	75
	DSE-III Practical	School Education in India	02	25
		B. Policy and Practices in Higher Education in India		
	DSE-IV	Dissertation	06	100*
			24	

- Sen, S.N. (1988). Education in ancient and medieval India. Indian Journal of History of Science, 23 (1): 1-32.
- Shanker, Uday (1984). Education of Indian teachers. New Delhi: Sterling Publishers Pvt. Ltd.
- Singh. R.P. (1970). Education in ancient and medieval India. Delhi: Arya Book Depot.Rao, K.Sudha (Ed.) (2002). Educational policies in India: Analysis and review of promise and performance. New Delhi: NUEPA.
- NCERT (2005). National curriculum framework, New Delhi: NCERT.
- MHRD, Gov. of India (1986). National policy on education. New Delhi: GoI.
- MHRD, Gov. of India (1992), *National policy on education* (revised) New Delhi: GoI. MHRD, (1992), *Programme of action.*, New Delhi: Govt. of India.
- NCTE (1998b). *Curriculum Framework for Quality Teacher Education*. New Delhi:NCTE.
- NCTE (2009). National Curriculum Framework for Teacher Education TowardsPreparing Professional and Humane Teacher. New Delhi:NCTE.
- Ministry of Law Justice (2009). The Right of Children to Free and Compulsory Education Act, 2009. *The Gazette of India*, Ministry of Law Justice, Govt. of India.
- Kurrien, J (1983). *Elementary Education in India*. New Delhi: Vikas. MHRD (). *Report to the People on Education 2011-12*. New Delhi: Author. MHRD (1986): *National Policy on Education*. New Delhi: MHRD.
- MHRD (2000). Sarva Shiksha Abhiyan: A program for Universal Elementary Education A framework for implementation. New Delhi: Author.
- Government of India, Ministry of Human Resource Development (2005), Report of the CABE Committee on Autonomy of Higher Education Institutions, Department of Secondary and Higher Education, New Delhi, June.

#### Websites to be referred:

- http://www.rehabcouncil.nic.in/
- writereaddata/RCI\_Amendments\_ACT.pdf
- http://socialjustice.nic.in/pwdact1995.php
- http://mhrd.gov.in/rmsa

#### **DSE Paper – IV**

#### **DISSERTATION/ RESEARCH PROJECT**

The students will select a research project on any Educational issue or problem or topic and prepare a report. The project will be prepared based on proposal already developed in Semester-III, Core-6.

Distribution of Marks will be as follows:

Item

**Total** 

#### BA Education (Honours, Elective & Pass) Syllabus 2019-2020

Rep	ort	75
Viv	a-voce	25
Tot	al	100

The assessment of students' performance will be made jointly by the external and internal examiners.

#### **Generic Elective Paper I**

#### EDUCATIONAL PHILOSOPHY

#### **Learning Objectives**

On completion of this course, the learners shall be able to:

- State and analyse the meaning of education and form own concept on education
- Explain philosophy as the foundation of education
- Analyse aims of education
- Describe the essence of different formal philosophies and draw educational implications
- Compare and contrast Indian and western philosophies of education

#### **UNIT 1: Education in Philosophical Perspective**

- (i) Etymological meaning of education
- (ii) Narrower and broader meaning of education, lifelong education
- (iii) Aims of Education- Individual and Social aims of education

## STATE MODEL SYLLABUS FOR UNDERGRADUATE COURSE IN ENGLISH (Bachelor of Arts Examination)

## UNDER CHOICE BASED CREDIT SYSTEM

### **Course structure of UG English Honours**

Sem ester	Course	Course Name	Credits	Total marks
Ι	AEC-I	AEC-I	04	100
	C-I	British Poetry and Drama: 14thto17th Centuries	06	100
	C-II	British Poetry and Drama: 17thand18th Century	06	100
	GE-I	Academic Writing and Composition	06	100
			22	
Π	AEC- II	AEC-II	04	100
	C-III	BritishProse:18thCentury	06	100
	C-IV	Indian Writing in English	06	100
	GE-II	Gender and Human Rights	06	100
			22	

III	C-V	British Romantic Literature	06	100
	C-VI	BritishLiterature19 <sup>th</sup> Century	06	100
	C-VII	British Literature: Early 20thCentury	06	100
	GE-III	Nation, Culture, India	06	100
	SEC-1	SEC -1	04	100
			28	

IV	C-VIII	American Literature	06	100
	C-IX	European Classical Literature	06	100
	C-X	Women's Writing	06	100
	GE-IV	Language and Linguistics	06	100
	SEC-II	SEC-II	04	100
			28	

Semester	Course	Course Name	Credits	Total marks
V	C-XI	Modern European Drama	06	100
	C-XII	Indian Classical Literature	06	100
	DSE-I	Literary Theory	06	100
	DSE- II	World Literature	06	100
			24	
VI	C-XIII	Postcolonial Literatures	06	100
	C-XIV	Popular Literature	06	100

	DSE- III	Partition Literature	06	100
	DSE- IV	Writing for Mass Media	06	100
	OR			
	DSE- IV	Dissertation	06	100*
			24	

#### DSE Paper – IV: Dissertation/ Research Project (College can give this choice only forstudentswithabove60%aggregatemarks)

#### **DISSERTATION/RESEARCH PROJECT**

#### **Introduction and Outcome**

A project is an individual or collaborative activity that is carefully planned to achieve a particularaim.

An undergraduate project is individual research by students to i. understand in-depth a particular topic or fact in their field of study, and ii. Strengthen their understanding of research processes and methods.

Undergraduate research is inquiry-based learning that involves practical work, and not just listening to classroom teaching and personal reading. Students learn to apply what they study in their courses to appreciate different aspects of their field better by working independently on the projects. At the same time, they contribute something original to the courses they study.

An undergraduate research project is expected to explore specific topics within the field of study of the students. The project should make an original contribution to the discipline in some manner. The results of quality undergraduate research can be presented in seminars and conferences, and published in research journals dedicated specifically to such work or in traditional academic journals with the student as a co-author. There are many benefits of undergraduate research including, but not limited to, real world applications, research and professional experience, and better relationships between faculty and students. Relating course work to out-of-class experiences, student strain to work and think independently, take responsibility for their own learning, and take initiative to solve problems on their own rather than relying on experts for answers. They also learn to work in collaboration in inter disciplinary research. Most of all, projects help students learn a variety of skill sets to make them confident and competent in their future career.

#### The research process

Typically, all research answer three questions: *what, why* and *how*.

The *what* states there search question to be investigated in a project.

The *why* explains the purpose of the research and also every step undertaken to conduct the research.

The *how* describes the stage soft here search procedure.

To understand the process of research and to practically conduct any requires a good background in research methodology. Students may study research methodology before undertaking their projects.

#### **Pattern of examination Mid-semester assessment Presentation of the project synopsis Synopsis to include:**

- i. Research statement/question and its rationale
- ii. Review of literature stating the validity of the project
- iii. Discussion of the research steps

#### SYLLABUS FOR UNDERGRADUATECOURSE IN HINDI

(Bachelor of Arts Examination)

UNDER CHOICE BASED CREDIT SYSTEM

का्ागल् ह िन्द

Total No. of Credit :

#### UNIT – I

Full Marks :

िाजभाषा ह**िन**्द : सवैयातनक पावय**ान :** र, िाजभाषा

िाजभ**ाष**ा, अषट**् अनस अ**ग्यतन**्** १९६३, िाजभ**ाष**ा

तन**् १९७६** 

#### UNIT – II

हटपपण एव आलेमन : हटपपणर nje<sup>a</sup>kk, हटपपण की पद**र**्ा एव उदेश्, ोe<sup>a</sup>k

लेमनर ॥)tªे एव परिच, पौप िैि,ाि किने की ख्वय, पौप लेमन की रपिेमा,

े स<sup>ª</sup> स लेमन के के ा

सकेपण : परिभाषा, सकेपण की पदर्ा एव भे्,

प्लेमन: अरग एव ॥शª २ म, प्लेमन की खशेष ििाएँ सकिवािः प्र के पकाि।

#### UNIT – III

कमपट ि ्े ह िन्द का अनप्ोग:

कमपटि : अरग़ ॥े!ª स एव परिभाषा, कमपटि के ि पणालः, ्ख़्भाग, कमप

का़ागल् ़े ि का

कप् प्ोग। UNIT – IV

पश्चासतनक शब्ावलद - एम शब्, एम वा्ाश िरा प्नाः।

स िा्क गर :

१. प्ोजन्लक हर्ि्र : स**िचन**ा औि अनप्ोग - िा्पक**ाश,** ह**्न**ेशपप**ि** 

२. प्ोजन्लक ह**िन**्र : ूस्ान**ि** औि प्ोग - ्गल झालटे, वाणर, ह्ललर

#### DSE – IV

३. प्ोंधः =ान्लक हरिन्द - व्वनो् गो्िि, वाणर पकाशन, नई ह्ललद

वजजापन : अवयािणा औि प्ोजन**्**ल UNIT – I वजापन : Me<sup>a</sup> एव अवयाििणा वजापन : अरग व i. पर**ि**भ**ाष**ा वजनापन का ्िततव ii. व्वजापन के सा़ाक्व िरा व़ावसात्क उदेशः, ़ाक् हटग iii. औि **ब**ाड तन्ागण (पोोव्ज ि का्स ्) iv. वजापन के नए स<sup>्</sup>भग UNIT - II ववजापन : वववय ाध्् i. सा़ा़ान् पर्राेच वजनापन ्ाध् का चन् ii. बपट, िेड़ो एव टे लखवजन के ूलए कॉपर लेमन iii. UNIT – III व्वजनापन की भनाषन वजनापन की भनाषन का me<sup>a</sup>lt i. वजनापन की भाषनगरि ववशेष िाएँ ii. व्वजापन की भाषा के व्वूभनन पक, सादश् व्वयान, iii. अलक िण. िकाोििा, स्ानािििा, वचलन, ्िावरि, लोकोव् ि्ाँ, भाषा सकरि ह िद वजापनर की भाषा iv. UNIT - IV वजनापन - तन्ागण कन अभ्ास वपट ्ाध््र वगाकृ ि एव सजावटः वजापन - तन्ागण i. ii. िेःड़्ो जरगल लेमन iii. टेलखवजन के ूलए सटोिद DSE - V

बोडग तन्ागण स**ि**ा्क गर :

१. जनसपका, पचाि एव व्वजापन - व्वज् कलशेष्

२. जनसचाि ्ाध्् : भाषा औि साहतित् - सयरि पचौिर

३. इडक्जटल्ग ्े क्वजापन - सया ूसलि, जगर्श चलिव्र

४. आयत्नक व्वजनपन औि जनसपका - इन. ििािेश

भाहट्ा

## SYLLABUS FOR UNDERGRADUATE COURSE IN HISTORY (Bachelor of Arts Examination)

## UNDER CHOICE BASED CREDIT SYSTEM

#### Course Structure of U.G. History Honours

Semester	Course	Course Name	Credit	Total marks
	AECC- I	EVS	4	100
Semester-	C 1	History of India-I	6	100
I	C 2	Social Formations and Cultural Patterns of the Ancient World	6	100
	GE-I			
	AECC- II	MIL	4	100
Semester-	C 3	History of India-II	6	100
Π	C 4	Social Formations and Cultural Patterns of the Medieval World	6	100
	GE-II			
	C 5	History of India-III (c.750- 1206)	6	100
G (	C 6	Rise of Modern West-I	6	100
Semester- III	C 7	History of India-IV (c.1206- 1526)	6	100

	GE-III	GEIII - Rise of Modern west 1	6	100
	SEC-I	English Communication	4	100
	C 8	Rise of Modern West-II	6	100
Samaatan	C 9	History of India-V (c.1526- 1750)	6	100
IV	C 10	Historical Theories and Methods	6	100
	SEC-II	SEC-II	4	100
	GE-IV	GE-IV – Rise of Modern West II	6	100
	C 11	History of Modern Europe- I(c.1780-1880)	6	100
Semester-	C 12	History of India-VII (1750- 1857)	6	100
V	DSE-I	History and Culture of Odisha - I	6	100
	DSE-II	History and Culture of Odisha - II	6	100
C	C 13	History of India-VIII (C.1857-1950)	6	100
Semester- VI	C 14	History of Modern Europe- II(1880-1939)	6	100
	DSE- III	History and Culture of Odisha- III	6	100
	DSE- IV	Project Report	6	100
3. Evolution of Temple Architecture -Parsurameswar, Mukteswar, Lingaraja, Jagannath and Konarka

### Unit: IV

- 1. Christian Missionaries Education and Health
- 2. Mahima Movement and its Impact
- 3. Neo-Hindu Movements Brahmo, Arya Samaj.

### **Suggested Text Books:**

1.A.C. Pradhan, A Study of the History of Odisha, Panchasheel.

2. B.K. Mallik, Paradigm of Dissent and Protest :- Social Movements in Eastern India (1400-1700 AD)

### **Reference Reading:**

1.K.S. Behera, Temples of Orissa.

2.P.K. Mishra(ed), Comprehensive History and Culture of Orissa, Vol-I Pt. II.

- 3.N.K. Bose, Canons of Orissan Architecture
- 4.M.N. Das (ed), Sidelights on History and Culture of Orissa.
- 5. N.K. Sahu, Buddhism in Orissa.

### **Discipline Specific Elective Paper-IV (Project)**

### **Project Report**

The Students may be allotted topics of their interest in the beginning of 5<sup>th</sup> Semester Classes. They may write the Project Reports on local History and Culture, local personalities with their significant

contribution to change the Society and economy with historical perspective containing up to 50 double spaced typed pages. The students may consult the sources like local archaeology, manuscripts, community documents, oral traditions, oral narratives, local biographies and family sources for writing the project dissertation. The Teachers will guide the students to complete their Project assignments. The students may be allowed to fill up their forms after their submission of the projects assigned to them. The student has to secure fifty percent of marks from the evaluation of the project and fifty percent of the marks in the viva voce test which are compulsory.

### Generic Elective Paper I History of India - I (Early Times to 1750)

### **Unit – I : Reconstructing Ancient Indian History**

- 1. Sources of Historical Writings.
- 2. Vedic Age : Society, Polity and Culture

3.Buddhism and Jainism : Principles and Impact

### **Unit – II : Polity and Administration**

1. The Mauryan Empire : Conquest and Administration

2. Gupta Society : Land Grants, Peasantry and beginning of Feudal Society

3. Gupta Polity : Conquests and Administration

4. Harshavardhan : Achievements

### Unit - III: Early Medieval Society, Economy and Culture

- 1. Post Gupta Trade and Commerce
- 2. Delhi Sultanate : Conquests and Administration
- 3.Bhakti and Sufi Movements in India

## SYLLABUS FOR UNDERGRADUATE COURSE IN

## **LIBRARY & INFORMATION SCIENCE**

## (Bachelor of Arts Examination)

# UNDER CHOICE BASED CREDIT SYSTEM

- (iv) Problems and Pitfalls in Developing MIS
- (v) Management Information System for Library and Information Managers

#### UNIT III ORGANISATION OF INFORMATION SERVICES

(i) Documentation and Information Centres and Databases: Definitions, Relationship to Libraries

(ii) Types of Documentation and Information Centres: Ownership, Specialised Interest, By Different Levels

(iii) Organisation of Documentation and Information Centres in India: Functional Organisation, Planning Process

(iv) Growth and Development of Documentation and Information Centres in India

(v) Growth and Development of Documentation and Information Centres in other Developed countries

#### UNIT IV GROWTH OF INFORMATION SYSTEMS & PROGRAMMES

(i) Historical Perspective, Need and Purpose

(ii) Global Information Systems

(iii) United Nation Information System in Science & Technology (UNISIST) and General Information Programme (PGI)

(iv) International Nuclear Information System (INIS)

(v) Agricultural Sciences and Technology (AGRIS

#### **Text Book**

1. Parida Baman (1993), Studies in Information systems services & Programs, New Delhi, Ajanta.

2. Guha, B.(1983) Documentation & information Services, Calcutta, World press.

#### **Reference Books**

1. Vickery, B.C.(1973), Information systems ,London, Butterworth.

2. Lazar, Peter (1985), Information systems design & management, Bangalore, Sarada Ranganathan Endowment.

Atherton, Pauline. Handbook of Information Systems and Services. Paris, Unesco, 1977
 Falkeberg, Eckhard D et al., Ed. Information system concepts: Towards a consolidation of

views. 1995. Chapman and Hall, London.

5. Rowley J. The basics of information system. Ed2. London, Library Association, 1996.6. Wiseman, H.M. Information Systems, services and Centres, New York: Beeker and Hanyes, 1972

#### DSE-IV

### **DSE-IV- PROJECT** (PRACTICE)

#### (College can give this choice only for students with above 60% aggregate marks as per Regulation)

A student is required to carry out a project on an issue of interest to him / her under the guidance and supervision of a teacher. In order to do so s/he must have the knowledge in research methodology and of steps in planning and conducting a research. The supervisors

may help the students to go on field study / study tour relevant to their work. Class may be arranged in the routine to help students understand research methodology, planning, conduction and reporting on the research. An external examiner with the supervisor as the internal examiner will evaluate the research project on the basis of scientific methodology in writing the report and presentation skill and performance in the viva.

### OR

### TECHNICAL WRITING

### UNIT -I CHARACTERISTICS FEATURES OF TECHNICAL WRITING

- (i) General Characteristics of Technical Writing
- (ii) Classification of Technical Communications
- (iii) Characteristics of Types, Relevant to Library and Information Field
- (iv) Professional Writings: Types
- (v) Instructional Materials

### UNIT -II TARGET GROUPS AND WRITTEN COMMUNICATION

- (i) Target Group: concept, Definition, Types
- (ii) Characteristics and Types of Readers
- (iii) Reader Analysis
- (iv) Guidelines for Reader Analysis
- (v) Checklist for Reader Analysis

### UNIT- III WRITING SITUATIONS AND TARGET GROUPS

- (i) Professional Writing
- (ii) Instructional Writing
- (iv) Official Memos
- (v) State of the Art

### UNI-IV EDITOR AND EDITORIAL PROCESS

- (i) Editor: Concept, functions
- (ii) The Editor's Skills
- (iii) Editorial Process: Editorial Process, Creative and Substantive Editing, Copy Editing: Styling and Format
- (iv) Editorial Tools: Need and Objectives
- (v) Style Manuals

### **Text Book**

- 1. IGNOU. General Principles of Writing. New Delhi: School of Humanities, CREW-1.
- 2. IGNOU. Jordon S. (Ed.). (1971), Handbook of Technical Writing. Vol.2.
- 3. See tharama, S Guidelines for Technical writing for librarians and Information

Professionals. New Delhi, Ess Ess Publications, 2015

#### **Reference Books**

1. Booth, P.F. (1991). Report Writing. 2nd ed. Kings Ripton: Huntington

2. Chandler, B.E.(1983). Technical Writer's Handbook. Ohio: American Society for Metals.

3. Eisenberg, A. (1989). Writing Well for Technical Profession. New York: Harper and Row Publishers.

### SYLLABUS FOR UNDER GRADUATE COURSE IN MATHEMATICS (Bachelor of Science Examination)

### UNDER CHOICE BASED CREDIT SYSTEM

### **Preamble**

Mathematics is an indispensable tool for much of science and engineering. It provides the basic language for understanding the world and lends precision to scientific thought. The mathematics program at Universities of Odisha aims to provide a foundation for pursuing research in Mathematics as well as to provide essential quantitative skills to those interested in related fields. With the maturing of the Indian industry, there is a large demand for people with strong analytical skills and broad-based background in the mathematical sciences

### COURSE STRUCTURE FOR MATHEMATICS HONORS

Semester	Course	Course Name	Credits
Ι	AECC- I	AECC-I	04
	C-I	Calculus	04
	C-I	Practical	02
	C-II	Algebra-1	05
	C-II	Tutorial	01
	GE-I	GE-I	05
	GE-I	Tutorial	01
			22
II	AECC- II	AECC-II	04
	C-III	Real Analysis(Analysis-	05
		I)	01
	C-III	Tutorial	
	C-IV	Differential equations(P)	04
	C-IV	Practical	02
	GE-II	GE-II	05
	GE-II	Tutorial	01

			22
III	C-V	Theory of Real	05
		functions(Analysis-II)	01
	C-V	Tutorial	
	C-VI	Group Theory(Algebra-	05
		II)	01
	C-VI	Tutorial	
	C-VII	Partial differential	04
		equations and system of	02
		ODEs(P)	
	C-VII	Practical	
	GE-III	GE-III	05
	GE-III	Tutorial	01
	SEC-I	SEC-I	04

			28
IV	C-VIII	Numerical Methods(P)	04
	C-VIII	Practical	02
	C-IX	<b>Riemann Integration &amp;</b>	05
		Series and	01
	C-IX	function(Analysis-III)	
		Tutorial	
	C-X	Ring Theory and Linear	05
		Algebra(Algebra-III)	01
	C-X	Tutorial	

	GE-IV	GE-IV (Theory)	05
	GE-IV	Tutorial	01
	SEC-II	SEC-II	04
			28
Semester	Course	Course Name	Credits
V	C-XI	Multivariate	05
		Calculus(Calculus-II)	01
	C-XI	Tutorial	
	C-XII	Programming in C++	05
	C-XII	Tutorial	01
	DOLT		07
	DSE-I	Discrete Mathematics	05
	DSE-I	Tutorial	01
	DSE-II	Number Theory	05
	DSE-II	Tutorial	01
			24
VI	C-XIII	Metric Spaces &	05
		Complex	01
		analysis(Analysis-IV)	
	C-XIII	Tutorial	
	C-XIV	Linear Programming	05
	C-XIV	Tutorial	01
	DSE-	Differential Geometry	05
	III		01
	DSE-	Tutorial	

III		
DSE- IV	Project	06
		24
	TOTAL	148

### **B.A./B.SC.(HONOURS)-MATHEMATICS HONOURS PAPERS:**

Core course – 14 papers

Discipline Specific Elective – 4 papers (out of the 5 papers suggested)

Generic Elective for non Mathematics students -4 papers. Incase University offers 2 subjects as GE, then papers 1 and 2 will be the GE paper.

Marks per paper –

For practical paper: Mid term : 15 marks, End term : 60 marks, Practical- 25 marks

For non practical paper: Mid term : 20 marks, End term : 80 marks

Total - 100 marks Credit per paper - 6

Teaching hours per paper -

Practical paper-40 hours theory classes + 20 hours Practical classes

Non Practical paper-50 hours theory classes + 10 hours tutorial

### UNIT-IV

Affine ciphers, Hill ciphers, p vgh vg gv ublic key cryptography, RSA encryption and decryption, the equation  $x^2 + y^2 = z^2$ , Fermat's Last Theorem.

### **BOOKS RECOMMENDED :**

1. David M.Burton, *Elementary Number Theory* (6thEdition), TataMcGraw-Hill Edition, Indian reprint, 2007.

### **BOOK FOR REFERENCES:**

- 1. Thomas Koshy, *Elementary Number Theory with Applications* (2<sup>nd</sup> Edition), Academic Press, 2007.
- 2. Neville Robinns, *Beginning Number Theory* (2ndEdition), Narosa Publishing House Pvt.

Limited, Delhi,2007.

### OR

### Discipline Specific Elective Paper-IV PROJECT

### Guidelines for +3 (CBCS) Under Graduate(B.A./B.Sc.) Mathematics (Honours) Project

- 1. Any student registering for doing project is required to inform the HOD, Mathematics the name of his/her project supervisor(s) at the time of pre-registration.
- 2. By the last date of add and drop, the student must submit the "Project Registration Form", appended as Annexure-I to this document, to the HOD, Mathematics. This form requires a project title, the signature of the student, signature(s) of the supervisor(s) and the signature of the HOD, Mathematics of the college/university.

- 3. The project supervisor(s) should normally be a faculty member(s) of the Department of Mathematics and the topic of the project should be relevant to Mathematical Sciences. If a student desires to have a Project Supervisor from another department of the institute, the prior approval for the same should be sought from the HOD, Mathematics.
- 4. A student may have at the most two Project Supervisors. If a student desires to have two supervisors, at least one of these should be from the Department of Mathematics.
- 5. The student(s) will be required to submit one progress report and a final report of the Project to the HOD, Mathematics. The progress report is to be submitted in the sixth week of the semester in which the project is undertaken. The hard copy and an electronic version of the final report of the project should be submitted two weeks before the end semester examination of the sixth semester. In addition the student will be required to make an oral presentation in front of a committee (Under Graduate (B.A./ B.Sc.) Mathematics (Honours) Project committee of the college in which supervisor is one of the members) constituted for this purpose by the Department of Mathematics of the college.
- 6. The student is expected to devote about 100 hours. The project will be evaluated by a committee of faculty members at the end of the sixth semester. The committee will be constituted by the Under

Graduate (B.A./B.Sc.) Mathematics (Honours) Project committee of the college keeping in mind the areas of project they will cover.

- 7. In each semester the grade of a student will be awarded by the committee in consultation with his/her project supervisor(s). The project is evaluated on the basis of the following components: First Progress Reports: 20%; second/Final Report: 30%; Presentation: 30%; Viva: 20%.
- 8. Project progress reports should normally be no longer than 250 words and final report should not be longer than 40 A4 size pages in double spacing. Each final project report need to contain the following: (i) Abstract (ii) Table of contents (iii) Review of literature (iv) Main text(v) List of references. It may be desirable to arrange the main text as an introduction, the main body and conclusions.

### GUIDELINES FOR STRUCTURING CONTENTS Sequence of Contents:

The following sequence for the thesis organization should be followed:

(i) Preliminaries

aries Title Page Certificate Abstract/Synopsis Acknowledgement and/ or Dedication Table of Contents List of Figures, Tables, Illustrations, Symbols, etc (wherever applicable)



### 2023-25

### **MAPPING OF CO & PO**





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# COURSE STRUCTURE FOR B.A. (HONS) ODIA $\underline{1^{\text{ST}} \text{ SEMESTER}}$

Sl. No. of Paper	Name of the Paper	Total	Total	Credit
		Marks	Credit	Hours
1. Core Course – I	Prachin Odia Sahityara Itihas	100	06	60
	Pass-I (Sem-I)			
2. Core Course - II	Madhya Yugiya Odia Sahitya	100	06	60
	Pass- II (Sem- II)			
3. A.E.C.C. – I	Environmental Studies	100	04	40
4. G.E. – I	Any One (Economic, Philosophy,	100	06	60
	Sociology, H.Sc., Sanskrit, Phil. &			
	NCC)			
Total	Four Papers	400	22	220

### 2<sup>ND</sup> SEMESTER

Sl. No. of Paper	Name of the Paper	Total Marks	Total Credit	Credit Hours
5. Core Course – III	Adhunika Odia Sahitya Pass- III <mark>.</mark> (Sem- III <mark>)</mark>	100	06	60
6. Core Course – IV	Swadhinata parabarti Odia Sahity Pass- IV (Sem- V)	100	06	60
7. A.E.C.C. – II	M.I.L. (Odia, Alt. Eng. & Hindi)	100	04	40
8. G.E. – II	Any one from Economic, Philosophy, Sociology, H.Sc., Sanskrit, Phil. & NCC	100	06	60
Total	Four Papers	400	22	220

### 3<sup>RD</sup> SEMESTER

SI. No. of Paper	Name of the Paper	Total Marks	Total Credit	Credit Hours
9. Core Course – V	Odia bhasha O Lipira aitihasika bikasa krama	100	06	60
10. <mark>Core</mark> Course - VI	Bhashara sangya <mark></mark> swarupa,odia Bhashara baisistya o bibidhata	100	06	60
11.Core <sub>Course</sub> -VII	Odia Byabaharika Byakarana	100	06	60
12. SEC - I	Communicative English & Writing Skill	100	04	40
13.G.E III	Any One (Economic, Philosophy, Sociology, H.Sc., Sanskrit, Phil. & NCC)	100	06	60
Total	Five Papers	500	30	280

### $4^{\text{TH}}$ SEMESTER

SI. No. of Paper	Name of the Paper	Total Marks	Total Credit	Credit Hours
14. Core Course – VIII	Odia loka sanskruti o loksaahitya	100	06	60
15. Core Course - IX	Sahitya tatwa(prachya o paschatya)	100	06	60
16. Core <sub>Course</sub> - X	Odia kabita prachinaru adhunika	100	06	60
17. SEC- II	Subject Specific Skill	100	04	40
18. G.E. – II	Pol Sc., History, Psy., Stat., Music. (Any one) Odia., [ G.E. –II for Pass Sem – VI	100	06	60
Total	Five Papers	500	30	280

### $\underline{\mathbf{5}^{\text{TH}} \text{ SEMESTER}}$

SI. No. of	Name of the Paper	Total Marks	Total Credit	Credit
19. Core Course – XI	Odia nataka o ekaankika	100	06	60
20. Cor <mark>e</mark> Course - XII	Odia kathasahitya	100	06	60
21. Discipline Specific Elective - I	Odishara Sanskrutika Itihas	100	06	60
22.Discipline Specific Elective - II	Odia sishusahitya o bingyanabhittika sahitya (D.S.E – I for Pass Sem – V)	100	06	60
Total	Four Papers	400	24	240

### 6<sup>TH</sup> SEMESTER

Sl. No. of Paper	Name of the Paper	Total Marks	Total Credit	Credit Hours
23.Core Course – XIII	Odia gadyasahitya	100	06	60
24. Core Course – XIV	Odia bhashara byabaharika prayoga	100	06	60
25. Discipline Specific Elective - III	Odia Sahitya adhyayana ( D.S.E – I for Pass Sem – VI )	100	06	60
26.Discipline Specific Elective - IV	Prabhasa prastuti o upasthapana Prabhakara bikalpa pathya Samalochana,anubada,sampadana o gabesanna	100	06	60
Total	Four Papers	400	24	240

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### **COURSE OUTCOME**

(Hons)

CO-1: To know about preparation of the Project that encourages students for research.

CO-2: To know about the nature and types of criticism.

- CO-3: To learn about definition and nature of translation.
- CO-4: To know about art of editing and research methodology.

### MAPPING OF POS AND COS

PO/CO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10
CO1	2	3	3	2	3	1	2	3	2	2
CO2	3	2	3	3	2	1	3	2	3	3
CO3	3	2	2	3	3	1	3	2	2	2
CO4	3	3	3	3	3	1	3	3	3	2

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# STATE MODEL SYLLABUS FOR UNDERGRADUATE COURSE IN PHILOSOPHY (Bachelor of Arts Examination)

Under Choice Based Credit System

Semester		CORE COURSE (14)	Ability Enhancement Compulsory Course	Skill Enhancement Compulsory Course (SECC)(2)	Elective: Discipline Specific DSE (4)	Elective: Generic (GE) (4)
			(AECC) (2)			
Ι	CC I	General Philosophy	EVS &DM			GE-I
	CCII	Logic and Scientific Method				Symbolic Logic
II	CCIII	Systems of Indian Philosophy –I	MIL			<b>GE-II</b> Indian Philosophy
	CCIV	Symbolic Logic				
III	CCV	Ethics				
	CCVI	History of Greek Philosophy		English Communication		
	CCVII	Systems of Indian Philosophy (II)				
IV	CCVIII	Contemporary Indian Philosophy				
	CCIX	History of Modern European Philosophy		Quantitative & Logical		
	CCX	Philosophy of Language		Thinking		
V	CCXI	Western Classics: Meditations of Rene Descartes			<b>DSE-I</b> PHILOSOPHY OF BHAGAVAD GITA	
	CCXII	Indian Text: Isa Upanishad			<b>DSE-II</b> PHILOSOPHY OF RELIGION	
VI	CCXIII	Social & Political Philosophy			<b>DSE-III</b> GANDHIAN STUDIES	
	CC XIV	Applied Ethics			DSE- IV PROJECT	

PHILOSOPHY

2. Mahatma Gandhi- R.R. Diwakar

### **Project (Optional)**

**Eligibility:** Students who have scored more than 60% marks in Semester –I, II, III &IV are eligible to opt for project paper. The student has to prepare a project of his own selecting a topic from philosophical perspective (For example-some broad themes are given below). The dissertation carries 60 marks which will be evaluated by an external examiner and he / she will face a viva-voice test of 40 marks by an external examiner along with his / her supervisor of the concerned project.

- 1. Philosophy, value and culture
- 2. Existentialism and Phenomenology
- 3. Philosophy of religion
- 4. Philosophy of Language
- 5. Socio-Political Philosophy
- 6. Indian Philosophy/Contemporary Indian Philosophy
- 7. Ethics/Applied ethics
- 8. Philosophy of Mind

### SYLLABUS FOR UNDERGRADUATE COURSE IN PHYSICS (Bachelor of Science Examination)

### UNDER CHOICE BASED CREDIT SYSTEM

### **Course structure of UG Physics Honors**

SEMESTE	COURSE	COURSE	Credi
R	OPTED	NAME	t s
Ι	Ability Enl	EVS	4
4 Papers	Compulsory		
	Course-I		
(400	Core course-I	Mathematical	4
Marks)		Physics-I	
	Core Course-I	Mathematical	2
	Practical/Tutorial	Physics-I Lab	
	Core course-II	Mechanics	4
	Core Course-II	Mechanics Lab	2
	Practical/Tutorial		
	Generic Elective -	GE-1	4
	1		
	Generic Elective -1	Practical/Tutori	2
		al	
II	Ability	MIL	4
4 Papers	Enhancement		
	Compulsory		
(400	Course-II		
Marks)	Core course-III	Electricity and	4
		Magnetism	
	Core Course-III	Electricity and	2
	Practical/Tutorial	Magnetism Lab	
	Core course-IV	Waves and	4
		Optics	
	Core Course-IV	Waves and	2
	Practical/Tutorial	Optics Lab	
	Generic Elective -	GE-2	4

	2		
	Generic Elective -2	Practical/Tutori	2
		al	
III	Core course-V	Mathematical	4
		Physics-II	
5 Papers	Core Course-V	Mathematical	2
	Practical/Tutorial	Physics-II Lab	
(500	Core course-VI	Thermal	4
Marks)		Physics	
	Core Course-VI	Thermal	2
	Practical/Tutorial	Physics Lab	
	Core course-VII	Analog Systems and	4
		Applications	
	Core Course-VII	Analog	2
	Practical/Tutorial	Systems &	
		Application	
		s Lab	
	Skill Enhancement	English	4
	Compulsory Course	Communication	
	-1		
	Generic Elective -	GE-3	4
	3		
	Generic Elective -	Practical/Tutorial	2
	3		
IV	Core course-	Mathematical	4
	VIII	Physics III	
5 Papers	Core Course-	Mathematical	2
	VIII	Physics-III Lab	
(500	Practical/Tutori	-	
Marks)	al		
	Core course-IX	Elements of	4

		Modern Physics	
	Core Course-IX	Elements of Modern	2
	Practical/Tutorial	Physics Lab	
	Core course-X	Digital Systems and	4
		Applications	
	Core Course-X	Digital	2
	Practical/Tutorial	Systems &	
		Applicatio	
		ns Lab	
	Skill Enhancement	SECC -2	4
	Compulsory Course		
	-2		
	Generic	GE-4	4
	Elective -4		
	Generic	Practical/Tutori	2
	Elective -4	al	
	Core course-XI	Quantum	4
V		Mechanics &	
4 Papers		Applications	
(400 Marks)	Core Course-XI	Quantum Mechanics	2
	Practical/Tutorial	Lab	
	Core course-XII	Solid State Physics	4
	Core Course-XII	Solid State Physics	2
	Practical/Tutorial	Lab	
	Discipline Specific	DSE-1	5
	Elective -1		
	Discipline Specific	Practical/Tutorial	1
	Elective -1		
	Discipline Specific Elective -2	DSE-2	5
	Discipline Specific Elective- 2	Practical/Tutorial	1

	Core course-XIII	Electro-magnetic Theory	4
	Core Course-XIII Practical/Tutorial	Electro-magnetic Theory Lab	2
VI	Core course-XIV	Statistical Mechanics	4
4 Papers (400 Marks)	Core Course-XIV Practical/Tutorial	Statistical Mechanics Lab	2
	Discipline Specific Elective -3	DSE-3	5
	Discipline Specific Elective -3	Practical/Tutorial	1
	Discipline Specific Elective -4	Project	2/1
			6
		Total Credits	148

Generic Elective Papers (GE) (Minor-Physics) for other Departments/Disciplines: (Credit: 06 each)

Depending on their requirements, Universities may choose 2 (two )GE subjects with 2 papersfromeach subject or only one GE subject with 4 papers from it.

Two papers GE subject will be :

**1.** GE-I (Mechanics & Properties of matter, Oscillation & Waves, Thermal

Physics, Electricity and Magnetism & Electronics) + Lab

**2.** GE-II (Optics, Special Theory of Relativity, Atomic Physics, Quantum

### **Discipline Specific Elective Paper-1V Project**

#### OR

#### **Basic Instrumentation**

#### **Basic Instrumentation**

### UNIT-I

**Basic of Measurement:** Instruments accuracy, precision, sensitivity, resolution, range etc. Errors in measurements and loading effects.

**Multimeter:** Principles of measurement of dc voltage and dc current, ac volt- age, ac current and resistance. Specifications of a multimeter and their significance.

**Electronic Voltmeter:** Advantage over conventional multimeter for voltage measurement with respect to input impedance and sensitivity. Principles of voltage, measurement (block diagram only). Specifications of an electronic Voltmeter/ Multimeter and their significance.

**AC mill voltmeter:** Type of AC mill voltmeters: Amplifier- rectifier, and rectifier- amplifier. Block diagram ac mill voltmeter, specifications and their significance.

### UNIT-II

**Cathode Ray Oscilloscope**: Block diagram of basic CRO. Construction of CRT, Electron gun, electrostatic focusing and acceleration (Explanation only no mathematical treatment), brief discussion on screen phosphor, visual persistence and chemical

### SYLLABUS FOR UNDER GRADUATE COURSE IN POLITICAL SCIENCE (Bachelor of Arts Examination)

### UNDER CHOICE BASED CREDIT SYSTEM

### **Course structure of UG Political Science Honours**

Semester	Course	Course Name	Credits	Total marks
Ι	AECC- I	AEC-I	04	100
	C-I	Understanding Political Theory	06	100
	C-II	Constitutional Government and Democracy in India	06	100
	GE-I	Feminism <mark>:</mark> Theory and Practice	06	100
			22	
II	AECC- II	AEC-II	4	100
	C-III	Political Theory-Concepts and Debates	06	100
	C-IV	Political Process in India	06	100
	GE-II	Governance: Issues Challenges	06	100

			22	
III	C-V	Introduction to Comparative Government and Politics	06	100
	C-VI	Introduction to Public Administration	06	100
	C-VII	Perspectives on International Relations	06	100

	SEC-I	SEC-I(to be selected by the University/College from the Repertoire of SEC courses)	04	100
			28	
IV	C-VIII	PoliticalProcessesandInstitutionsinComparativePerspective	06	100
	C-IX	Public Policy and Administration in India	06	100
	C-X	Global Politics	06	100

	SEC-II	SEC-II (to be selected	by the	04	100
		University/College fr	University/College from the		
		Repertoire of SEC cour	reee)		
		Repetione of SEC cour	1303)	• •	
				28	
Semester	Course	Course Name	Credits		Total
					marks
V	C-XI	Western Political	06		100
		Philosophy			
	C-XII	Indian Political	ndian Political 06		100
		Thought( Ancient&			
		Medieval)			
	DSE-I	Introduction to Human	06		100
		Rights			
	DSE-II	Development Process	06		100
		and			
		Social Movements			
		in			
		Contemporary			
		India			
			24		
VI	C-XIII	Contemporary Political	06		100
		Philosophy			

C-XIV	Modern Indian Political Thought	06	100
DSE- III	India's Foreign Policy in a Changing world	06	100
DSE- IV	Women, Power and Politics	06	100
UK			
DSE- IV	Dissertation	06	100*
		24	

Discipline Specific Elective Papers: (Credit: 06 each) (4 papers

to be selected by students of Political Science Honours): DSE 1-

### IV

1. Human Rights in a Comparative Perspective

2. Development Process and Social Movements in Contemporary India (PROJECT)

3. India's Foreign Policy in a Globalizing world

4. Women, Power and Politics

5. Project \*Dissertation (can be opted as alternative of DSE-IV only and of 6 credits. Dissertation content: 50, Seminar: 30, Viva:
20) as per regulation

### <u>Text Books</u>

• B. Hooks, (2010) 'Feminism: A Movement to End Sexism', in C. Mc Cann and S. Kim (eds),

• M. John.(2008) (ed) *Women's Studies in India*, New Delhi: Penguin.

• M. Kosambi, (2007) *Crossing the Threshold*, New Delhi, Permanent Black.

• Menon, (2008) 'Power', in R. Bhargava and A. Acharya (eds), *Political Theory: An Introduction*, Delhi: Pearson.

• *NaarivaadiRajneeti: Sangharsh evamMuddey*, University of Delhi: Hindi Medium Implementation Board.

• T. Shinde, (1993) 'Stree Purusha Tulna', in K. Lalitha and Susie Tharu (eds), *Women Writing in India*, New Delhi, Oxford University Press.

*The Feminist Reader: Local and Global Perspectives*, New York: Routledge.

• U. Chakravarti, (2001) 'Pitrasatta Par ek Note', in S. Arya, N. Menon & J. Lokneeta (eds.)

• V Geetha, (2002) *Gender*, Kolkata, Stree Publications.

### **Reference Books**

• N. Gandhi and N. Shah, (1992) *Issues at Stake – Theory and Practice in the Women's Movement*, New Delhi: Kali for Women.

• N. Menon, (2004) 'Sexual Violence: Escaping the Body', in *Recovering Subversion*, New Delhi: Permanent Black.

• P. Swaminathan, (2012) 'Introduction', in *Women and Work*, Hyderabad: Orient Blackswan.

• R. Kapur, (2012) 'Hecklers to Power? The Waning of Liberal Rights and Challenges to Feminism in India', in A. Loomba *South Asian Feminisms*, Durham and London: Duke University Press.

# STATE MODEL SYLLABUS FOR UNDER GRADUATE COURSE IN PSYCHOLOGY (Bachelor of Arts Examination)

### UNDER CHOICE BASED CREDIT SYSTEM

	Framework of CBCS Syl	llabus for PSY	CHOLOGY (I	Honours) from 20	)19-20		
Full	Forms of Course Codes Used: CC =	Core Course, AE	ECC = Ability Enha	ancement Compulsor	y Course, SEC =		
Skil	Enhancement Course, DSE = Discipl	ine Specific Electi	ve (Related to Cor	e Subject), GE = Gen	eric Elective (Not		
relat	ed to Core Subject; 2 different subject	s of 2 papers each	). Total Marks: C	C(1400) + AECC(20)	00) + SEC (200) +		
DSE	DSE (400) + GE (400) = 2600						
r	CC	AECC	SEC	DSE	GE		
este	14 papers 100 X 14 $-$ 1400: Cradits $-$ 14x6-84	2 Papers 100 X 2 - 200	2 Papers 100 X 2 $-$ 200	4 Papers 100 $\mathbf{X} \mathbf{A} = 400$	4 Papers 100 $\mathbf{X} \mathbf{A} = 400$		
em	$100 \times 14 = 1400$ , Cleuits=14x0=04	100 X 2 = 200 Credits=4x2=8	$Credits=4x^2=8$	4x6=24 credits	4x6=24 credits		
S		creation in2-0		ino-2 i ciouns	ino-21 croans		
	CC-I: Introductory Psychology	AECC-I:					
I	CC-II: Basic Developmental Processes	EVS & DM					
	CC-III: Basic Psychological Processes	AECC-II:MIL					
	CC – IV: Processes of Human						
п	Empowerment						
	CC – V: Statistics				GE Paper-III:		
ш	CC – VI: Social Psychology		Communicative		Introductory		
	CC - VII: Environmental Psychology		English		Psychology		
	CC – VIII: Psychopathology				GE Paper-IV:		
	CC – IX: Educational Psychology		Quantitative &		Basic		
IV	CC – X: Psychological Assessment		Logical Thinking		Developmenta		
					I Processes		
	CC – XI: Organizational Behavior			DSE-I:			
				Psychological			
v				Measurement			
v	CC – XII: Health Psychology			DSC-II: Psychology			
				of Social Isuues			
	CC – XIII: Counseling Psychology			DSC-III <mark>:</mark>			
				Psychology of the			
VI				215dOInty			
	CC – XIV: Positive Psychology			DSC-IV: Project &			
				Field work/			
				Psychology of			
				Crinic			

### PSYCHOLOGY

### **PSYCHOLOGY Papers for HONOURS Students**

Core course -14 papers, Discipline Specific Elective -4 papers, Generic Elective for nonpsychology honours students -4 papers. In case University offers 2 subjects as GE, then papers 1 and 2 will be the GE paper.

Scoring System for Papers with Practical:

Marks per paper - Midterm: 15 marks, Practical: 25 marks, End term: 60 marks, Total: 100 marks, Credit per paper – 6, Teaching hours per paper – 40 hours theory + 20 hours practical

Scoring System for Papers without Practical:

Marks per paper - Midterm: 20 marks, End term: 80 marks, Total: 100 marks, Credit per paper - 6, Teaching hours per paper - 50 hours + 10 hours tutorial
### **Reference Books:**

- Ghai, A. (2015). Rethinking Disability in India. India: Routldge. Ghai, A. (2010). Psychology of Disabled in G.Misra (Ed.) Psychology in India: Advances in research. New Delhi: Pearson education. Ghai, A. (2006 [2003]) (Dis)Embodied Form: Issues of Disabled Women. New Delhi: Shakti Books.
- Goodley. D & Lawthom. R. (2006). Disability and Psychology: Critical Introductions and Reflections. Palgrave Macmillan.

### Discipline Specific Elective Paper-IV DISSERTATION / RESEARCH PROJECT

**Introduction:** The research experience of students is greatly enriched by early exposure to conducting research. There are numerous benefits of undergraduate students who get involved in research. They are better off in understanding published works, determine an area of interest, can discover their passion for research and may start their career as a researcher. Further, students will be able develop ability for scientific inquiry and critical thinking, ability in the knowledge base and communication of psychology. This course is included to promote above mentioned abilities among the students.

### **Learning Objectives:**

- To help students to learn how to develop scientific research designs in the study of psychology.
- To guide students to understand the previous research in their field of interest and review them to arrive at a research problem
- To encourage the students to learn ways to describe and measure human behavior.
- To help students understand the logic of hypothesis testing and application of appropriate statistical analysis.
- To make students to learn the methods of writing a research report.

#### **Expected outcomes: Students will be able to**

- Independently prepare a research design to carry out a research project
- Review the related research papers to find out a research problem and relevant hypotheses
- Understand the administration, scoring and interpretation of the appropriate instrument for measurement of desired behavior
- Learn the use of statistical techniques for interpretation of data.
- Learn the APA style of reporting a research project.

# Unit I

A student is required to carry out a project on an issue of interest to him / her under the guidance and supervision of a teacher. In order to do so s/he must have the knowledge in research methodology and of steps in planning and conducting a research. The supervisors may help the students to go on field study / study tour relevant to their work. Thirty hours of class may be arranged in the routine to help students understand research methodology, and planning, conduction and reporting on the research. An external examiner with the supervisor as the internal examiner will evaluate the research project on the basis of scientific methodology in writing the report, and presentation skill and performance in the viva.

#### • Format

- Abstract 150 words including problem, method and results.
- Introduction Theoretical considerations leading to the logic and rationale for the present research
- ¬ Review- Explaining current knowledge including substantive findings and theoretical and methodological contributions to the topic, objectives and hypotheses of the present research
- Method Design, Sample, Measures, Procedure
- $\neg$  **Results** Quantitative analysis of group data $\neg$  (Raw data should not be attached in Appendix) Graphical representation of data wherever required. $\neg$  Qualitative analysis wherever done should indicate the method of $\neg$  qualitative analysis.
- **– Discussion**

# **¬** References (APA Style) & Appendices

- Project should be in Soft binding. It should be typed in Times New Roman 14 letter size with 1.5 spacing on one sides of the paper. Total text should not exceed 50 pages (References & Appendices extra).
- Two copies of the project should be submitted to the College.
- Project American Psychological Association (APA) Publication Manual 2006 to be followed for project writing

Mark distribution for dissertation / Research project					
IdentificationReview ofof problemLiterature	Methodology	Analysis	Findings	Viva-voce	Total
10 10	10	25	20	25	100

# SYLLABUS FOR UNDER GRADUATE COURSE IN SOCIOLOGY (Bachelor of Arts Examination)

# UNDER CHOICE BASED CREDIT SYSTEM

# SOCIOLOGY UNDERGRADUATE SYLLABUS FOR HONOURS

SL	Semester	Number	Title of the	Mark	Credi
No			Course	S	t
•					
1		DSC.H.SOC.1	Introduction to	80+20	6
			Sociology-1		
2	1st	DSC.H.SOC.2	Introduction to	80 + 20	6
			Sociology-2		
3		GE.H.SOC.1		80+20	6
4		AECC.H.SOC.		80+20	4
		1			
5		DSC.H.SOC.3	Indian Society	80+20	6
6		DSC.H.SOC.4	Sociology of	80+20	6
	2nd		Environment		
7		GE.H.SOC.2		80+20	6
8		AECC.H.SOC.		80+20	4
		2			
			Classical		
9		DSC.H.SOC.5	Sociological	80 + 20	6
			Thinkers		
10	3rd	DSC.H.SOC.6	Social Change &	80+20	6
	-		Development		
11		DSC.H.SOC.7	Sociology of	80+20	6
	-		Gender		
			Introductio		
12		GE.H.SOC.3	n to	80+20	6
			Sociology-1		
13		SEC SOC.1	Political	80+20	4
	1				

			Sociology		
14		DSC.H.SOC.8	Rural Sociology	80+20	6
15		DSC.H.SOC.9	Globalization &	80+20	6
	4th		Society		
16		DSC.H.SOC.10	Marriage,	80+20	6
			Family and		
	-		Kinship		
17		GE.H.SOC.4	Indian Society	80+20	6
18		SEC SOC.2	Industrial	80+20	4
			Sociology		
19		DSC.H.SOC.11	Research	80+20	6
			Methodology		
	5th		Social		
20		DSC.H.SOC.12	Movements in	80+20	6
	-		India		
21		DSE.H.SOC.1	Sociology of	80+20	6
	-		Health		
22		DSE.H.SOC.2	Sociology of	80+20	6
			Education		
23		DSC.H.SOC.13	Population &	80+20	6
			Society		
			Social		
24	6th	DSC.H.SOC.14	Disorganization	80 + 20	6
			& Deviance		
25		DSE.H.SOC.3	Urban Sociology	80+20	6
			Field Work&		
26		DSE.H.SOC.4	Dissertation /	80+20	6
			Tribes of India		
	TOTAL			2600	0

# Suggested Text Book:

1.Sharma,R.N.Urban Sociology, Atlantic Publishers & Distributors Pvt Ltd,2014

# **Reference Readings:**

1. Rao M. S. A. Urban Sociology in India: Reader and Sourcebook ,Sangam Books Limited; New edition ,1992Satish Sharma, Urban Sociology, Wisdom Press (ISBN) (CBCS)

2. Jayapalan, N. Urban Sociology, Atlantic Publishers, 2002,

3. Dhandeva, M.S. Sociology & Slum, Archives Books, New Delhi, 1989.

4. Sandhu, R.S Urbanization in India: Sociological Contributions, Sage Publication, New Delhi, 2003.

5. William G. Flanagan, William G. Urban Sociology: Images and structure, Allyn & Bacon, Boston. 1999.

6. Ramachandran, R Urbanization and Urban system in India, Oxford Univ. Press, New Delhi, 1989

# DISCIPLINE SPECIFIC ELECTIVES, PAPER-4 FIELD WORK AND DISSERTATION

# (College can give this choice only for students with above 60% aggregate marks)

# **Objectives:** This paper is designed

• To provide a basic exposure to the student to the fields and to acquaint him/her with the research process.

• To equip them with the capacity to browse secondary literature from right sources and with a process of reviewing relevant literature.

• To promote in them an ability to capture the right type of data and put them into documentation format.

# (Dissertation: 80 marks and Viva-voce: 20 marks)

- Dissertation may be written on any social institution, problem or may be an evaluative study.
- It should be based on empirical study.
- Size of the dissertation should be around 5000 words.
- Dissertation paper will be examined jointly by one Internal and one External Examiner to be appointed by the University. Marks will be awarded jointly by the Internal and External Examiners on the basis of the written Dissertation and Viva- voce.

# **GENERIC ELECTIVE PAPER I**

# INTRODUCTION TO SOCIOLOGY

This introductory paper intends to acquaint the students with Sociology as a Social Science and the basic concepts used in the discipline. It also focuses on the social processes and the social institutions that man encounters as a member of the society.

Objectives: After studying these two papers, the student can

- Get to know the convergence and divergence of Sociology with other social science disciplines in terms of the subject matter, nature and scope of the discipline and its approach.
- Develop knowledge about its historicity.
- Can get acquainted with the basic concepts used in the subject.
- Can generate ideas about the social processes and social institutions man encounters as a member of the society.

# SYLLABUS FOR UNDERGRADUATE COURSE IN ZOOLOGY

(Bachelor of Science Examination)

# UNDER CHOICE BASED CREDIT SYSTEM

Course Structure of U.G. Zoology Honours				
Semester	Course	Course Name	Credit	Total marks
	AECC I	AECC I	4	100
Semester-I Semester-II	Core I (Theory)	Non-chordates I: Protista to Pseudocoelomates	4	75
	Core I (Practical)	Non-chordates I: Protista to Pseudocoelomates	2	25
Semester-1	Core II (Theory)	Principles of Ecology	4	75
	Core II (Practical)	Principles of Ecology	2	25
	GE 1 (Theory)	GE 1 (Theory)	4	75
	GE I (Practical)	GE I (Practical)	2	25
	AECC 2	AECC 2	4	100
Semester-II	Core III (Theory)	Non chordates II: Coelomates	4	75
	Core III (Practical)	Non chordates II: Coelomates	2	25
	Core IV (Theory)	Cell biology	4	75
	Core IV (Practical)	Cell biology	2	25
	GE II (Theory)	GE II (Theory)	4	75
Semester-II Semester-II Semester- III Semester- IV	GE II (Practical)	GE II (Practical)	2	25
	Core V (Theory)	Diversity of Chordates	4	75
	er-II Core II (Theory) Core II (Practical) AECC 2 Core II (Practical) Core III (Practical) Core IV (Practical) Core IV (Practical) Core IV (Practical) Core V (Practical) Core VI (Practical) Core VII (Theory) GE II (Practical) Core VII (Theory) GE III (Practical) Core VII (Practical) COR VII (Practic	Diversity of Chordates	2	25
	Core VI (Theory)	Physiology: Controlling and Coordinating systems	4	75
C	Core VI (Practical)	Physiology: Controlling and Coordinating systems	2	25
Semester- III	Core VII (Theory)	Fundamentals of Biochemistry	4	75
	Core VII (Practical)	Fundamentals of Biochemistry	2	25
	SEC 1	SEC 1	4	100
	GE III (Theory)	GE III (Theory)	4	75
	GE III (Practical)	GE III (Practical)	2	25
Semester-	Core VIII (Theory)	Comparative anatomy of Vertebrates	4	75
IV	Core VIII	Comparative anatomy of	2	25

	(Practical)	Vertebrates		
	Core IX (Theory)	Physiology: Life Sustaining Systems	4	75
	Core IX (Practical)	Physiology: Life Sustaining Systems	2	25
	Core X (Theory)	Biochemistry of Metabolic Processes	4	75
	Core X (Practical)	Biochemistry of Metabolic Processes	2	25
	SEC 2	SEC 2	4	100
	GE IV (Theory)	GE IV (Theory)	4	75
	GE IV (Practical)	GE IV (Practical)	2	25
	Core XI (Theory)	Molecular Biology	4	75
Circle IX (Theory)Physiology: L SystemsCore IX (Theory)Physiology: L SystemsCore IX (Practical)Physiology: L SystemsCore X (Theory)ProcessesCore X (Practical)Biochemistry ProcessesSEC 2SEC 2GE IV (Theory)GE IV (Theory)GE IV (Practical)GE IV (Practical)GE IV (Practical)GE IV (Practical)GE IV (Practical)GE IV (Practical)Core XI (Theory)Molecular Bio Core XII (Theory)Core XII (Theory)Principles of C DSE I (Practical)DSE I (Practical)DSE 1DSE I (Practical)DSE 1DSE I (Practical)DSE 1DSE II (Practical)DSE 1DSE II (Practical)DSE 1DSE II (Practical)DSE 11DSE II (Practical)DSE 11Core XIII (Theory)Developmenta (Practical)Core XIV (Practical)Evolutionary 1Semester-VICore XIV (Practical)Evolutionary 1Semester-VIDSE III (Practical)DSE IIIDSE III (Practical)DSE IIIDSE IIIDSE IV (Theory)VIProject/ Econ(Project)NProject/ Econ	Core XI (Practical)	Molecular Biology	2	25
	Core XII (Theory)	Principles of Genetics	4	75
	Core XII (Practical)	Principles of Genetics	2	25
	DSE I (Theory)	DSE 1	4	75
	DSE 1	2	25	
	(Practical)VertebratesCore IX (Theory)Physiology: Life Sustaining Systems4Core IX (Practical)Physiology: Life Sustaining Systems2Core X (Theory)Biochemistry of Metabolic Processes4Core X (Practical)Biochemistry of Metabolic 	75		
	DSE II (Practical)	DSE II	ertebrates4ysiology: Life Sustaining stems2ysiology: Life Sustaining stems2pochemistry of Metabolic pocesses4pochemistry of Metabolic pocesses2pochemistry of Metabolic pocesses2pochemistry of Metabolic pocesses2pochemistry of Metabolic pocesses2pochemistry of Metabolic pocesses2pochemistry of Metabolic pocesses2pocesses4pocesses2pocesses4polecular Biology4polecular Biology2polecular Biology2polecular Biology2polecular Biology4polecular Biology2polecular Biology2polecular Biology2polecular Biology4polecular Biology2polecular Biology4polecular Biology2polecular Biology2polecular Biology2polecular Biology2polecular Biology2polecular Biology2polecular Biology2 <t< td=""><td>25</td></t<>	25
Semester-VCore XII (Theory)Principles of Genetics4Core XII (Practical)Principles of Genetics2DSE I (Theory)DSE 14DSE I (Practical)DSE 12DSE II (Practical)DSE II4DSE II (Practical)DSE II4DSE II (Practical)DSE II2DSE II (Practical)DSE II2Core XIII (Theory)Developmental Biology4Core XIII (Practical)Developmental Biology2Core XIV (Practical)Evolutionary Biology4Semester-VICore XIV (Practical)Evolutionary Biology2DSE III (Theory)DSE III4	Core XIII (Theory)	Developmental Biology	4	75
	Core XIII (Practical)	Developmental Biology	2	25
	Core XIV (Theory)	Evolutionary Biology	4	75
	Core XIV (Practical)	Evolutionary Biology	2	25
	4	75		
	DSE III (Practical)	DSE III	2	25
DSE III (Theory) DSE III DSE III (Practical) DSE III DSE IV (Theory with Practical /Project) Project/ Ec	Project/ Economic Zoology	6	100	
		Total	148	2600

#### SUGGESTED READINGS

- 1. Woodroffe R., Thirgood, S. and Rabinowitz, A. (2005). People and Wildlife, Conflict or Co-existence? Cambridge University.
- 2. Bookhout, T.A. (1996). Research and Management Techniques for Wildlife and Habitats, 5 th edition. The Wildlife Society, Allen Press.
- 3. Sutherland, W.J. (2000). The Conservation Handbook: Research, Management and Policy. Blackwell Sciences.
- 4. Hunter M.L., Gibbs, J.B. and Sterling, E.J. (2008). Problem-Solving in Conservation Biology and Wildlife Management: Exercises for Class, Field, and Laboratory.Blackwell Publishing.

#### **Discipline Specific Elective Paper-IV**

#### **Economic Zoology**

#### Unit 1: Bee-keeping and Bee Economy (Apiculture)

Varieties of honey bees and Bee pasturage; Setting up an apiary: Langstroth's/Newton's hive, bee veil, brood and storage chambers, iron frames and comb sheets, drone excluder, rearing equipments, handling of bees, artificial diet; Honey extraction techniques; Physico-chemical analysis of honey; Other beneficial products from bee.

#### Unit 2: Silk and Silk Production (Sericulture)

Different types of silk and silkworms in India; Rearing of Bombyxmori, Rearing racks and trays, disinfectants, rearing appliances, black boxing, Chawki rearing, bed cleaning, mountages, harvesting of cocoons; Silkworm diseases: Pebrine, Flacherie, Grasserie, Muscardine and Aspergillosis, and their management; Silkworm pests and parasites: Uzi fly, Dermestid beetles and their management; Silk reeling techniques and Quality assessment of silk fibre.

#### Unit 3: Aquaculture

Induced breeding of fish; Management of hatchery of fish; Management of nursery, rearing and stocking ponds; Preparation and maintenance of fish aquarium; Preparation of compound diets for fish; Role of water quality in aquaculture; Fish diseases: Bacterial, viral and parasitic; Preservation and processing of harvested fish; Fishery by-products. Prawn farming; Culture of crab; Pearl culture.

#### **Unit 4: Dairy and Poultry Farming**

Introduction; Indigenous and exotic breeds; Rearing, housing, feed and rationing; Commercial importance of dairy and poultry farming; Varietal improvement techniques; Diseases and their management; Dairy or poultry farm management and business plan; Visit to any dairy farm or Poultry farm.

#### PRACTICAL

- 1. Submission of report on anyone field visits related to Aquaculture/Apiculture/ Sericulture/Poultry/ Dairy farm.
- 2. Study of different types of bees (Queens, Drones and Worker bees).
- 3. Study of different types of silk moths.
- 4. Study of different types of pearls.
- 5. Study of different types of fish diseases.
- 6. Identification of different types of scales in fishes.
- 7. Study of different types of fins.

- 8. Study of different modified structures of fishes (Saw of sawfish, Hammer of hammer head fish, tail of sharks etc.)
- 9. Identification of various types of natural silks.

#### TEXT BOOKS

- 1. Sarkar, Kundu and Chaki. (2014)Introduction to Economic Zoology. NCBA Publisher.
- 2. T.V.R. Pillay (Author), M.N. Kutty (2011) Aquaculture: Principles and Practices, Wiley India Pvt Ltd; Second edition

#### SUGGESTED READINGS

- 1. Dhyan Singh Bisht, Apiculture, ICAR Publication.
- 2. Dunham RA (2004) Aquaculture and Fisheries Biotechnology Genetic Approaches. CABI publications, U.K.
- 3. Hafez ESE (1962) Reproduction in Farm Animals. Lea and Fabiger Publishers.
- 4. Knobil E and Neill JD (2006) The Physiology of Reproduction. Vol.2. Elsevier Publishers, USA.
- 5. Prost PJ (1962) Apiculture. Oxford and IBH, New Delhi.
- 6. Singh S. Beekeeping in India, Indian council of Agricultural Research, New Delhi.
- 7. Srivastava CBL (1999) Fishery Science and Indian Fisheries. Kitab Mahal publications, India.

#### OR

#### **Project Work**

Each student has to undertake a project work under the guidance of a teacher and submit the project report in the form of a thesis. There will be a presentation of the project work before an external examiner.

#### **Generic Elective Paper I**

#### **Animal Diversity**

#### Unit 1: Protista, Porifera, Radiata, Aceolomates and Pseudocoelomates

General characters of Protozoa; Life cycle of Plasmodium, General characters and canal system in Porifera, General characters of Cnidarians and polymorphism, General characters of Helminthes; Life cycle of Taeniasolium, General characters of Nemethehelminthes; Parasitic adaptations

#### Unit 2: Coelomate Protostomes, Arthropoda, Mollusca and Coelomate Deuterostomes

General characters of Annelida, Metamerism, General characters, Social life in insects, General characters of mollusca, torsion in gastropod, pearl formation, General characters of Echinodermata, larval form in Echinodermata.

#### Unit 3: Protochordata, Pisces, Amphibia

Salient features, Osmoregulation, Migration of Fishes, General characters, Adaptations for terrestrial life, Parental care in Amphibia.

# DSE-3-URDU SEMESTER-6 MID TERM-20 + END TERM-80 =100 STUDY OF URDU DRAMA

F.M.-80

- Unit-I Drama ka Fan aur Iqsaam Urdu Mein Drama ka Agaz-o-Irteqa One long question with alternative carrying 16 marks.
- Unit-II Khana Jangi Prof. Md. Mujeeb One long question with alternative carrying 16 marks.
- Unit-III Silver King Agha Hasr Kashmiri One long question with alternative carrying 16 marks
- **Unit-IV - Anar Kali- Imtiyaz Ali Taj** One long question with alternative carrying 16 marks
- **Unit-V Kuhre ka Chand Mohammad Hassan** One long question with alternative carrying 16 marks

# **Suggested Readings:**

- 1. Urdu Drama Ishrat Rehmani
- 2. Drama Fun aur Fiwayat Mohammad Shahid Hussain
- 3. Drama Riwayat aur Fun Atya Nishat
- 4. Lucknow ka Awami Stage Masood Hasan Rizwi Adeeb
- 5. Lucknow ka Sahi Stage Masood Hasan Rizwi Adee

# **DSE-4-URDU**

# **SEMESTER-6**

# **MID TERM-20 + END TERM-80 =100**

There shall be one Dissertation or Project Work Carrying 100 Marks.