DEPARTMENT OF ANTHROPOLOGY

CBCS – PART I
Honours Course

Month	SEMESTER-I		
	ANTACOR 01T & ANTACOR01P INTRODUCTION TO BIOLOGICAL ANTHROPOLOGY	**ANTACOR 02T & ANTACOR02P INTRODUCTION TO SOCIAL-CULTURAL ANTHROPOLOGY**	**Class Teaching hours**
JULY	**Unit I**: Biological Anthropology: Meaning, aim and Scope; Its approaches: Biocultural, comparative and evolutionary. **Unit II**: Theories of organic evolution. **Unit III**: Primates in relation to human evolution: **Unit IV:** Human Skeletal anatomy and functional morphology of bones as parts of total skeleton:	**Unit I: a) Fundamentals of Social-Cultural Anthropology**: Meaning & Definition, Aim & Scope, Social- Cultural Anthropology, Distinctiveness (Holism, Cultural Relativism, Cross Cultural Perspective, Anthropological Comparison);	12*2
	PRACTICAL **Unit 1**. Identification of Human cranium- its different normas- *norma verticalis; norma lateralis; norma occipitalis; norma basalis; norma frontalis;* **Unit II**: Anthroposcopy: Assessment of Skin Colour: exposed (forehead) and unexposed (inner surface of the upper arm).	**PRACTICAL** **a) Prepare a Project Report on of the following (1 Credit / project) (To be submitted with signature of individual Mentor/Supervisor)** i) Writing **ONE CASE STUDY** on any one of the following events from one family (happened within last one year): Birth, Marriage, Death, Thread Ceremony, Household ritual (e.g. Pujas/ brotos, religious ritual and festival of other communities).	12*2
AUG	**Unit I**: Application of concepts of adaptation and evolution in Biological anthropology; **Unit II**: Lamarckism, **Unit III**: 1. Primates: Definition, General characteristics, Evolutionary trends. **Unit IV:** relevance of studying human anatomy as a part of anthropology,	**Unit I:** Concepts of the major subfields: Economic Anthropology, Political Anthropology, Anthropology of Religion, Anthropology of Education, Psychological Anthropology, Rural & Urban Anthropology, Medical Anthropology, Ecological Anthropology, Cognitive Anthropology, Interpretative anthropology, visual Anthropology. **b) Relationship with major subjects of Social Sciences**: History, Political Science, Sociology, Geography, Education, Economics, Folklore. **Unit II: Concepts of society and Culture** (Brief notes on meaning, definition and salient features) a) Society, Group, Community, Social Institution, Social Unit, Social Association, Social Fact, Socialization, Social System (Social Structure & Social function), Status and Role; Social Action; Social Conflict; Social Stratification, and Civil Society.	12*2
	PRACTICAL **Unit 1**. Identification of Frontal bone, Parietal bone, Temporal bone, Occipital bone	**PRACTICAL** **a) Prepare a Project Report on of the following (1 Credit / project) (To be submitted with signature of individual Mentor/Supervisor)**	12*2

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	Unit II: Head Hair: form, colour, texture, quantity, whorl (number and type), hair limit.	i) Writing **ONE CASE STUDY** on any one of the following events from one family (happened within last one year): Birth, Marriage, Death, Thread Ceremony, Household ritual (e.g. Pujas/ brotos, religious ritual and festival of other communities).	
SEP	**Unit I**: Different branches and fields of study. **Unit II**: Neo-Lamarckism, **Unit III**: 2. Classification of living primates up to family level with example (Simpson); concepts of strepsirrhini and haplorrhini. **Unit IV:** classification of bones, their anatomical positions and functions.	**Unit II:** b) Culture: Definition & Concepts by E.B. Tylor, L. White, A. Kroeber, N.K. Bose, C. Geertz.; Attributes of Culture: Learned, Shared, Transmitted, Adaptive, Symbolic, Dynamic; Norms, Values, Enculturation, material Culture, Culture Element, Culture Trait, Trait Complex, Overt & Covert, Diffusion, Acculturation, Ethos & Eidos, Ethnocentrism, Culture Universal, World View.	12*2
	PRACTICAL **Unit 1**. Identification of Maxilla bone, Zygomatic bone, Sphenoid bone, Mandible (anatomical position, side and sex determination, where applicable). **Unit II**: Anthroposcopy: Facial Hair: Beard and Moustache.	**PRACTICAL** **a) Prepare a Project Report on of the following (1 Credit / project) (To be submitted with signature of individual Mentor/Supervisor)** i) Writing **ONE CASE STUDY** on any one of the following events from one family (happened within last one year): Birth, Marriage, Death, Thread Ceremony, Household ritual (e.g. Pujas/ brotos, religious ritual and festival of other communities).	12*2
OCT	**Unit I**: Relationship of biological anthropology with: medical and health science, life science, earth science and environmental science. **Unit II**: Darwinism, **Unit III**: 3. Anatomical and behavioural characteristics of great apes (Gibbon, Orang Utan, Chimpanzee, Gorilla). **Unit IV:** classification of bones, their anatomical positions and functions.	**Unit III: Family, Marriage, Kinship system & Other aspects of Social Organization**: **a) Family**: Definition, Types, Structure & Function, Changes due to Industrialization & Urbanization (with special reference to Indian Context).	6*2
	PRACTICAL **Unit 1**. Sex determination of human skull. **Unit II**: Anthroposcopy: Nose: depression of the nasal root, height of the nasal bridge, nasal profile, tip of the nose, inclination of the septum, nasal wings.	**PRACTICAL** ii) Drawing **ONE GENEALOGICAL CHART** (with kinship terminology) of one family (Minimum up to 3 generations). iii) Preparation of a **SCHEDULE / QUESTIONNAIRE** on any one of the following: a) Census Schedule (General Demography, Economy) **b) Village / Hamlet / Urban Locality Description.**	6*2
NOV	**Unit I**: Revision and preparation for examinations. **Unit II**: Synthetic theory, Mutation theory. **Unit III**: 4. Significance of studying non-human primate in Biological Anthropology. **Unit IV:** classification of bones, their anatomical positions and functions.	**Unit III: b) Marriage**. Definition, Type, Preferential & Prescribed forms of marriage, Functions of Marriage, Universality of Marriage, Ways of acquiring mates in tribal society, Forms of Marital transaction (Dowry, Bride price, Gift), Post Marital Residence, Divorce & Remarriage. **c) Kinship**:: Definition, Structure of Kinship (Murdock) Function of Kins in everyday life and Ceremonial occasion, Kinship behaviour: Avoidance, Joking, Couvade, Teknonymy, Kinship system: Hawaiian, Eskimo, Sudanese, Iroquis, Crow- Omaha, Bengali Kinship system; Descent : Types & Functions: Unilateral, Bilateral & Double descent **d) Other Concepts** : Tribe, Moiety, Phratry, Lineage, Clan.	12*2
	PRACTICAL **Unit 1**. Identification of Femur, Tibia, fibula, Humerus, Radius, Ulna **Unit II**: Ear: size, shape, Ear	**PRACTICAL** ii) Drawing **ONE GENEALOGICAL CHART** (with kinship terminology) of one family (Minimum up to 3 generations). iii) Preparation of a **SCHEDULE / QUESTIONNAIRE** on	12*2

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	lobe: size, form and attachment, hypertrichosis of Ear.	any one of the following: a) Census Schedule (General Demography, Economy) **b) Village / Hamlet / Urban Locality Description.**	
DEC	**Unit I**: Tutorial **Unit II**: Preparation for exams. **Unit III**: Preparation for exams. **Unit IV:** Tutorial.	**Unit IV: Fieldwork in Anthropology:** Meaning of Fieldwork in different branches of Anthropology. Importance of fieldwork in Anthropology, Historical Genesis of Anthropological fieldwork. Research Strategies: Synchronic & Diachronic, Etic vs Emic. Deductive vs. Inductive, Qualitative vs Quantitative.	6*2
	PRACTICAL Practice and Preparation for Exams	**PRACTICAL** ii) Drawing **ONE GENEALOGICAL CHART** (with kinship terminology) of one family (Minimum up to 3 generations). iii) Preparation of a **SCHEDULE / QUESTIONNAIRE** on any one of the following: a) Census Schedule (General Demography, Economy) **b) Village / Hamlet / Urban Locality Description.**	6*2

Month	**SEMESTER-II**		
	ANTACOR 03T & ANTACOR03P ARCHAEOLOGICAL ANTHROPOLOGY	**ANTACOR 04T & ANTACOR04P** **INTRODUCTION TO SOCIAL-CULTURAL ANTHROPOLOGY**	**Class Teaching hours**
JAN	**Unit I: Introduction to Archaeological anthropology** Definition and Scope of Archaeological Anthropology, Relationship with other disciplines - history, anthropology and other natural sciences. Prehistory: Definition, aim, scope, concept of periodization. Definition of Tool, Artifact, Industry, Assemblage; A brief introduction to different cultural stages in pre-history and Protohistory.	**Unit I:** **Unit-I:** Oligocene Anthropoids: Parapithecus, Aegyptopithecus; Primate origins and radiation with special reference to Miocene hominoids: Dryopithecus, Sivapithecus, distribution, features and their phylogenetic relationships.	12*2
	PRACTICAL Identification of Typo-technological attributes, cultural ages, probable functions, method of hafting and Drawing of the tool types	**PRACTICAL** **UNIT I.** Identification of extant anthropoid skulls with reference to features relevant to Hominid evolution (Gorilla, Chimpanzee, Orang utan and Gibbon).	12*2
FEB	**Unit I:** Methods of study: Ideas of site survey and excavation, Different Methods of exploration/site survey; different stages of excavation, pre-excavation stage, actual stages of digging up of archaeological site, Trial trench, horizontal and vertical excavation, differences between excavation and exploration. **Unit II:** Methods of Estimation of time in archaeology Concept of chronology in Prehistory, Relative and Absolute dating methods, Following dating methods are to be studied based on the points: Discovery, first use, datable material, basic principle, precautions, method of sample collection, advantages and disadvantages, specific examples, Relative methods of dating: Stratigraphy, Typo-technological analysis, FUN estimation, Absolute methods of dating: C14, K/Ar,	**Unit-II:** Australopithecines: distribution and types, features and their phylogenetic relationships. Appearance of genus Homo (Homo habilis) and related finds.	12*2

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	Dendrochronology, TL. Differences between Absolute and Relative dating methods.		
	PRACTICAL Identification of Typo-technological attributes, cultural ages, probable functions, method of hafting and Drawing of the tool types.	**PRACTICAL** **UNIT I.** Identification of extant anthropoid skulls with reference to features relevant to Hominid evolution (Gorilla, Chimpanzee, Orang utan and Gibbon).	12*2
MAR	**Unit III:** Paleoenvironment Concept of geochronology, Geological Time scale: eras, periods, epochs, Environmental background of Quaternary period, Basal Pleistocene, Villafranchian, Causes of ice age, Climatic fluctuations of Pleistocene period in Europe, Africa and India, Glacial and Pluvial zones, Evidences of Pleistocene period for reconstruction of paleoenvironment: Moraine, Glacio-fluvial deposits, River terraces, U shaped valley, Loess, Gravel and silt deposition, Importance of paleoenvironmental srudy on paleoanthropology and prehistory, Holocene period; climatic stabilization.	**Unit-III:** Homo erectus from Asia, Europe and Africa: Distribution, features and their phylogenetic status.	6*2
	PRACTICAL Identification of Typo-technological attributes, cultural ages, probable functions, method of hafting and Drawing of the tool types.	**PRACTICAL** **UNIT I.** Identification of extant anthropoid skulls with reference to features relevant to Hominid evolution (Gorilla, Chimpanzee, Orang utan and Gibbon).	6*2
APR	**Unit IV**: Typo-technological Study of Stone tools: Concept of tool types, primary and combination fabrication technology, Basic concept of stone tool manufacturing technology and estimation of their relative efficiency, basic ideas about identification of core and flake tools.	**Unit-IV:** The origin of Homo sapiens: Fossil evidences of Neanderthals :Classic Neandertals (La-Chapelle-Aux – saints), Progressive Neandertals (Tabun); Archaic Homo sapiens.	12*2
	PRACTICAL Identification of Typo-technological attributes, cultural ages, probable functions, method of hafting and Drawing of the tool types.	**PRACTICAL** **UNIT II.** Identification of extinct anthropoid remains: Parapithecus mandible, Dryopithecus mandibular fragment, Australopithecus africanus, One typical specimen of H. habilis, H. erectus (Java and Peking man), Neanderthal (La-Chapple-aux-saints), H. sapiens (Cro-Magnon)	12*2
MAY	**Unit V**: World prehistory: (With reference to paleoenvironments and fossil evidences) Africa: The earliest Paleolithic assemblages of Africa- Oldowan, Acheulian; Middle Stone Age, Later Stone Age. Europe: Acheulian, Levalloisean, Middle and Upper Paleolithic Culture, Mesolithic Culture. Prehistoric art (home and cave art).	**Unit-V:** Origin of modern humans (Homo sapiens sapiens): Cro-Magnon, Grimaldi, Chancelade : Distribution and features and their phylogenetic status.	12*2
	PRACTICAL Identification of Typo-technological attributes, cultural ages, probable functions, method of hafting and Drawing of the tool types.	**PRACTICAL** **UNIT II.** Identification of extinct anthropoid remains: Parapithecus mandible, Dryopithecus mandibular fragment, Australopithecus africanus, One typical specimen of H. habilis, H. erectus (Java and Peking man), Neanderthal (La-Chapple-aux-saints), H. sapiens (Cro-Magnon)	12*2

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JUN	**Unit V** India and South East Asia: The earliest Paleolithic assemblages, Acheulian, Middle Paleolithic Culture, Upper Paleolithic and Microblade assemblages.	**Unit-VI:** Hominization process, Bio-cultural evolution of Man.	6*2
	PRACTICAL Identification of Typo-technological attributes, cultural ages, probable functions, method of hafting and Drawing of the tool types.	**PRACTICAL** **UNIT II.** Identification of extinct anthropoid remains: Parapithecus mandible, Dryopithecus mandibular fragment, Australopithecus africanus, One typical specimen of H. habilis, H. erectus (Java and Peking man), Neanderthal (La-Chapple-aux-saints), H. sapiens (Cro-Magnon)	6*2

General Course

	SEMESTER-I	
Month	**ANTGCOR01T & ANTGCOR01P** INTRODUCTION TO ANTHROPOLOGY	**Class Teaching hours**
July	Unit – I: Introducing Anthropology: Definitions, aims and scope & branches.	12
	PRACTICAL Basic ideas about identification of stone tools (diifferences between naturally flaked objects and stone tools on the basis of location, direction and number of flake scars, shape); Assessment of Skin Colour: exposed (forehead) and unexposed (inner surface of the upper arm). Head Hair: form, texture, whorl (number and type).	12
August	The Anthropological Perspective: Holism, Comparative Theme, Relativism, Fieldwork & Participant Observation.	12
	PRACTICAL core and flake tools (identification of cortex, flake scar, ripple mark, striking platform, point of impact, positive and negative bulb of percussion, drawing of linear diagram). Nose: depression of the nasal root, height of the nasal bridge, nasal profile, tip of the nose, inclination of the nasal septum, nasal wings.	12
September	Unit – II: Archaeological Anthropology: Definitions, Aims & Scope, sub-fields: Environmental archaeology, experimental archaeology, ethno-archaeology, Geo-archaeology, Conjunctive approach.	12
	PRACTICAL core and flake tools (identification of cortex, flake scar, ripple mark, striking platform, point of impact, positive and negative bulb of percussion, drawing of linear diagram). Ear: Lobe attachment, hypertrichosis of Ear.	12
October	Unit - III: Biological Anthropology: Definitions, Subject matter, Aims & Scope,	6

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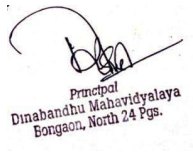
	PRACTICAL **Project work**: Preparation of a generalised census schedule and applying it on at least 10 families in any nearby locality (family composition, SES: occupation and education); A comprehensive brief report on this study to be prepared by the student and submit.	6
November	Sub-fields: Palaeoanthropology, Primatology, Human Genetics, Adaptation & Variations, Human Growth, Forensic Anthropology	12
	PRACTICAL **Project work**: Preparation of a generalised census schedule and applying it on at least 10 families in any nearby locality (family composition, SES: occupation and education); A comprehensive brief report on this study to be prepared by the student and submit.	12
December	UnitVI: Social Cultural Anthropology: Definitions, Subject matter, Aim &Scope, Ethnography & Ethnology, Relationship with economics, political science, sociology, history..	6
	PRACTICAL **Revision**	6

	SEMESTER-II	
Month	**ANTGCOR02T & ANTGCOR2P** Physiology and Biochemistry	**Class Teaching hours**
January	Archaeological Anthropology: Prehistory - Definition, aims, scope, concept of periodization,	6
	PRACTICAL **Archaeological Anthropology**: Procedure of drawing tools, drawing and labelling of typo-technological features, cultural age, **Biological Anthropology**: Human Anatomy - Identification of human skull. **Social Cultural Anthropology**: Learning the technique and collection of genealogical data,	6
February	Concept of culture in prehistory: definition of tool, artifact, industry, assemblage; A brief introduction to different cultural stages in pre-history and proto-history, Tool technology and typology.	12
	PRACTICAL Probable use and method of hafting of tools (Core tools: Hand axe, cleaver and chopper). Identification of human skull bones: frontal, parietal, temporal, occipital, zygomatic, maxilla, mandible, sphenoid. Preparation of a typical genealogical diagram and table (including analysis: occupational and educational status) of one's own family (at least three generations). A report to be prepared and submitted.	12
March	Biological Anthropology: Human morphology, External morphological features with evolutionary significance. Skeleton morphology:	12
	PRACTICAL (Flake tools: Scraper, point, blade) (Bone tools: Harpoons, Baton, spear thrower) (Microliths: Bladelet, fluted core, lunate) (Polished tools: celt, ring stone). Identification of Human post-cranial bones: Scapula, Clavicle, Humerus, Radius, Ulna, Pelvis, Femur, Tibia, Fibula (anatomical position and side determination, where applicable).	12



	Contd…Preparation of a typical genealogical diagram and table (including analysis: occupational and educational status) of one's own family (at least three generations). A report to be prepared and submitted.	
April	Definition and functions of human skeleton, names and anatomical position of human bones; modification of human skeleton due to assumption of erect posture, human dentition: different types of teeth, their basic structure and functions, dental formula.	12
	PRACTICAL (Flake tools: Scraper, point, blade) (Bone tools: Harpoons, Baton, spear thrower) (Microliths: Bladelet, fluted core, lunate) (Polished tools: celt, ring stone) Skull and pelvic girdle should be studied in the perspective of sex differences. Identification of Human permanent teeth.	12
May	Social Cultural Anthropology: Social Unit and Institution: Basic concept- Family, marriage, kinship, clan, *Gotra*, Phratry, moiety, lineage, community, group, tribe, caste , society and culture, social organization and social structure, civilization	12
	PRACTICAL Practice of drawing tools, Revision of bone identifications.	12
June	Revision and Preparation for Exams	6
	PRACTICAL	6

CBCS – PART II
Honours Course

Month	**SEMESTER-III**			
	ANTACOR05T & ANTACOR05P: TRIBES AND PEASANTS IN INDIA	**ANTACOR06T & ANTACOR06P: HUMAN ECOLOGY: BIOLOGICAL & CULTURAL DIMENSIONS**	**ANTACOR07T & ANTACOR07P: BIOLOGICAL DIVERSITY IN HUMAN POPULATIONS**	**Class Teaching hours**
JULY	UNIT 1: Anthropological concept of tribes i. General traditional concept of tribes (Meaning and Criteria) a. Tribe as pre-political and pre-contract society b. Tribe in the evolutionary scheme of social type c. Tribe as the primitive society (primitivism vis-à-vis tribalism) ii. Definition of tribe iii. Features of tribes a. Economic features	Unit I: Defining environment and ecology; Component of ecosystem, Energy flow, Basic concepts of abiotic and biotic ecology.	Unit I: Concepts of Biological Variability; Sources of genetic variability, Crossing over and Recombination, codominance, multiple alleles, variable expressivity and penetrance, modifying genes; Mutation (brief concepts).	12*3

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	b. Political features c. Social cultural features iv. Indian tribes a. Indian tribes and their habitat – Regional Distribution b. Demographic profile of Indian tribe c. Economic, linguistic and ethnic classification			
	PRACTICAL: Reading of Ethnography: Students are required to read and analyse any two of the ethnographic monographs (as listed below) and prepare a review report based upon it. The report should clearly link up the study with the concept of tribe and peasantry and delineate clearly the concept used in the text. 1. Research questions/objectives of the study and their relevance. 2. Theoretical schema. 3. Methods and techniques used in the study. 4. Key findings and their significance in the context of the objectives of the study. 5. Critical analysis of the finding on the basis of contemporary available resources.	**PRACTICAL: Anthropometry:** 1. Maximum head length 2. Maximum head breadth 3. Minimum frontal breadth 4. Maximum bizygomatic breadth 5. Bigonial breadth 6. Nasal height 7. Nasal length 8. Nasal breadth 9. Morphological facial height 10. Morphological upper facial height 11. Head circumference 12. Mid-upper arm circumference 13. Calf circumference 14. Stature 15. Sitting height 16. Body weight	**PRACTICAL:** 1. Craniometric Measurements (Skull & Mandible) (Direct measurements on at least 3 human skulls) i) Linear: Maximum Cranial Length, Maximum Cranial Breadth, Morphological Facial Height, Bi-zygomatic diameter, Bi-gonial diameter, Nasal Length, Nasal Breadth, Orbital Height, Orbital Breadth, Least Frontal Breadth, Mandibular Length, Bi-condylar diameter. ii) Indices: Cranial Index, Morphological Facial Index, Nasal index, Jugo-Frontal Index.	12*3
AUG	UNIT 2: Tribes and wider world i. The history of tribal administration a. Traditional political organization of the Santals, the Garos, the Todas, the Chenchus ii. Constitutional safeguards for the Indian tribes iii. Draft National Tribal Policy iv. Issues of acculturation assimilation and integration v. Impact of development schemes and programmes on tribal life	Unit II: Ecological rules and their applicability to human populations, Distinctiveness of human ecology, Approaches to studying human ecology: Evolutionary ecology and Biological human ecology.	Unit II. Hardy-Weinberg law: Concept and statements; Sources of Genetic Variation;	12*3
	PRACTICAL: Reading of Ethnography: Students are required to read and analyse any two of the ethnographic monographs (as listed below) and prepare a review report based upon it. The report should clearly link up the study with the concept of tribe and peasantry and delineate clearly the concept used in the text. 1. Research questions/objectives of the study and their relevance. 2. Theoretical schema. 3.	**PRACTICAL: Anthropometry:** 1. Maximum head length 2. Maximum head breadth 3. Minimum frontal breadth 4. Maximum bizygomatic breadth 5. Bigonial breadth 6. Nasal height 7. Nasal length 8. Nasal breadth 9. Morphological facial height 10. Morphological upper facial height 11. Head circumference 12. Mid-upper arm circumference 13. Calf circumference 14.	**PRACTICAL:** 1. Craniometric Measurements iii) Chord: Frontal Chord, Parietal Chord, Occipital Chord. iv) Arc: Frontal Arc, Parietal Arc, Occipital Arc. v) Angular: Frontal profile angle, Nasal profile angle, Alveolar profile angle, Frontal-, Bregma- and Lambda angles of schwalbe.	12*3

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	Methods and techniques used in the study. 4. Key findings and their significance in the context of the objectives of the study. 5. Critical analysis of the finding on the basis of contemporary available resources.	Stature 15. Sitting height 16. Body weight		
SEP	Unit 3: Anthropological study of Peasants i. The concept of peasantry (definition and type) ii. Approaches to the study of peasants – economic, political and cultural. iii. Characteristics of Indian village: social organization; economy iv. Tradition and changes in Indian villages v. Caste and peasantry in India: origin history and present situation. vi. Changes in traditional caste system in India.	Unit III: Concepts of acclimatization, adaptation and adaptability; Adaptation to various ecological stressors: Temperature, Altitude and Nutrition; Impacts of urbanization and industrialization on humans.	Unit III: Concept of Race; Conventional classification of major human races of the world; Racial classification of Indian population on the basis of different racial elements by Risley, Guha, and Sarkar (broad groups only), UNESCO statement on Race;	12*3
	PRACTICAL: Reading of Ethnography: Students are required to read and analyse any two of the ethnographic monographs (as listed below) and prepare a review report based upon it. The report should clearly link up the study with the concept of tribe and peasantry and delineate clearly the concept used in the text. 1. Research questions/objectives of the study and their relevance. 2. Theoretical schema. 3. Methods and techniques used in the study. 4. Key findings and their significance in the context of the objectives of the study. 5. Critical analysis of the finding on the basis of contemporary available resources.	**PRACTICAL: Anthropometry:** 1. Maximum head length 2. Maximum head breadth 3. Minimum frontal breadth 4. Maximum bizygomatic breadth 5. Bigonial breadth 6. Nasal height 7. Nasal length 8. Nasal breadth 9. Morphological facial height 10. Morphological upper facial height 11. Head circumference 12. Mid-upper arm circumference 13. Calf circumference 14. Stature 15. Sitting height 16. Body weight	**PRACTICAL:** 2. Determination ABO and Rh(D) blood groups of ten subjects by direct slide method.	12*3
OCT	Unit 3: Anthropological study of Peasants iv. Tradition and changes in Indian villages v. Caste and peasantry in India: origin history and present situation.	Unit IV: Culture as a tool of adaptation; Human adaptive strategies in pre-state societies: Hunting and gathering, Pastoralism iii. Shifting cultivation	Unit IV: Modern concepts of population, Cliner distribution of traits; Intra and inter-population variation. health and epidemiology; Bio-cultural factors influencing disease pattern and nutritional status of population; Evolution of Human diet.	6*3
	PRACTICAL: Reading of Ethnography: Students are required to read and analyse any two of the ethnographic monographs (as listed below) and prepare a review report based upon	**PRACTICAL: Anthropometry:** 1. Maximum head length 2. Maximum head breadth 3. Minimum frontal breadth 4. Maximum bizygomatic breadth 5. Bigonial	**PRACTICAL:** 3. Dermatoglyphics (on 6 subjects) i) Finger dermatoglyphics: Identification of finger pattern types –Arch (Plain and Tented), Loop (Ulnar and Radial),	6*3

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	it. The report should clearly link up the study with the concept of tribe and peasantry and delineate clearly the concept used in the text. 1. Research questions/objectives of the study and their relevance. 2. Theoretical schema. 3. Methods and techniques used in the study. 4. Key findings and their significance in the context of the objectives of the study. 5. Critical analysis of the finding on the basis of contemporary available resources.	breadth 6. Nasal height 7. Nasal length 8. Nasal breadth 9. Morphological facial height 10. Morphological upper facial height 11. Head circumference 12. Mid-upper arm circumference 13. Calf circumference 14. Stature 15. Sitting height 16. Body weight	Whorl (True, Twin loop, Lateral pocket loop, Central pocket loop), calculation of Pattern Intensity index. ii) Palmar dermatoglyphics: Identification of a,b,c, d, t triradii,Ttracing ofA, B, C, D Main Line, Main Line Formula, atd angle.	
NOV	Unit 3: Anthropological study of Peasants vi. Changes in traditional caste system in India. Unit 4: Ethnicity in India i. Concepts and meaning of ethnicity	Unit V: Cultural ecology: Julian Steward's concept and application of the cultural ecological method; Ecological Anthropology; Ethno-ecology.	Unit V: Demographic Anthropology; Sources of demographic data, Concepts of Population, Fundamental demographic measures and their significance in population dynamics: fertility, Mortality and migration, fertility and mortality rates. Factors responsible for demographic variation.	12*3
	PRACTICAL: Reading of Ethnography: Students are required to read and analyse any two of the ethnographic monographs (as listed below) and prepare a review report based upon it. The report should clearly link up the study with the concept of tribe and peasantry and delineate clearly the concept used in the text. 1. Research questions/objectives of the study and their relevance. 2. Theoretical schema. 3. Methods and techniques used in the study. 4. Key findings and their significance in the context of the objectives of the study. 5. Critical analysis of the finding on the basis of contemporary available resources.	**PRACTICAL: Indices:** Body Mass Index, Ponderal Index, Relative Sitting Height. (Analysis of the collected data by using basic Statistics: mean, median, mode, standard deviation and standard error).	**PRACTICAL:** 4. Construction and drawing of a population pyramid from secondary data and learning to interpret different types of population pyramids.	12*3
DEC	Unit 4: Ethnicity in India ii. Tribal and peasant movements in colonial and post-colonial India	Unit VI: Ecological themes of state formation: i. Neolithic revolution, ii. Hydraulic theory; Agriculture and peasantry; Industrial civilization and growth of urban societies.	Unit V: Factors responsible for demographic variation.	6*3
	PRACTICAL: Reading of Ethnography: Students are required to read and analyse any	**PRACTICAL: Indices:** Body Mass Index, Ponderal Index, Relative	**PRACTICAL:** 3. Dermatoglyphics (Analysis of the collected data by using basic Statistics:	6*3

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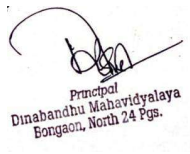
	two of the ethnographic monographs (as listed below) and prepare a review report based upon it. The report should clearly link up the study with the concept of tribe and peasantry and delineate clearly the concept used in the text. 1. Research questions/objectives of the study and their relevance. 2. Theoretical schema. 3. Methods and techniques used in the study. 4. Key findings and their significance in the context of the objectives of the study. 5. Critical analysis of the finding on the basis of contemporary available resources.	Sitting Height. (Analysis of the collected data by using basic Statistics: mean, median, mode, standard deviation and standard error).	mean, median, mode, standard deviation and standard error).	

Month	**SEMESTER-IV**			
	ANTACOR08T & ANTACOR08P: THEORIES OF CULTURE AND SOCIETY	**ANTACOR09T & ANTACOR09P: HUMAN GROWTH AND DEVELOPMENT**	**ANTACOR10T & ANTACOR10P: RESEARCH METHODS**	**Class Teaching hours**
JAN	UNIT I: Theory: What is it? How to frame a theory? The Boundaries of theory; Importance of studying theory in Social Sciences at large and Social-Cultural Anthropology in particular,	**Unit I:** Concepts of human growth, development and maturation; Cellular processes: hyperplasia, hypertrophy and accretion;	**Unit I**: Research Design 1. Review of literature, conceptual framework, formulation of research problem, formulation of hypothesis, 2. Sampling, tools and techniques of data collection, data analysis and reporting, guiding ideals and critical evaluation of major approaches in research methods, 3. Qualitative research and quantitative research, their relationship and uses in anthropology	12*3
	PRACTICAL: 1. Teachers will give them two to five core texts relating to the above-mentioned theories in ANTACOR08T (can be compilation of different texts as well) to be studied. Students will make presentations based on such studies and based on discussion during the presentation and submit a research proposal including the suitable methodology for the work to be taken up.	**PRACTICAL:** 1. Calculation of z–scores of height and weight from a secondary data set. 2. Assessment of children's nutritional status from the secondary data set. 3. Determination of nutritional status by BMI and MUAC from the data set (at least 20 subjects). 4. Skinfold measurements: biceps, triceps, medial calf; Estimation of body composition by skinfold thicknesses (the same 20 subjects). (Analysis	**PRACTICAL:** 1. Project proposal writing-statement of the problem, hypothesis and objectives, study design, proposed analyses and expected outcomes and utility, Preparation of schedule and questionnaire 2. Calculation of statistical measures as mentioned in Unit V, ANTACOR10T by software. 3. Learning to use a modern library and internet information, net-searching, use of INFLIBNET etc.	12*3



	2. Collect data (field data or secondary data), analyse them and write a report of a minimum of 2000 words).	of the collected data by using basic Statistics: mean, median, mode, standard deviation and standard error).		
FEB	UNIT I: Theory: Nineteenth Century Evolutionism: E.B. Tylor and L.H. Morgan. Neo-Evolutionism: L White; Multilinear Evolution: Julian Steward.	**Unit II:** Methods of studying human growth and development: cross sectional, longitudinal, mixed and linked longitudinal.	**Unit II**: Field work tradition in Anthropology 1. Theoretical approaches a. Cultural relativism, ethnocentrism, etic and emic perspectives, comparative and historical methods, inductive and deductive approach b. techniques of rapport establishment; identification of representative categories of informants, maintenance of field diary and logbook	12*3
	PRACTICAL: 1. Teachers will give them two to five core texts relating to the above-mentioned theories in ANTACOR08T (can be compilation of different texts as well) to be studied. Students will make presentations based on such studies and based on discussion during the presentation and submit a research proposal including the suitable methodology for the work to be taken up. 2. Collect data (field data or secondary data), analyse them and write a report of a minimum of 2000 words).	**PRACTICAL:** 1. Calculation of z–scores of height and weight from a secondary data set. 2. Assessment of children's nutritional status from the secondary data set. 3. Determination of nutritional status by BMI and MUAC from the data set (at least 20 subjects). 4. Skinfold measurements: biceps, triceps, medial calf; Estimation of body composition by skinfold thicknesses (the same 20 subjects). (Analysis of the collected data by using basic Statistics: mean, median, mode, standard deviation and standard error).	**PRACTICAL:** 1. Project proposal writing-statement of the problem, hypothesis and objectives, study design, proposed analyses and expected outcomes and utility, Preparation of schedule and questionnaire 2. Calculation of statistical measures as mentioned in Unit V, ANTACOR10T by software. 3. Learning to use a modern library and internet information, net-searching, use of INFLIBNET etc.	12*3
MAR	UNIT II Cultural Relativism, Historical particularism: Franz Boas. Structural Approaches:	**Unit III:** Stages of growth: Prenatal and Post natal period of growth (general characteristics), growth spurt, Scammon's curves of systemic growth; chronological age and biological age.	**Unit III**: Tools and techniques of data collection 1. Survey vs. ethnography 2. Construction of different field tools a. Technical aspects of preparing questionnaire and interview schedule b. Standardization of validity, sensitivity and reliability factors of the applicable tools c. Observation - Direct, Indirect, Participant, Non-participant, Controlled d. Interview - Structured and unstructured, Focussed Group Discussion, key informant interview	6*3

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			e. Case Study and life history f. Genealogy and its application	
	PRACTICAL: 1. Teachers will give them two to five core texts relating to the above-mentioned theories in ANTACOR08T (can be compilation of different texts as well) to be studied. Students will make presentations based on such studies and based on discussion during the presentation and submit a research proposal including the suitable methodology for the work to be taken up. 2. Collect data (field data or secondary data), analyse them and write a report of a minimum of 2000 words).	**PRACTICAL:** 1. Calculation of z–scores of height and weight from a secondary data set. 2. Assessment of children's nutritional status from the secondary data set. 3. Determination of nutritional status by BMI and MUAC from the data set (at least 20 subjects). 4. Skinfold measurements: biceps, triceps, medial calf; Estimation of body composition by skinfold thicknesses (the same 20 subjects). (Analysis of the collected data by using basic Statistics: mean, median, mode, standard deviation and standard error).	**PRACTICAL:** 1. Project proposal writing-statement of the problem, hypothesis and objectives, study design, proposed analyses and expected outcomes and utility, Preparation of schedule and questionnaire 2. Calculation of statistical measures as mentioned in Unit V, ANTACOR10T by software. 3. Learning to use a modern library and internet information, net-searching, use of INFLIBNET etc.	6*3
APR	UNIT II Durkheim's Social Fact; Functionalism – B. Malinowski; Structural-functionalism -A. R. Radcliffe-Brown; Structuralism –Claude Levi- Strauss	**Unit IV:** Distance and velocity growth curves: their features and significance. Growth reference, growth standard, growth chart, Variation in normal growth curve (concepts of canalization, Catch –up growth).	**Unit IV:** Ethics of Research 1. Identify, define, and analyse ethical issues in the context of human subject research 2. Iimportance of consent, privacy and confidentiality in research	12*3
	PRACTICAL: 1. Teachers will give them two to five core texts relating to the above-mentioned theories in ANTACOR08T (can be compilation of different texts as well) to be studied. Students will make presentations based on such studies and based on discussion during the presentation and submit a research proposal including the suitable methodology for the work to be taken up. 2. Collect data (field data or secondary data), analyse them and write a report of a minimum of 2000 words).	**PRACTICAL:** 1. Calculation of z–scores of height and weight from a secondary data set. 2. Assessment of children's nutritional status from the secondary data set. 3. Determination of nutritional status by BMI and MUAC from the data set (at least 20 subjects). 4. Skinfold measurements: biceps, triceps, medial calf; Estimation of body composition by skinfold thicknesses (the same 20 subjects). (Analysis of the collected data by using basic Statistics: mean, median, mode, standard deviation and standard error).	**PRACTICAL:** 1. Project proposal writing-statement of the problem, hypothesis and objectives, study design, proposed analyses and expected outcomes and utility, Preparation of schedule and questionnaire 2. Calculation of statistical measures as mentioned in Unit V, ANTACOR10T by software. 3. Learning to use a modern library and internet information, net-searching, use of INFLIBNET etc.	12*3
MAY	UNIT III Cultural materialism (Marvin Harris); Symbolic and Interpretative approach: Clifford Geertz's Thick description.	**Unit V:** Growth and Nutritional Status: Growth retardation and faltering: low birth weight, stunting, wasting and underweight in children, concept of z-score statistic, MAM and SAM in children, Kwashiorkor,	**Unit V**: Analysis and Writing Up 1. Chapterization, preparing a text for submission and publication, concepts of preface, notes (end and footnotes), glossary, prologue and epilogue, appendix, bibliography	12*3

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		Marasmus; Biocultural understanding of human growth: factors affecting human growth. Anthropometric assessment of malnutrition in adults (BMI and MUAC).	(annotated) and references cited, review and index 2. Introduction of software for data analysis.	
	PRACTICAL: 1. Teachers will give them two to five core texts relating to the above-mentioned theories in ANTACOR08T (can be compilation of different texts as well) to be studied. Students will make presentations based on such studies and based on discussion during the presentation and submit a research proposal including the suitable methodology for the work to be taken up. 2. Collect data (field data or secondary data), analyse them and write a report of a minimum of 2000 words).	**PRACTICAL:** 1. Calculation of z–scores of height and weight from a secondary data set. 2. Assessment of children's nutritional status from the secondary data set. 3. Determination of nutritional status by BMI and MUAC from the data set (at least 20 subjects). 4. Skinfold measurements: biceps, triceps, medial calf; Estimation of body composition by skinfold thicknesses (the same 20 subjects). (Analysis of the collected data by using basic Statistics: mean, median, mode, standard deviation and standard error).	**PRACTICAL:** 1. Project proposal writing-statement of the problem, hypothesis and objectives, study design, proposed analyses and expected outcomes and utility, Preparation of schedule and questionnaire 2. Calculation of statistical measures as mentioned in Unit V, ANTACOR10T by software. 3. Learning to use a modern library and internet information, net-searching, use of INFLIBNET etc.	12*3
JUN	UNIT III Cultural materialism (Marvin Harris); Symbolic and Interpretative approach: Clifford Geertz's Thick description.	**Unit VI:** Concepts of body composition- brief introduction of models and techniques).	**Unit VI:** Bio-Statistics 1. Nature of data, Quantitative and Qualitative; Discrete and Continuous variables, Tabulation of Data, Frequency distribution, Class interval and Class limit, Cumulative and relative frequencies, Graphical representations, Data distribution: normal and others, z-distriution; measurements of Central tendency (Arithmetic Mean, Median, Mode) and Dispersion (Range, Variance, SD and SE of Mean), test of significance (Chi-square and students' t-test); 2. Correlation, Basic linear regression model.	6*3
	PRACTICAL: 1. Teachers will give them two to five core texts relating to the above-mentioned theories in ANTACOR08T (can be compilation of different texts as well) to be studied. Students will make presentations based on such studies and based on discussion during the presentation and submit a research proposal including the suitable methodology for the work to be taken up.	**PRACTICAL:** 1. Calculation of z–scores of height and weight from a secondary data set. 2. Assessment of children's nutritional status from the secondary data set. 3. Determination of nutritional status by BMI and MUAC from the data set (at least 20 subjects). 4. Skinfold measurements: biceps, triceps, medial calf; Estimation of body composition by skinfold thicknesses (the same 20 subjects). (Analysis	**PRACTICAL:** 1. Project proposal writing-statement of the problem, hypothesis and objectives, study design, proposed analyses and expected outcomes and utility, Preparation of schedule and questionnaire 2. Calculation of statistical measures as mentioned in Unit V, ANTACOR10T by software. 3. Learning to use a modern library and internet information, net-searching, use of INFLIBNET etc.	6*3

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	2. Collect data (field data or secondary data), analyse them and write a report of a minimum of 2000 words).	of the collected data by using basic Statistics: mean, median, mode, standard deviation and standard error).		

General Course

	SEMESTER-III	
Month	**ANTGCOR03T & ANTGCOR03P: Applications of Anthropology**	**Class Teaching hours**
July	**Archaeological anthropology**: Brief idea about cultural resource management, concept of heritage (tangible and intangible), Museums: types and objectives, preservation of cultural heritage of India: different extant organisations operating in India, specific laws and regulations for cultural heritage preservation in India.	12
	PRACTICAL: Anthropometry: (minimum 10 subjects) a) On head and face: i) Maximum head length ii) Maximum head breadth iii) Least frontal breadth iv) Maximum Bizygomatic breadth v) Bigonial breadth vi) Nasal length vii) Nasal breadth viii) Nasal depth ix) Morphological facial height	12
August	**Archaeological anthropology**: Brief idea about cultural resource management, concept of heritage (tangible and intangible), Museums: types and objectives, preservation of cultural heritage of India: different extant organisations operating in India, specific laws and regulations for cultural heritage preservation in India.	12
	PRACTICAL: Anthropometry: (minimum 10 subjects) a) On head and face: i) Maximum head length ii) Maximum head breadth iii) Least frontal breadth iv) Maximum Bizygomatic breadth v) Bigonial breadth vi) Nasal length vii) Nasal breadth viii) Nasal depth ix) Morphological facial height	12
September	**Biological anthropology**: Application of concepts and methods of biological anthropology in human growth and nutrition, health, forensic anthropology, genetic counselling, population biology and population genetics.	12
	PRACTICAL: Anthropometry: (minimum 10 subjects) b) On trunk and limbs i) Height vertex; ii) Sitting height vertex; iii) Hand length; iv) Hand breadth; v) Foot length; vi) Foot breadth; vii) Body weight	12
October	**Biological anthropology**: Application of concepts and methods of biological anthropology in human growth and nutrition, health, forensic anthropology, genetic counselling, population biology and population genetics.	6
	PRACTICAL: Anthropometry: (minimum 10 subjects) b) On trunk and limbs i) Height vertex; ii) Sitting height vertex; iii) Hand length; iv) Hand breadth; v) Foot length; vi) Foot breadth; vii) Body weight	6
November	**Social-cultural anthropology**: Applied, Action and Development Anthropology: definition, meaning, distinct features and historical development. Problems related to land, forest, occupation, education and health of the indigenous communities in India; constitutional safeguards for SC, ST and OBC.	12
	PRACTICAL: Anthropometry: (minimum 10 subjects) c) Indices: i) Cephalic index ii) Nasal index iii) Morphological facial index iv) Jugo-frontal index	12
December	**Social-cultural anthropology**: Applied, Action and Development Anthropology: definition, meaning, distinct features and historical development. Problems related to land, forest, occupation, education and health of the indigenous communities in India; constitutional safeguards for SC, ST and OBC.	6

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	PRACTICAL: Anthropometry: (minimum 10 subjects) c) Indices: i) Cephalic index ii) Nasal index iii) Morphological facial index iv) Jugo-frontal index	6

	SEMESTER-IV	
Month	**ANTGCOR04T & ANTGCOR04P: RESEARCH METHODS**	**Class Teaching hours**
January	Research Design (Introduction) 4. Sampling, tools and techniques of data collection, data analysis and reporting, guiding ideals and critical evaluation of major approaches in research methods	12
	PRACTICAL: Fieldwork (Duration: 5-6 days, excluding journey period) Each student should undertake compulsory field training on any community in any village or locality (tribal or multi caste village). Before proceeding to field work, at-least 10 class hours should be arranged for theoretical preparation and methodological issues on fieldwork.	12
February	Research Design (Introduction) 5. Basic tenets of qualitative research and quantitative research and their relationship Observation - Direct, Indirect, Participant, Non-participant, Controlled Interview - Structured and unstructured, Focused Group Discussion, key informant interview Case Study and life history Genealogy and its application	12
	PRACTICAL: Fieldwork (Duration: 5-6 days, excluding journey period) Each student should undertake compulsory field training on any community in any village or locality (tribal or multi caste village). Before proceeding to field work, at-least 10 class hours should be arranged for theoretical preparation and methodological issues on fieldwork.	12
March	Observation - Direct, Indirect, Participant, Non-participant, Controlled Interview - Structured and unstructured, Focused Group Discussion, key informant interview Case Study and life history Genealogy and its application	6
	PRACTICAL: Fieldwork (Duration: 5-6 days, excluding journey period) Each student should undertake compulsory field training on any community in any village or locality (tribal or multi caste village). Before proceeding to field work, at-least 10 class hours should be arranged for theoretical preparation and methodological issues on fieldwork.	6
April	Statistics for Anthropology 1. Types of variables, presentation and summarization of data (tabulation and illustration)	12
	PRACTICAL: Fieldwork (Duration: 5-6 days, excluding journey period) Each student should undertake compulsory field training on any community in any village or locality (tribal or multi caste village). Before proceeding to field work, at-least 10 class hours should be arranged for theoretical preparation and methodological issues on fieldwork.	12
May	Statistics for Anthropology 2. Descriptive statistics- Measurers of Central Tendency, Measure of Variation, Skewness and Kurtosis, Variance and standard deviation, Normal and binomial distribution	12
	PRACTICAL: Fieldwork (Duration: 5-6 days, excluding journey period) Each student should undertake compulsory field training on any community in any village or locality (tribal or multi caste village). Before proceeding to field work, at-least 10 class hours should be arranged for theoretical preparation and methodological issues on fieldwork.	12
June	Revision and Preparation for Exams	6

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	PRACTICAL: Fieldwork (Duration: 5-6 days, excluding journey period) Each student should undertake compulsory field training on any community in any village or locality (tribal or multi caste village). Before proceeding to field work, at-least 10 class hours should be arranged for theoretical preparation and methodological issues on fieldwork.	6

Skill Enhancement Courses (SEC)

	SEMESTER-III	
Month	**ANTSSEC01M: PUBLIC HEALTH AND EPIDEMIOLOGY**	**Class Teaching hours**
July	**Unit I**: **Principles of Epidemiology in Public Health**: Definitions and scopes of Public Health and Epidemiology; Social-cultural determinants, policies, and practices associated with public health; Cultural, social, behavioural, psychological and economic factors that influence health and illness	5
August	**Unit I**: **Principles of Epidemiology in Public Health**: Definitions and scopes of Public Health and Epidemiology; Social-cultural determinants, policies, and practices associated with public health; Cultural, social, behavioural, psychological and economic factors that influence health and illness	5
September	**Unit II: Health and Culture**: Bio-medical versus naturalistic approaches; limitations of modern health promotion and health care delivery programmes: family planning, child health and nutrition, immunization; Application of concepts of culture in epidemiology and public health, Cultural epidemiology.	5
October	**Unit II: Health and Culture**: Bio-medical versus naturalistic approaches; limitations of modern health promotion and health care delivery programmes: family planning, child health and nutrition, immunization; Application of concepts of culture in epidemiology and public health, Cultural epidemiology.	5
November	**Unit III: Epidemiology of disease:** understanding etiology of communicable and non-communicable diseases: Malaria, STD, HIV/AIDS, Diabetes, Cancer, Cardiovascular diseases, Mental and emotional disorders; determining change in trend over time: prevalence and incidence; implementation of control measures;	5
December	**Unit III: Epidemiology of disease:** understanding etiology of communicable and non-communicable diseases: Malaria, STD, HIV/AIDS, Diabetes, Cancer, Cardiovascular diseases, Mental and emotional disorders; determining change in trend over time: prevalence and incidence; implementation of control measures;	5

	SEMESTER-IV	
Month	**ANTSSEC02M: TOURISM ANTHROPOLOGY**	**Class Teaching hours**
January	**Unit I**: Concept of Tourism Anthropology - aspects and prospects, anthropological issues and theoretical concerns, tourist as ethnographer; pilgrimage and Authenticity Issues	5

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February	**Unit II**: Past and present of tourism anthropology, Interconnections between tourism history and the rise of the socio-cultural study of tourism including temporary migration, colonial exploration, pilgrimage, visiting relatives, imagined and remembered journeys and tourism	5
March	**Unit III**: Implications of tourism as a major mechanism of cross-cultural interaction; tourism and the commodification of culture, culture change, Globalization, Tourism and Terrorism	5
April	**Unit III**: Implications of tourism as a major mechanism of cross-cultural interaction; tourism and the commodification of culture, culture change, Globalization, Tourism and Terrorism	5
May	**Unit IV:** New Directions in the Anthropology of Tourism: applied aspects of anthropology in tourism development and planning, Ecotourism and sustainable development, role of museums and other branches of the cultural industries (including music, art, and food) in tourism economies.	5
June	**Unit IV:** New Directions in the Anthropology of Tourism: applied aspects of anthropology in tourism development and planning, Ecotourism and sustainable development, role of museums and other branches of the cultural industries (including music, art, and food) in tourism economies.	5

PART III
Honours

HONOURS	NUMBER OF LECTURES	JULY-SEPTEMBER	OCTOBER -DECEMBER	TEST EXAMIATION	JANUARY-MARCH	UNIVERSITY FINAL EXAMINATION
PAPER –V (THEORY)	60	**GROUP A:** I (i) Human Genetics, (ii) Methods of Human Genetics; II. Human genetic polymorphism; III. Chromosomal disorder; IV. Population genetics	**GROUP A:** V. Sources of variability; VI. Concept of environment, ecology and adaptation; VII. Human Growth; VIII. Applied Biological Anthropology		**GROUP A:** VIII. Applied Biological Anthropology...contd	
	60	**GROUP B:** Development of Post Pleistocene Cultures: I. Mesolithic Culture; II. Neolithic Culture and Emergence of Village Farming Way of Life	**GROUP B:** Development of Post Pleistocene Cultures: III. Chalcolithic Culture Of India; IV. Beginning of Iron Age & Second Urbanization			
PAPER –VI (THEORY)	60	**GROUP A:** I. Indian Anthropology; II. Tribe; III. Caste System; IV. Social Change	**GROUP A:** V. Theoretical Explanations Of Culture; VI. Tribal Movement in India; VII. Applied Anthropology		**GROUP A:** VII. Applied Anthropology...contd	
	60	**GROUP B:** I. Anthropological Fieldwork; II. Bio-Statistics	**GROUP B:...contd...** I. Anthropological Fieldwork; II. Bio-Statistics			
PAPER –VII (PRACTICAL)	120	I. Anthropometry; II. Dermatoglyphics; III. Blood	IV. Fieldwork: Biological / Physical Anthropology			

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		Grouping; PTC tasting ability, Colour vision test; Karyotyping Methods; Blood Pressure				
PAPER –VIII (PRACTICAL)	120	**GROUP A:** Fieldwork: Archaeological Anthropology;	**GROUP B:** Fieldwork: Social Cultural Anthropology			

PART III
General

GENERAL	NUMBER OF LECTURES	JULY-SEPTEMBER	OCTOBER –DECEMBER	TEST EXAMIATION	JANUARY-MARCH	UNIVERSITY FINAL EXAMINATION
PART III **PAPER – IV GROUP A (THEORY)**	60	A. Biological anthropology: 1. Polymorphic traits in man; 2. Human Growth and development; 3. Health and Nutrition; B. Archaeological anthropology: 1. Prehistoric primitive continuum; 2. Cultural continuity;	C. Social-Cultural Anthropology: 1. Study of material culture and social organization of one hunting-gathering (Birhor), pastoral (Toda), Shifting cultivator (Garo), intensive agriculturist Santal) and artisan tribe (Mahali); 2. Aspects of political system; 3. Aspects of religion; 4. Village Studies; 5. Medical Anthropology			
PAPER – IV GROUP B (PRACTICAL)	60	A. Biological Anthropology: Colour vision test (by Ishihara chart) (minimum 10 subjects) ABO and Rh(D) blood grouping technique (slide method). Blood pressure measurement (using sphygmomanometer) (minimum 10 subjects) Assessment of health and nutritional status based on Body Mass Index, MUAC. B. Prehistory: Evolution of primary tools; C. Social-Cultural Anthropology: Project Work	A. Biological Anthropology: Colour vision test (by Ishihara chart) (minimum 10 subjects) ABO and Rh(D) blood grouping technique (slide method). Blood pressure measurement (using sphygmomanometer) (minimum 10 subjects) Assessment of health and nutritional status based on Body Mass Index, MUAC. B. Prehistory: Evolution of primary tools; C. Social-Cultural Anthropology: Project Work...contd			

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Academic calendar 2019-20

DEPARTMENT OF BENGALI

B.A PART 1 (HONS)

1st SEMESTER

SUBJECT	JULY-AUGUST	AUGUST-SEPTEMBER	SEPTEMBER-OCTOBER	NOVEMBER-DECEMBER
CC 1	অষ্টম থেকে পঞ্চদশ শতাব্দী (চর্যাপদ থেকে শ্রীকৃষ্ণকীর্তন পর্যন্ত)	মঙ্গলকাব্যের ধারা	অনুবাদ সাহিত্যের ধারা	পদাবলী সাহিত্য, চৈতন্য জীবনী সাহিত্য ও ধর্মীয় সাহিত্যের ধারা
CC 2	বৈষ্ণব পদাবলী	শাক্ত পদাবলী	চণ্ডীমঙ্গল	চৈতন্যভাগবত

Part- 2 (hons)

3rd SEMESTER

SUBJECT	JULY-AUGUST	AUGUST-SEPTEMBER	SEPTEMBER-OCTOBER	NOVEMBER-DECEMBER
CC 5	বাংলা অলংকার (শব্দালংকার, অর্থালংকার)	বাংলা অলংকার নির্ণয়	বাংলা ছন্দের সংজ্ঞা, স্বরূপ ও রূপবন্ধ সংক্রান্ত ধারণা	বাংলা ছন্দোলিপি প্রণয়ন
CC 6	বাংলা রঙ্গমঞ্চের ইতিহাস	মধুসূদন দত্ত-কৃষ্ণকুমারী	রবীন্দ্রনাথ ঠাকুর-রাজা	বিজন ভট্টাচার্য-নবান্ন

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CC 7	বঙ্কিমচন্দ্র চট্টোপাধ্যায়-সাম্য	রবীন্দ্রনাথ থাকুর-বিশ্বপরিচয়	প্রমথ চৌধুরী-প্রবন্ধ সংগ্রহ	অবনীন্দ্রনাথ থাকুর-আপন কথা

B.A PART 1

1st Semester

GE 1 (GENERAL ELECTIVE)

UNIT 1	বাংলা সাহিত্যের আদিপর্বে বৌদ্ধধর্ম ও বৌদ্ধ সংস্কৃতি চর্চা এবং বিবর্তনের ইতিহাস	-	-	-
UNIT 2	-	বাংলা সাহিত্যে আর্য-অনার্য সংস্কৃতি ও তার সমন্বয়ের ইতিহাস	-	-
UNIT 3	-	-	মধ্যযুগে বৈষ্ণব – শাক্ত-নাথ সাহিত্য ও সংস্কৃতি চর্চার ইতিহাস	
UNIT 4	-	-	-	অবক্ষয় যুগে বাঙালির কবি-টপ্পা-আখড়াই-

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				হাফ আখড়াই-খেউড় গানের চর্চা ও তার সামাজিক ফলশ্রুতি/অবক্ষয় যুগে বাঙালির সঙ্গীত চর্চার ইতিহাস ও তার সামাজিক ফলশ্রুতি

B.A PART 2

3rd Semester

GE 3 (GENERAL ELECTIVE)

UNIT	JULY-AUGUST	AUGUST-SEPTEMBER	SEPTEMBR-OCTOBER	NOVEMBER-DECEMBER
SUBJECT	জীবনী সাহিত্যের সংজ্ঞা, স্বরূপ ও শ্রেণি সংক্রান্ত ধারণা	ভগিনী নিবেদিতা-স্বামীজীকে যেরূপ দেখিয়াছি	শিবনাথ শাস্ত্রী-আত্মচরিত	সত্যজিৎ রায়-যখন ছোট ছিলাম

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PART-III (HONOURS)

5TH PAPER

বিষয়সূচি	মোট প্রভাষণ সংখ্যা ৩০৪	জুলাই অগাস্ট সেপ্টেম্বর ২১০	অক্টোবর নভেম্বর ডিসেম্বর ১৬৮	জানুয়ারি ফেব্রুয়ারি মার্চ ২৩১	এপ্রিল মে জুন -
কাব্যের রূপভেদ	৩০	১০	৫	১৫	-
বীরাঙ্গনা	৩০	১৫	৫	১০	-
সোনার তরী	৩০	১৫	৫	১০	-
একালের কবিতা সঞ্চায়ন	৩০	১০	৫	১৫	-
কাব্যশৈলী বিচার	৩০	১২	৫	১৩	-

6TH PAPER

পুতুল নাচের ইতিকথা	২৫	৮	৭	১০	-
অরন্যের অধিকার	২৫	১০	৭	৮	-
ছোটগল্প রবীন্দ্রনাথ ঠাকুর	৩০	৮	৭	১৫	-
স্বাধীনতা পূর্ববর্তী ছোটগল্প	৩৭	১৫	৮	১৪	-
স্বাধীনতা পরবর্তী ছোটগল্প	৩৭	১৪	৮	১৫	-

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ACADEMIC CALENDER 2019-20

PART-III (HONOURS)

7TH PAPER

বিষয়সূচি	মোট প্রভাষণ সংখ্যা ৩০৫	জুলাই অগাস্ট সেপ্টেম্বর ২১০	অক্টোবর নভেম্বর ডিসেম্বর ১৬৮	জানুয়ারি ফেব্রুয়ারি মার্চ ২৩১	এপ্রিল মে জুন -
প্রবন্ধ- নিবন্ধের রূপভেদ	২০	১০	৫	৫	-
কমলাকান্তের দপ্তর	২০	৭	৮	৫	-
ছিন্নপত্র	৩০	১০	৫	১৫	-
একালের প্রবন্ধ সঞ্চায়ন	৪০	১০	১৫	১৫	-
একালের সমালোচনা সঞ্চায়ন	৪০	১৫	১০	১৫	-
প্রবন্ধ রচনা	২০	৭	৮	৫	-

8TH PAPER

সংস্কৃত সাহিত্যের ইতিহাস	২০	৮	৭	৫	-
ইংরেজি সাহিত্যের ইতিহাস	২০	৭	৫	৮	-
প্রতিবেশী সাহিত্যের ইতিহাস	৩০	১০	১০	১০	-
কাব্যজিজ্ঞাসা	৩৫	৭	৮	১৫	-
সাহিত্য	৩০	১০	১০	১০	-

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B.A PART 2

MIL

3RD SEMESTER

SUBJECT	JULY-AUGUST	AUGUST-SEPTEMBER	SEPTEMBER-OCTOBER	NOVEMBER-DECEMBER
UNIT 1-4	উনিশ শতকের গদ্য ও সাময়িক পত্রের উদ্ভব এবং ক্রমবিকাশ	কালীপ্রসন্ন সিংহ-হুতোম প্যাঁচার নক্সা	উনিশ শতকের কবি ও কাব্য পরিচ	মধুসূদন দত্ত-চতুর্দ্দশপদী কবিতাবলী

B.A PART 2

SEC 1

CODE BNGSSEC01M

চলচিত্র ও সাহিত্য

SUBJECT	JULY-AUGUST	AUGUST-SEPTEMBER	SEPTEMBER-OCTOBER	NOVEMBER-DECEMBER
UNIT 1	সত্যজিৎ রায় – বিষয় চলচিত্র	-	-	-
UNIT 2	-	ধীমান দাশগুপ্ত-সিনেমার অ আ ক খ	-	-

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DEPARTMENT OF BOTANY

HONOURS/GENERAL CBCS	COURSES	PAPER/ NUMBER OF LECTURES	JULY-SEPTEMBER		OCTOBER -DECEMBER	JANUARY
SEMESTER-I	**CORE-C1**	BOTACOR01 T 60 (THEORY) BOTACOR01 P 30 (PRACTICAL)	UNIT 1:INTRODUCTION TO MICROBIAL WORLD, UNIT 2:VIRUSES, UNIT 3:BACTERIA, UNIT 4: ALGAE: GENERAL ACCOUNT, NO. OF CLASSES= 32 MICROBIOLOGY: 1.VIRUS, 2. BACTERIA. PHYCOLOGY: 1. STUDY OF VEGETATIVE AND REPRODUCTIVE STRUCTURE. NO. OF CLASSES=16	TEST EXAMIATION	UNIT 5: CYANOPHYTA AND XANTHOPHYTA, UNIT 3: CHLOROPHYTA AND CHAROPHYTA, UNIT 7:PHAEOPHYTA AND RHODOPHYTA. NO OF CLASSES=28 MICROBIOLOGY: 1. MEDIUM PREPARATION, STERILIZATION, 4. GRAM STAINING. PHYCOLOGY: 2.PRISM DRAWING AND MEASUREMENT. NO. OF CLASSES=14	UNIVERSITY FINAL EXAMINATION
	CORE-C2	BOTACOR02 T 60 (THEORY) BOTACOR02 P 30 (PRACTICAL)	UNIT 1:BIOMOLUCULES: CARBOHYDRATES, LIPIDS, PROTEINS, NUCLIC ACIDS, UNIT 2:BIOENERGETICS, UNIT 4:THE CELL, UNIT 5: CELL WALL AND PLASMA MEMBRANE NO. OF CLASSES= 32 1. QUALITATIVE TESTS 2. STUDY OF PLANT CELLS, 3. MICROMETRY, 4. CELL COUNTING.NO. OF CLASSES= 16		UNIT 3:ENZYMES, UNIT 6:NUCLEUS, CYTOSKELETON, CHLOROPLAST, MITROCHONDRIAAND PEROXISOME. UNIT 7: CELL DIVISION NO. OF CLASSES= 28 5. STUDY OF CELL ORGANELLES, 6. DNA STAINING, 7MEMBRANE PERMEABILITY TEST, STUDY OF DIFFERENT STAGES OG MITOSIS AND MEIOSIS. NO. OF CLASSES= 14	

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	GE I/DSC 1A	BOTHGEC01 T / BOTGCOR01T-60 (THEORY) BOTHGECO1 P / BOTGCORO1P -30 (PRACTICAL)	UNIT 1:MICROBS, UNIT 2:ALGAE, UNIT 3: FUNGI NO. OF CLASSES=34 1. GRAM STAINING, 2.ALGAE, 3-5FUNGI, 6. LICHEN, 7MYCORRHIZA, 8. MARCHANTIA, NO. OF CLASSES=16		UNIT 4:ARCHEGONIATE, UNIT 5:BRYOPHYTES, UNIT 6:PTERIDOPHYTES, UNIT 7:GYMNOSPERMS. NO. OF CLASSES=26 9. FUNARIA. 10. SELAGINELLA, 11.EQUISETUM, 12. PTERIS, 13. CYCAS, 14. PINUS. NO. OF CLASSES=14	
			JANUARY-MARCH	TEST EXAMINATION	APRIL-JUNE	JULY
SEMESTER-II	**CORE-C3**	BOTACOR03 T 60 (THEORY) BOTACOR03 P 30 (PRACTICAL)	UNIT 1:INTRODUCTION FUNGI, UNIT 2:CHITRIDIOMYCOTA AND ZYGOMYCOTA, UNIT 3:ASCOMYCOTA, UNIT 4: BASIDIOMYCOTA NO. OF CLASSES=32 1. STUDY OF FUNGI, 2. MICROMETRY, 3. RHIZOPUS, 4. ASPERGILLUS AND PENICILLIUM, 5. ASCOBOLLUS, 8. AGARICUS 6. ALTERNARIA, NO. OF CLASSES=16		UNIT 5: ALLIED FUNGI, UNIT 6: OOMYCOTA, UNIT 7: MYCOLOGY, UNIT 9. PHYTOPATHOLOGY. NO. OF CLASSES= 28 7. PUCCINIA, 9. ALBUGO, 10. LICHENS, 11. PHYTOPATHOLOGY: BACTERIAL DEASES, VIRAL DISEASES, FUNGAL DISEASES. NO. OF CLASSES=14	UNIVERSITY FINAL EXAMINATION
	CORE-C4	BOTACOR04 T 60 (THEORY) BOTACOR04 P 30 (PRACTICAL)	UNIT 1: INTRODUCTION ARCHAEGONIATES. UNIT 2: BRYOPHYTES, UNIT 3:TYPES STUDIES-BRYOPHYTES NO. OF CLASSES=32 1. RICCIA, 2.		UNIT 4: PTERIDOPHYTES, UNIT 5: TYPE SYUDIES-PTERIDOPHYTES, UNIT 6: GYMNOSPERMS. NO. OF CLASSES=28 8. EQUISETUM, 9. CYCAS, 11. PINU	

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			MARCHANTIA, 3. ANTHOCEROS, 4. SPHAGNUM, 5. FUNARIA, 6. PSILOTUM, 7. SELAGINELLA NO. OF CLASSES=14		12. GNETUM, 13. BOTANICAL EXCURSION NO. OF CLASSES=16	
	GE 2/DSC1B	BOTHGEC02 T / BOTGCOR02T-60 (THEORY) BOTHGECO2 P / BOTGCOR02P-30 (PRACTICAL)	UNIT 1: ECOLOGY-INTRODUCTION, UNIT 2: ECOLOGICAL FACTORS, UNIT 6: PLANT TAXONOMY-INTRODUCTION, UNIT 7: IDENTIFICATION, UNIT 8: TAXONOMIC EVIDANCES, UNIT 10: BOTANICAL NOMENCLATURE. NO. OF CLASSES=32 1. GRAM STAINING, 2.ALGAE, 3-5FUNGI, 6. LICHEN, 7MYCORRHIZA, 8. MARCHANTIA, NO. OF CLASSES=16		UNIT 3:PLANT COMMUNITIES, UNIT 4:ECOSYSTEM, UNIT 5:PHYTOGEOGRAPHY, UNIT 9:TAXONOMIC HIERARCHY, UNIT 11: CLASSIFICATIO, UNIT 12: NOMENCLATURE. NO. OF CLASSES=26 9. FUNARIA. 10. SELAGINELLA, 11.EQUISETUM, 12. PTERIS, 13. CYCAS, 14. PINUS. NO. OF CLASSES=14	

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HONOURS/GENERAL CBCS	COURSES	PAPER/ NUMBER OF LECTURES	JULY-SEPTEMBER		OCTOBER -DECEMBER	
SEMESTER-III	**CORE-C5**	BOTACOR 05 T 60 (THEORY) BOTACOR 05 P 30 (PRACTICAL)	UNIT 1:INFLORENCE, UNIT 2:FLOWER, UNIT 3:FRUIT AND SEED, UNIT 4: INTRODUNTION TO ANATOMY, UNIT 5:STRUCTURE AND DEVELOPMENT OF PLANT BODYNO. OF CLASSES= 32 1.(a-g) a. Apical meristem, b. Distribution and types of permanent tissue, c. Xylem d. Wood types, e. Phloem, f. Epidermal system, g. Periderm; lenticels; C4 leaves (Kranz anatomy); Secretory tissues: cavities, lithocysts NO. OF CLASSES=16		UNIT 6: TISSUE, UNIT 7:APICAL MERISTEMS, UNIT 8: VASCULAR CAMBIUM AND WOOD, UNIT 9:ADAPTIVE AND PROTECTIVE SYSTEMS . NO. OF CLASSES=16 2. Preparation of permanent slides by double staining: a. Root (monocot – Orchid), dicot (Sunflower); b. Stem (monocot- maize), (dicot – Cucurbita).c. Leaf: (Tube rose, Mango), d. Adaptive anatomy: (Nerium leaf, Nymphaea petiole) NO. OF CLASSES= 16	UNIVERSITY FINAL EXAMINATION
	CORE-C6	BOTACOR 06 T 60 (THEORY) BOTACOR 06 P 30 (PRACTICAL)	UNIT 1: ORIGIN OF CULTIVATED PLANTS, UNIT 2: CEREALS. UNIT 3: LEGUMES,UNIT 4: SOURCES OF SUGARS AND STARCHES, UNIT 5: SPICES, UNIT 6: DRINKSNO. OF CLASSES= 32 1. CEREALS: 2. LEGUMES: 3. SOURCES OF SUGARS AND STARCHES: 4. SPICES: 5. BEVERAGES:6. SOURCES OF OILS AND FATS: NO. OF CLASSES= 16		UNIT 7:SOURCES OF OILS AND FATS, UNIT 8:NATURAL RUBBER, UNIT 9: DRUG YIELDING PLANTS, UNIT: 10 TIMBER PLANTS, UNIT 11: FIBERS NO. OF CLASSES= 28 7. ESSENTIAL OIL-YIELDING PLANTS: 8. RUBBER:9. DRUG-YIELDING PLANTS:10. TOBACCO: 11. WOODS: 12. FIBER-YIELDING PLANTS: NO. OF CLASSES= 14	
	CORE-C7	BOTACOR 07 T 60 (THEORY) BOTACOR 07 P 30 (PRACTICAL)	UNIT 1: MENDELIAN GENETICS AND ITS EXTENSION, UNIT 2: EXTRACHROMOSOMAL INHERITANCE UNIT 3: LINKAGE, CROSSING OVER AND CHROMOSOME MAPPING NO. OF CLASSES= 34 1a. Mitosis (*Allium cepa, Lens esculentus, Aloe vera*). b. Meiosis (*Allium cepa, Rhoeo discolour*). 2. Mendel's laws through seed		UNIT 4: VARIATION IN CHROMOSOME NUMBER AND STRUCTURE, UNIT 5: GENE MUTATIONS,UNIT 6: FINE STRUCTURE OF GENE, UNIT 7. POPULATION AND EVOLUTIONARY GENETICS. NO. OF CLASSES= 26 5. Study of aneuploidy: 6. Photographs and permanent slides showing translocation ring, Laggards and Inversion l	

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			ratios(3:1, 1:1, 9:3:3:1, 1:1:1:1). 3. Chromosome mapping using point test cross data. 4. Incomplete dominance and gene interaction(ratio-9:7, 9:6:1, 13:3, 15:1, 12:3:1, 9:3:4).NO. OF CLASSES= 18		Sticky Bridge, Fragmentation and Pollen mitosis. 7. Study of human genetic traits: Sickle cell anemia, xerodermapigmentosum, albinism, red-green colour blindness, widow's peak, rolling of tongue, Hitchhiker's thumb and attached ear lobe. NO. OF CLASSES= 12	
	GE 3/DSC3	BOTHGEC 03 T / BOTGCOR 03T-60 (THEORY) BOTHGEC O3 P / BOTGCOR O3P -30 (PRACTIC AL)	UNIT 1:MERISTEMIC AND PERMANENT TISSURE, UNIT 2:ORGANS, UNIT 3: SECONDARY GROWTH, UNIT 4: ADAPTIVE AND PROTECTIVE SYSTEM NO. OF CLASSES=34 1. STUDY OF MERISTEMS, 2 STUDY OF PERMANENT TISSUES., 3-5 ANATOMY OF STEM, ROOT, LEAF, 6. ADAPTIVE ANATOMY. NO. OF CLASSES=16		UNIT 5: STRUCTURAL ORGANIZATION OF FLOWER, UNIT 6: POLLINATION AND FERTILIZATION, UNIT 7:EMBRYO AND ENDOSPERM, UNIT: 8 APOMYXIS. NO. OF CLASSES=26 8. STUDY OF OVULES, 9. EGG APPARATUS. 10. PALYNOLOGY, 11.EMBRYOLOGY, 12. STUDY OF POLLEN GERMINATION. NO. OF CLASSES=14	
	SEC1	BOTSSEC0 1M/ BOTSSEC0 1	UNIT 1: PLANT DIVERSITY AND ITS SCOPE,UNIT 2:LOSS OF BIODIVERSITY. NO. OF CLASSES=16		UNIT 3:CONSERVATION OF BIODIVERSITY,UNIT 4: ROLE OF PLANTS IN RELATION TO HUMAN WELFARE. NO. OF CLASSES=14	
			JANUARY-MARCH		APRIL-JUNE	JUL Y
SEMESTER-IV	**CORE-C8**	BOTACOR 08 T 60 (THEORY) BOTACOR 08 P 30 (PRACTIC AL)	UNIT 1: NUCLEIC ACIDS: CARRIERS OF GENETIC INFORMATION, UNIT 2. THE STRUCTURES OF DNA AND RNA / GENETIC MATERIAL,UNIT 3: THE REPLICATION OF DNA UNIT 4: CENTRAL DOGMA AND GENETIC CODE. NO. OF CLASSES=26 1. Preparation of LB medium, 2. DNA isolation from cauliflower head. 3. DNA estimation by diphenylamine reagent/UV Spectrophotometry. 4. Study of DNA		UNIT 5: TRANSCRIPTION, UNIT 6: PROCESSING AND MODIFICATION OF RNA, UNIT 7: TRANSLATION. NO. OF CLASSES= 34 5. Study of structures of prokaryotic RNA polymerase. 6. Photographs establishing nucleic acid as genetic material, 7. Study of assembly of Spliceosome machinery; splicing mechanism in group I & group II introns; ribozyme and alternative splicing. NO. OF CLASSES=14	UNIVERSITY FINAL EXAMINATION

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			replication mechanisms through photograph. NO OF CLASSES=16			
	CORE-C9	BOTACOR 09T 60 (THEORY) BOTACOR 09 P 30 (PRACTICAL)	UNIT 1: INTRODUCTION -ECOLOGY. UNIT 2: SOIL, UNIT 3: WATER, UNIT 4: LIGHT, TEMPERATURE, WIND AND FIRE,UNIT 5: BIOTIC INTERACTIONS,UNIT 6: POPULATION ECOLOGY.NO. OF CLASSES=28 1. Study of microclimatic variables: 2. Determination of pH of various soil and water samples. 3. Analysis for carbonates, chlorides, nitrates, organic matter and base by rapid field tests. 4. Determination of organic carbon of different soil samples. 5. Determination of dissolved oxygen and carbon dioxide of water. 10. Field visit to familiarize students with ecology of different sites. NO. OF CLASSES=20		UNIT 7: PLANT COMMUNITIES, UNIT 8: ECOSYSTEMS, UNIT 9: FUNCTIONAL ASPECTS OF ECOSYSTEM, UNIT 10: PHYTOGEOGRAPHY, NO. OF CLASSES=32 6. (a). Study of anatomical adaptations of hydrophytes and xerophytes. (b). Study of biotic interactions: Stem parasite (*Cuscuta*), Epiphytes (*Vanda* root), Predation (Insectivorous plants). 7. Determination of minimum size of quadrate. 8. Quantitative analysis with Raunkiaer's frequency distribution law. 9. Quantitative analysis for density and abundance. NO OF CLASSES= 10	
	CORE-C10	BOTACOR 10 T 60 (THEORY) BOTACOR 10 P 30 (PRACTICAL)	UNIT 1: SIGNIFICANCE OF PLANT SYSTEMATICS. UNIT 2: TAXONOMIC HIERARCHY: CONCEPT OF TAXA (FAMILY, GENUS, SPECIES); CATEGORIES AND TAXONOMIC HIERARCHY; SPECIES CONCEPT, UNIT 3: BOTANICAL NOMENCLATURE, UNIT 4: SYSTEMS OF CLASSIFICATION. - NO. OF CLASSES=38 1.Study of Anther: 2. Study of Pollen grains: 3. Study of Ovule: NO OF CLASSES= 12		UNIT 5: BIOMETRICS, NUMERICAL TAXONOMY AND CLADISTICS: CHARACTERS; VARIATIONS; OTUS, CHARACTER WEIGHTING AND CODING; CLUSTER ANALYSIS; PHENOGRAMS, CLADOGRAMS). UNIT 6: PHYLOGENY OF ANGIOSPERMS. NO.OF CLASSES=22 4. Study of Female gametophyte through permanent slides/ photographs: 5. Endosperm: 6. Embryogenesis. NO OF CLASSES= 18	
	GE 4/DSC4	BOTHGEC 04 T / BOTGCOR	UNIT 1: PLANT WATER RELATION, UNIT 2: MINERAL NUTRITION, UNIT 3: PHOTOSYNTHESIS, UNIT 4:		UNIT 7:NITROGEN METABILISM, UNIT 8: PLANT GROWTH REGULATORS, UNIT 9:PLANT RESPONSE T	

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		04T- 60 (THEORY) BOTHGEC O4 P / BOTGCOR 04P -30 (PRACTIC AL)	RESPIRATION, UNIT 6: ENZYMES. NO. OF CLASSES=34 1. OSMOTIC POTENTIAL, 2. STUDY OF ENVIRONMENTAL FACTORS ON TRANSPIRATION, 3-STOMATAL INDEX AND STOMATAL FREQUENCY. NO. OF CLASSES=16		TEMPERATURE. NO. OF CLASSES=26 4. STUDY OF CATALASE ACTIVITY. 5. O_2EVOLUTION IN PHOTOSYNTHESIS, 6.RESPIRATION NO. OF CLASSES=14	
	SEC 2	BOTSSEC0 2M/ BOTSSEC0 2	UNIT 1: ETHNOBOTANY, UNIT 2: METHODOLOGY OF ETHNOBOTANICAL STUDIES. NO. OF CLASSES=12		UNIT 3: ROLE OF ETHNOBOTANY IN MODERN MEDICINE, UNIT 4: ETHNOBOTANY AND LEGAL ASPECTS. NO. OF CLASSES=18	

HONOURS	COURSE/NUMBER OF LECTURES	JULY-SEPTEMBER	OCTOBER -DECEMBER	JANUARY-MARCH	T E		U NI
PART -III Paper VII(THEO=100)	**THEORY=80**	PLANT PHYSIOLOGY: PLANT WATER RELATION, TRANSPIRATION MEMBRANE TRANSPORT, PHLOEM TRANSPORT PHOTOSYNTHESIS NO. OF CLASSES=25	PLANT PHYSIOLOGY: RESPIRATION , N_2 METABOLISM GROWTH REGULATORS NO. OF CLASSES=16	PLANT PHYSIOLOGY: PHOTO MORPHOGENESIS 02PHOTOPERIODISM,DORMANCY NO. OF CLASSES=9	TEST EXAMIATION		UNIVERSITY FINAL EXAMINATION
Paper VII		PLANT BIOTECHNOLOGY: PLANT TISSUE CULTURE CULTURE TECHNIQUE MICROPROPAGATION NO. OF CLASSES=10	PHARMACOGNOSY: GENERAL ACCOUNT, SECONDARY METABOLITES IN PLANTS ACTIVE CONSTITUENTS NO. OF CLASSES=15	PLANT BIOTECHNOLOGY: RECOMBINANT DNA TECHNOLOGY GENETIC ENGINEERING NO. OF CLASSES=5			
PART-III **Paper VIII(THEO=100)**	THEORY=80	MICROSCOPY ,ORIGIN & EVOLUTION OF CELLS, CELL MEMBRANE	GENETICS &MOL. BIOLOGY: PLOIDY, CHROMOSOMAL	GENETICS &MOL. BIOLOGY: GENE REGULATION ,GENETIC CC BIOINFO			

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		NUCLEUS & CHROMOSOME CELL CYCLE & ITS REGULATIONS NO. OF CLASSES=20	ABERRATION MUTATION ,DNA REPLICATION & PROTEIN, SYN- THESIS, STRUCTURAL ORGANIZATION OF GENE NO. OF CLASSES=21	NO. OF CLASSES=11			
Paper VIII		GENETICS &MOL. BIOLOGY: INHERITANCE ,LINKAGE, CROSSING OVER &GENE MAPPING NO. OF CLASSES=13		PLANT BREEDING & BIOMETRY: INTRODUCTION , METHODS OF PLANT BREEDING BIOMETRY NO. OF CLASSES=15			
Paper-IX (PRAC=100)	**PRACTICAL=** 25	PLANT PHYSIOLOGY(MAJOR NO. OF CLASSES=6	PLANT PHYSIOLOGY(MJNOR) NO. OF CLASSES=4	PHARMACOGNOSY NO. OF CLASSES=5			
Paper-IX		BIOCHEMISTRY NO. OF CLASSES=4	BIOCHEMISTRY NO. OF CLASSES=4	BIOCHEMISTRY NO. OF CLASSES=2			
Paper-X (PRAC=100)	**PRACTICAL=** 25	Study of mitotic chromosome Study of Mitotic , Index NO. OF CLASSES=10	Study of Meiotic Chromosome Study from, Permanent slides NO. OF CLASSES=8	Biometry Revision NO. OF CLASSES=7			

GENERAL	NUMBER OF LECTURES	JULY-SEPTEMBER	OCTOBER -DECEMBER	JANUARY-MARCH	TEST EXAMIATION	APRIL-JUNE	UNIVERSITY FINAL EXAMINATION
PART-III Paper –IV (THEO=70)	*THEORY=32*	BIOFERTILIZER MUSHROOM PLANT BREEDING *NO. OF CLASSES=15*	BIOMETRY PLANT TISSUE, CULTURE PHARMACOGNOSY *NO. OF CLASSES=15*	RECOMBINANT DNA TECHNOLOGY 8. BIOINFORMATICS *NO. OF CLASSES=7*			
Paper –V (PRAC=30)	**PRACTICAL=** 10	CLASS ASSESSMENT	CLASS ASSESSMENT	CLASS ASSESSMENT			

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DEPARTMENT OF CHEMISTRY

Honours	Month	No of lectures		Topic	
		Theory	Practical	Theory	Practical
Part 1 (Sem 1) **Core T1, Core P1**	July	10	8	Valence Bond Theory, Electronic displacements	Separation based upon solubility
	August	17	16	MO theory, Physical properties of molecules, Reaction Mechanism	Purification of the separated components
	September	11	10	Reactive intermediates, Stereochemistry-Bonding geometries of carbon compounds	Determination of melting pointof the separated components
	October	6	10	Concept of chirality and symmetry	Determination of boiling point of common organic liquid compounds
	November	8	8	Relative and absolute configuration	Identification of a Pure Organic Compound-Solid
	December	8	8	Optical activity of chiral compounds	Identification of a Pure Organic Compound-Liquid
Part 1 (Sem 1) **Core T2, Core P2**	July	11	8	Kinetic Theory of gases, Maxwell distribution of speed and energy	Determination of pH of unknown solution (buffer), by color matching method
	August	16	18	Real gas and virial equation, Zeroth and 1st law of Thermodynamics	Determination of heat of neutralization of a strong acid by a strong base
	September	10	8	Thermochemistry,Second Law of Thermodynamics	Study of kinetics of acid-catalyzed hydrolysis of methyl acetate
	October	7	8	Thermodynamic relations, Rate law, order and molecularity	Study of kinetics of decomposition of H2O2
	November	9	10	Role of temperature and theories of reaction rate	Determination of heat of solution of oxalic acid from solubility measurement
	December	7	8	Homogeneous catalysis	Revision
Part 1 (Sem 2) **Core T3, Core P3**	January	11	10	Extra nuclear Structure of atom	Estimation of carbonate and hydroxide present together in Mixture, Estimation of carbonate and bicarbonate present together in a mixture.
	February	14	14	Quantum numbers and their significance, Ground state Term symbols of atoms and ions for atomic number upto 30	Estimation of free alkali present in different soaps/detergents, Estimation of Fe(II) using standardized KMnO4 solution
	March	13	12	Chemical periodicity	Estimation of oxalic acid and sodium oxalate in a given mixture
	April	10	10	Acid-Base reactions	Estimation of Fe(II) and Fe(III) in a given mixture using $K_2Cr_2O_7$solution, Estimation of Fe(III) and Cu(II) in a mixture using $K_2Cr_2O_7$.
	May	7	8	Redox Reactions	Estimation of Fe(III) and Mn(II) in a mixture usingstandardized $KMnO_4$ solution
	June	5	6	Precipitation reactions	Estimation of Fe(III) and Cr(III) in a mixture using $K_2Cr_2O_7$

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Core T4, Core P4	January	10	12	Chirality arising out of stereoaxis, Concept of prostereoisomerism	Organic Preparationsnoting the yield of the crude product, purification and determination of melting point-Nitration of aromatic compounds, Condensation reactions
	February	15	12	Conformational nomenclature, Reaction thermodynamics,Concept of organic acids and bases	Hydrolysis of amides/imides/esters. Acetylation of phenols/aromatic amines
	March	9	10	Tautomerism, Reaction kinetics	Benzoylation of phenols/aromatic amines, Side chain oxidation of aromatic compounds
	April	11	10	Free-radical substitution reaction	Diazo coupling reactions of aromatic amines, Bromination of anilides using green approach, Redox reaction including solid-phase method
	May	8	10	Nucleophilic substitution reactions	Green 'multi-component-coupling' reaction
	June	7	6	Elimination reactions	Selective reduction of m-dinitrobenzene to m-nitroaniline

HONOURS	NUMBER OF LECTURES	JULY-SEPTEMBER	OCTOBER -DECEMBER	JANUARY-MARCH	TEST EXAMINATION	APRIL-JUNE	UNIVERSITY FINAL EXAMINATION
PART-II PAPER-III	204	CEMAT 23-IA: UNIT-I: CHEMICAL PERIODICITYII=16L CEMAT 23-OA: UNIT-I: SPECTROSCOPY=20L	CEMAT 23-IA:UNIT-I=10L UNIT-II=22L CEMAT 23-OA: UNIT-I=12L UNIT-II=20L	CEMAT 23-IB: UNIT-I=24L UNIT-II=18L CEMAT 23-OB: UNIT-I=22L UNIT-II=20L		CEMAT 23-IB: UNIT-II=08L CEMAT 23-OB: UNIT-II=12L	
PAPER-IV	102	CEMAT 24-PA: UNIT-I: QUANTUM HEMISTRYI =34L	CEMAT 24-PA:UNIT-I=14L UNIT-II: QUANTUM CHEMISTRY IIA ND PHOTOCHEMISTRY=10L	CEMAT 24-PA:UNIT-II=10L CEMAT 24-PB: UNIT-I=16L UNIT-II=10L		CEMAT 12-PB: UNIT-II=08L	
PRACTICAL	192	CEMAP 24-PRA =22PERIODS CEMAP 24-PRB =30 PERIODS	CEMAP 24-PRA =34 PERIODS CEMAP 24-PRB =36 PERIODS	CEMAP 24-PRA = 32PERIODS CEMAP 24-PRB =38PERIODS			

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PART III Paper-V	204	CEMAT 35-IA: UNIT-I: CHEMISTRY OF COORDINATION COMPOUNDS=23L CEMAT 35-AA: UNIT-I: BIOINORGANIC CHEMISTRY=23L	CEMAT 35-IA:UNIT-I=12L UNIT-II: CHEMISTRY OF D AND F BLOCK ELEMENTS=23L CEMAT 35-AA: UNIT-I=12L UNIT-II: MATERIAL CHEMISTRY=23L	CEMAT 35-IB:UNIT-I=19L UNIT-II=22L CEMAT 35-AB: UNIT-I: BIO INORGANIC CHEMISTRY=26L UNIT-II: BIOPHYSICAL CHEMISTRY=21L			

HONOURS	NUMBER OF LECTURES	JULY-SEPTEMBER	OCTOBER -DECEMBER	JANUARY-MARCH	TEST EXAMIATION	APRIL-JUNE	UNIVERSITY FINALEXAMINATION
PAPER-VI	204	CEMAT 36-OA: UNIT-I: PERICYCLIC REACTIONS=19L CEMAT 36-PA: UNIT-I: STATISTICAL THERMODYNAMICS=19L CEMAT 36-PB: PROPERTIES OF SOLID INTERFACE AND DIELECTRICS =27L	CEMAT 36-OA: UNIT-I: POLYNUCLEAR HYDROCARBON=12L UNIT-II: HETERONUCLEAR COMPOUNDS =22L CEMAT 36-PA: UNIT-I=12L UNIT-II: MOLECULAR SPECTROSCOPY=22L	CEMAT 36-OB: UNIT-I: CYCLOHEXANE AND CARBOHYDRATES=27L UNIT-II: AMINO ACIDS, NATURAL PRODUCTS AND ALKALOIDS=22L UNIT-I: UNIT-II: PHASE EQUILIBRIA AND COLLIGATIVE PROPERTIES=22L			
PAPER-VII	72	CEMAP 37-PRA =12 PERIODS CEMAP 37-PRB =12 PERIODS	CEMAP 37-PRA =12 PERIODS CEMAP 37-PRB =12 PERIODS	CEMAP 37-PRA =12 PERIODS CEMAP 37-PRB =12 PERIODS			
PAPER-VIII	108	CEMAP 38-PRA =18 PERIODS CEMAP 38-PRB =16 PERIODS	CEMAP 38-PRA =20 PERIODS CEMAP 38-PRB =18 PERIODS	CEMAP 38-PRA =16 PERIODS CEMAP 38-PRB =20 PERIODS			

DEPARTMENT OF CHEMISTRY

General	**Month**	**No of lectures**		**Topic**	
		Theory	**Practical**	**Theory**	**Practical**
Semester 1 DSC 2A, DSC 2A Lab	July	10	8	Atomic Structure: Review of: Bohr's theory and its limitations, dual behaviour of matter and radiation, de Broglie's relation, Physical Effects, Electronic Displacements in organic molecule	Estimation of sodium carbonate and sodium hydrogen carbonate present in a mixture, Detection of extra elements (N, S, Cl, Br, I) in organic compounds
	August	17	16	Heisenberg Uncertainty principle.	Estimation of oxalic acid by titrating it with

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				Hydrogen atom spectra, Rules for filling electrons in various orbitals, Structure, shape and reactivity of organic molecules	$KMnO_4$, Detection of extra elements (N, S, Cl, Br, I) in organic compounds
	September	11	10	Ionic Bonding and Covalent bonding, Strength of organic acids and bases	Estimation of water of crystallization in Mohr salt by titrating with $KMnO_4$, Separation of mixtures of amino acids by Chromatography
	October	6	10	Concept of resonance and resonating structures in various inorganic and organic compounds, Stereochemistry	Estimation of Fe (II) ions by titrating it with $K_2Cr_2O_7$ using internal indicator, Separation of mixtures of amino acids by Chromatography
	November	8	8	Alkanes, Alkenes, Alkynes	Estimation of Cu (II) ions iodometrically using $Na_2S_2O_3$, Separation of mixtures of sugarby Chromatography
	December	8	8	Alkanes, Alkenes, Alkynes	Separation of mixtures of sugar by Chromatography
Semester 2 **DSC 2B, DSC 2B Lab**	January	11	12	Review of thermodynamics and the Laws of Thermodynamics	Determination of heat capacity of calorimeter for different volumes, Purification of organic compounds by crystallization and distillation.
	February	14	12	Chemical Equilibrium, Aromatic hydrocarbons- preparations and reactions	Determination of enthalpy of neutralization of hydrochloric acid with sodium hydroxide, Determination of melting and boiling points of organic compounds
	March	13	10	Ionic Equilibria	Determination of enthalpy of ionization of acetic acid, Determination of integral enthalpy of solution of salts, Preparations:Bromination of Phenol/Aniline
	April	10	10	Alkyl and Aryl Halides- preparations and reactions	Determination of enthalpy of hydration of copper sulphate, Preparations:Benzoylation of amines/phenols
	May	7	10	Alcohols and Phenols- preparations and reactions	Measurement of pH of different solutions, Preparations:Oxime and 2,4-dinitrophenylhydrazone of aldehyde/ketone
	June	5	6	Ethers, Aldehydes and ketones- preparations and reactions	Preparation of buffer solutions

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GENERAL	NUMBER OF LECTURES	JULY-SEPTEMBER	OCTOBER -DECEMBER	JANUARY-MARCH		APRIL-JUNE	
PART -II PAPER-II	192	CEMGT22 A: UNITI: BASIC PHYSICAL CHEMISTRYIII (A) SECOND LAW OF THERMODYNAMICS=20L (B) CHEMICAL EQUILIBRIUM = 4L UNIT II: BASIC PHYSICAL CHEMISTRY IV: (A) CHEMICAL KINETICS=22L	CEMGT 22A: UNITI: (C) PHASE EQUILIBRIUM=4L CEMGT 22A: UNIT II: PHOTOCHEMISTRY=8L CEMGT 22B: UNIT I: ACID-BASES AND SOLVENTS=16L SOLUTION OF ELECTROLYTES =12L ELECTRODE POTENTIAL=08L	CEMGT 22B: UNIT-II : COLLIGATIVE PROPERTIES OF SOLUTION=14L COLLOIDS=4L CEMGT 22C: UNIT-I : BASIC ORGANIC CHEMISTRYIIIALDEHYDES AND KETONES=22L UNIT II: CARBOXYLIC ACIDS AND THEIR DERIVATIVES=8L	TEST EXAMIATION	CEMGT 22CUNIT I : CARBOHYDRATES=10L UNIT –II: (A)PHENOLS=10L (B) NITROGEN CONTAINING COMPOUNDS=4L (C) AMINO ACIDS AND PROTEINS=10L CEMGT 22D UNITI: COORDINATION COMPOUNDS=6L (B)PREPARATION OF COMPOUNDS=4L UNIT-II: COMPARATIVE CHEMISTRY=6L	UNIVERSITY FINALEXAMINATION

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DEPARTMENT OF CHEMISTRY

GENERAL	NUMBER OF LECTURES	JULY-SEPTEMBER	OCTOBER -DECEMBER	JANUARY-MARCH	TEST EXAMIATION	APRIL-JUNE	UNIVERSITY FINALEXAMINATION
PART -II PAPER-III	102 (PRACTICAL)	CEMGP 23 A: ORGANIC PRACTICAL =14 PERIODS CEMGP 23 B : INORGANIC PRACTICAL = 16 PERIODS	CEMGP 23 A =16 PERIODS CEMGP 23 B = 18 PERIODS	CEMGP 23 A = 20 PERIODS CEMGP 23B=18 PERIODS			
PART -III **PAPER-IV** (CEMGT 34 A,34 B, 34 C) (THEORY)	144	CEMGT 34 A: UNIT-I CHEMICAL ANALYSIS =22L UNIT-II: VOLUMETRIC ANALYSIS=26L	CEMGT 34 B UNIT-I : INDUSTRIAL CHEMISTRY I=24L CEMGT34B UNIT- II: INDUSTRIAL CHEMISTRY II=24 L	CEMGT 34 C UNIT-I: ENVIRONMENTAL CHEMISTRY=16L UNIT-II: INDUSTRIAL CHEMISTRY III=20L		CEMGT 34 C UNIT I=6L UNIT II=6L	
CEMGP 34D(PRACTICAL)	44	CEMGP 34 D =12 PERIODS	CEMGP 34 D =18 PERIODS	CEMGP 34D=14 PERIODS			

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DEPARTMENT OF COMPUTER SCIENCE

HONOURS	NUMBER OF LECTURES	JULY-SEPTEMBER	OCTOBER -DECEMBER	JANUARY-MARCH	APRIL-JUNE
SEMESTER I CMSACOR01 T	**60**	SECTION 1,2,3,4,5,6,7,8 NO. OF CLASSES=37	SECTION 8,9,10,11 NO. OF CLASSES=23		
SEMESTER I CMSACOR01P	**60**	SOFTWARE LABORATORY NO. OF CLASSES=36	SOFTWARE LABORATORY NO. OF CLASSES=24		
SEMESTER I CMSACOR02 T	**60**	SECTION 1,2,3,4 NO. OF CLASSES=37	SECTION 4,5,6 NO. OF CLASSES=23		
SEMESTER I CMSACOR02 T	**60**	COMPUTER SYSTEM ARCHITECTURE LABORATORY NO. OF CLASSES=36	COMPUTER SYSTEM ARCHITECTURE LABORATORY NO. OF CLASSES=24		
GENERAL	**NUMBER OF LECTURES**	**JULY-SEPTEMBER**	**OCTOBER -DECEMBER**		
SEMESTER I CMSGCOR01 T	**60**	COMPUTER FUNDMENTALS, PLANNING THE COMPUTER PROGRAM, TECHNIQUES OF PROBLEM SOLVING, OVERVIEW OF PROGRAMMING, INTRODUCTION TO PYTHON, CREATING PYTHON PROGRAMS NO. OF CLASSES=37	CREATING PYTHON PROGRAMS, STRUCTURES, INTRODUCTION TO ADVANCED PYTHON NO. OF CLASSES=23		
SEMESTER I CMSGCOR01 P	**60**	SOFTWARE LABORATORY NO. OF CLASSES=36	SOFTWARE LABORATORY NO. OF CLASSES=24		

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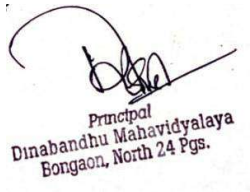
HONOURS	NUMBER OF LECTURES	JULY-SEPTEMBER	OCTOBER -DECEMBER	JANUARY-MARCH	APRIL-JUNE
SEMESTER II CMSACOR03 T	**60**			SECTION 1,2,3,4 NO. OF CLASSES=26	SECTION 4,5,6 NO. OF CLASSES=34
SEMESTER II CMSACOR03P	**60**			SOFTWARE LABORATORY NO. OF CLASSES=28	SOFTWARE LABORATORY NO. OF CLASSES=32
SEMESTER II CMSACOR04 T	**90**			SECTION 1,2,3 NO. OF CLASSES=38 (32L + 6T)	SECTION 3,4,5 NO. OF CLASSES=52 (43L + 9T)
GENERAL	**NUMBER OF LECTURES**	**JULY-SEPTEMBER**	**OCTOBER -DECEMBER**	JANUARY-MARCH	APRIL-JUNE
SEMESTER II CMSGCOR02 T	**60**			INTRODUCTION TO DBMS, ENTITY RELATIONSHIP AND ENHANCED ER MODELLING, RELATIONAL DATA MODEL NO. OF CLASSES=26	RELATIONAL DATA MODEL, DATABASE DESIGN NO. OF CLASSES=34
SEMESTER II CMSGCOR02 P	**60**			SOFTWARE LABORATORY NO. OF CLASSES=28	SOFTWARE LABORATORY NO. OF CLASSES=32



HONOURS	NUMBER OF LECTURES	JULY-SEPTEMBER	OCTOBER -DECEMBER	JANUARY-MARCH	APRIL-JUNE
SEMESTER III CMSACOR05 T	**60**	SECTION 1,2,3,4,5,6 NO. OF CLASSES=37	SECTION 6,7,8 NO. OF CLASSES=23		
SEMESTER III CMSACOR05P	**60**	DATA STRUCTURE LABORATORY NO. OF CLASSES=36	DATA STRUCTURE LABORATORY NO. OF CLASSES=24		
SEMESTER III CMSACOR06 T	**60**	SECTION 1,2,3,4 NO. OF CLASSES=37	SECTION 4,5,6 NO. OF CLASSES=23		
SEMESTER III CMSACOR06P	**60**	OPERATING SYSTEM LABORATORY NO. OF CLASSES=36	OPERATING SYSTEM LABORATORY NO. OF CLASSES=24		
SEMESTER III CMSACOR07 T	**60**	SECTION 1,2,3,4 NO. OF CLASSES=37	SECTION 5,6,7,8 NO. OF CLASSES=23		
SEMESTER III CMSACOR07P	**60**	COMPUTER NETWORK LABORATORY NO. OF CLASSES=36	COMPUTER NETWORK LABORATORY NO. OF CLASSES=24		
SEMESTER III CMSSSEC01M	**15T + 30P**	PLANNING THE COMPUTER PROGRAM, TECHNIQUES OF PROBLEM SOLVING, OVERVIEW OF	CREATING PYTHON PROGRAMS NO. OF CLASSES=03		

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		PROGRAMMING, INTRODUCTION TO PYTHON NO. OF CLASSES=12			
		PYTHON LABORATORY NO. OF CLASSES=16	PYTHON LABORATORY NO. OF CLASSES=14		
GENERAL	**NUMBER OF LECTURES**	**JULY-SEPTEMBER**	**OCTOBER -DECEMBER**		
SEMESTER III CMSGCOR03T	**60**	STSTEM INTRODUCTION, TYPES OF OPERATING SYSTEM, OPERATING SYSTEM ORGANIZATION, PROCESS MANAGEMENT, SCHEDULING NO. OF CLASSES=37	SCHEDULING, MEMORY MANAGEMENT, SHELL INTRODUCTION AND SHELL SCRIPTING NO. OF CLASSES=23		
SEMESTER III CMSGCOR03P	**60**	OPERATING SYSTEM LABORATORY NO. OF CLASSES=36	OPERATING SYSTEM LABORATORY NO. OF CLASSES=24		
SEMESTER III CMSSSEC01M	**15T + 30P**	PLANNING THE COMPUTER PROGRAM, TECHNIQUES OF PROBLEM SOLVING, OVERVIEW OF PROGRAMMING, INTRODUCTION TO PYTHON NO. OF CLASSES=12	CREATING PYTHON PROGRAMS NO. OF CLASSES=03		
		PYTHON LABORATORY NO. OF CLASSES=16	PYTHON LABORATORY NO. OF CLASSES=14		

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HONOURS	NUMBER OF LECTURES	JULY-SEPTEMBER	OCTOBER -DECEMBER	JANUARY-MARCH	APRIL-JUNE
SEMESTER IV CMSACOR08 T	**60**			SECTION 1,2,3 NO. OF CLASSES=26	SECTION 3,4,5,6,7,8 NO. OF CLASSES=34
SEMESTER IV CMSACOR08P	**60**			DESIGN AND ANALYSIS OF ALGORITHM LABORATORY NO. OF CLASSES=28	DESIGN AND ANALYSIS OF ALGORITHM LABORATORY NO. OF CLASSES=32
SEMESTER IV CMSACOR09 T	**60**			SECTION 1,2,3 NO. OF CLASSES=26	SECTION 4,5,6,7 NO. OF CLASSES=34
SEMESTER IV CMSACOR09P	**60**			LABORATORY NO. OF CLASSES=28	LABORATORY NO. OF CLASSES=32
SEMESTER IV CMSACOR10 T	**60**			SECTION 1,2,3 NO. OF CLASSES=26	SECTION 3,4,5,6 NO. OF CLASSES=34
SEMESTER IV CMSACOR10P	**60**			LABORATORY NO. OF CLASSES=28	LABORATORY NO. OF CLASSES=32
SEMESTER IV CMSSSEC02M	**15T + 30P**			SECTION 1,2 NO. OF CLASSES=12	SECTION 3 NO. OF CLASSES=03

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				LABORATORY NO. OF CLASSES=16	LABORATORY NO. OF CLASSES=14
GENERAL	**NUMBER OF LECTURES**	**JULY-SEPTEMBER**	**OCTOBER -DECEMBER**	JANUARY-MARCH	APRIL-JUNE
SEMESTER IV CMSGCOR04T	**60**			INTRODUCTION , DATA REPRESENTATION AND BASIC COMPUTER ARITHMETIC, BASIC COMPUTER ORGANIZATION AND DESIGN NO. OF CLASSES=26	BASIC COMPUTER ORGANIZATION AND DESIGN, CENTRAL PROCESSING UNIT, PROGRAMMING THE BASIC COMPUTER, INPUT OUTPUT ORGANIZATION NO. OF CLASSES=34
SEMESTER IV CMSGCOR04P **SEMESTER IV CMSSSEC02M**	**60** **15T + 30P**			COMPUTER SYSTEM ARCHITECTURE LABORATORY NO. OF CLASSES=28 SECTION 1,2 NO. OF CLASSES=12 LABORATORY NO. OF CLASSES=16	COMPUTER SYSTEM ARCHITECTURE LABORATORY NO. OF CLASSES=32 SECTION 3 NO. OF CLASSES=03 LABORATORY NO. OF CLASSES=14

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HONOURS	NUMBER OF LECTURES	JULY-SEPTEMBER	OCTOBER -DECEMBER	JANUARY-MARCH	TEST EXAMIATION	APRIL-JUNE	UNIVERSITY FINAL EXAMINATION
PART III PAPER –V THEORY (100)	**THEORY 150**	GROUP-A NO. OF CLASSES=35	GROUP-A NO. OF CLASSES=35	GROUP-A NO. OF CLASSES=20			
		GROUP-B NO. OF CLASSES=25	GROUP-B NO. OF CLASSES=15	EXTRA CLASSES – REVISION AND TUTORIALS			
		GROUP-C NO. OF CLASSES=15	GROUP-C NO. OF CLASSES=15				
PART III PAPER –VI THEORY (100)	**THEORY 150**	GROUP-A NO. OF CLASSES=30	GROUP-B NO. OF CLASSES=30	EXTRA CLASSES – REVISION AND TUTORIALS			
		GROUP-C NO. OF CLASSES=10	GROUP-C NO. OF CLASSES=20				
		GROUP-D NO. OF CLASSES=15	GROUP-D NO. OF CLASSES=15	GROUP-D NO. OF CLASSES=30			
PART III PAPER –VII PRACTICAL (100)	**PRACTICAL 150**	GROUP-A NO. OF CLASSES=30	GROUP-A NO. OF CLASSES=30	GROUP-A NO. OF CLASSES=15			
		GROUP-B NO. OF CLASSES=30	GROUP-B NO. OF CLASSES=30	GROUP-B NO. OF CLASSES=15			

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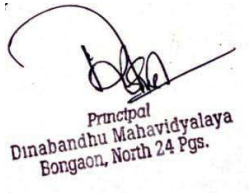
HONOURS	NUMBER OF LECTURES	JULY-SEPTEMBER	OCTOBER -DECEMBER	JANUARY-MARCH	APRIL-JUNE
PART III PAPER – VIII PRACTICAL (100)	**PRACTICAL 150**	GROUP-A NO. OF CLASSES=25	GROUP-A NO. OF CLASSES=25		
		GROUP-B NO. OF CLASSES=25	GROUP-B NO. OF CLASSES=25		
		GROUP-C NO. OF CLASSES=10	GROUP-C NO. OF CLASSES=25	GROUP-C NO. OF CLASSES=15	
		SECTION 2 NO. OF CLASSES= 15	SECTION 2 NO. OF CLASSES= 15	SECTION 2 NO. OF CLASSES= 15	SECTION 2 NO. OF CLASSES= 15



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GENERAL	NUMBER OF LECTURES	JULY-SEPTEMBER	OCTOBER -DECEMBER	JANUARY-MARCH	TEST EXAMIATION	APRIL-JUNE	UNIVERSITY FINAL EXAMINATION
PART III PAPER-IVA (THEO=50)	**THEORY= 80**	COMMUNICATION AND COMPUTER NETWORK[1ST HALF] NO. OF CLASSES= TH 40	COMMUNICATION AND COMPUTER NETWORK[2ND HALF] NO. OF CLASSES= TH 25	COMMUNICATION AND COMPUTER NETWORK[3RD HALF] NO. OF CLASSES= TH 25			
PAPER-IVB [PRAC=50)	**THEORY= 24 PRACTICAL120**	GROUP-B1 SHELL PROGRAMMING[1ST HALF] NO. OF CLASSES= TH 8, PRAC.40	GROUP-B1 SHELL PROGRAMMING[2ND HALF] NO. OF CLASSES= TH 2, PRAC.30	GROUP-B2 PROGRAMMING IN GUI ENVIRONMENT [3RD HALF] NO. OF CLASSES= TH 2, PRAC.10		EXTRA CLASSES – REVISION AND TUTORIALS	
		GROUP-B2 PROGRAMMING IN GUI ENVIRONMENT[1ST HALF] NO. OF CLASSES= TH 8, PRAC.20	GROUP-B2 PROGRAMMING IN GUI ENVIRONMENT[2ND HALF] NO. OF CLASSES= TH 4, PRAC.20				

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PO: BONGAON
DEPARTMENT OF EDUCATION
ACADEMIC CALENDAR (2019-2020)

		SEMESTER-I				
Month	**No. of Teaching days available**	**Honours Course**		**General Course**	**Class teaching in hours of each core**	**Tutorial In hours**
		EDCACOR01T Marks:50+25=75	**EDCACOR02T Marks:50+25=75**	**EDCGCOR01T Marks:50+25=75**		
July,19	**26**	**EDUCATIONAL PHILOSOPHY** **Unit1:**Concept and Scope of Education i)Concept and scope of education ii)Concept of different forms of education iii) Functions of Education	**EDUCATIONAL PSYCHOLOGY** **Unit -1 :** Introduction to Educational Psychology i) Introduction to Educational Psychology ii)Introduction to neuro-physiological bases of human behaviour	**PHILOSOPHICAL FOUNDATION OF EDUCATION** **Unit-1:** Concept and Scope of Education i) Concept and Scope of Education	Hons-22 Gen-16	Hons-4
August,19	**24**	**Unit- 2:**Philosophical Bases of Education i)Philosophy in Education ii)Western Philosophical Thoughts iii) Indian Philosophical Thoughts	**Unit -2** : Psychology of Human Development and Education i)Human Development ii)Cognitive Development (Piaget) iii)Moral Development (Kohlerberg) iv)Psycho-social Development (Erickson) v)Personality	**Unit-1** ii) Factors of Education	Hons-22 Gen-16	Hons-4
September,19	**22**	**Unit-3:**National Values and role of Education i)Values enshrined in the Indian Constitution	**Unit -3:**Intelligence and Creativity i) Intelligence- Concept and Scope ii)Theories of Intelligence Guilford, Gardener and Sternberg iii)Creativity Concept, scope and characteristics of a creative person.	**Unit:2:** Forms and aims of Education i)Informal, Formal and Non formal and open education	Hons-18 Gen-12	Hons-4

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October,19	**03**	**Unit -3** ii)Educational Provisions in the Indian Constitution	**Unit -3:** iv)Relationship between intelligence, creativity and education	Unit 3: Great Educators i)R N Tagore	Hons-03 Gen-02	
November,19	**24**	**Unit -4**: Contributions of great educators on Philosophy of educations i)R N Tagore ii)Swami Vivekananda	**Unit 4:**Psychology of Learning i) Learning- Concept and Scope ii) Factors influencing learning iii) Theories of learning: Pavlov, Skinner	Unit-3 ii)R N Tagore	Hons-20 Gen-16	Hons-4
December,19	**20**	**Unit 4:** iii)John Dewey iv)Bertrand Russell	**Unit 4:** **i)** Theories of learning- Bandura and Vygotsky	Unit-3 ii)FWA Froebel	Hons-14 Gen-06	Hons-4

		SEMESTER-II				
Month	**No. of Teaching days available**	**Honours Course**		**General Course**	**Class teaching in hours of each core**	**Tutorial In hours**
		EDCACOR03T **Marks:50+25=75**	**EDCACOR04T** **Marks:50+25=75**	**EDCGCOR02T** **Marks:50+25=75**		

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January'19	**21**	**Educational Sociology:** **Unit-1:** Introduction to Educational Sociology i)Educational Sociology- Concept, scope ii)Relation between education and sociology	**Pedagogy** **Unit-1 :**Introduction to Pedagogy i)Pedagogy- Concept, scope	**Psychological Foundation of Education** Introduction to Educational Psychology i)Relationship between Psychology and Education ii) Educational Psychology- Concept, nature of Educational Psychology and contribution of Educational Psychology	Hons-17 Gen-14	Hons-4
February,19	**20**	**Unit-1:** ii)Education as social process Unit-2:Culture and Education i)Culture- concept, interrelationship between education and culture, importance of folk culture in education ii) The concept of unity and diversity .	**Unit-1:** ii)Bases of pedagogy iii)Pedagogy vs Andragogy Unit-2:Pedagogy as the Science of Teaching i)Teaching ii)Teaching as process iii) Levels of Teaching	Psychology of Human Development and Education i)Human Development ii)Concept of Physical, Motor, Cognitive, Moral development and its significance in education	Hons-16 Gen-14	Hons-4
March,19	**24**	**Unit-3:**Education and Social Development i)Social development in India ii)Education for sustainable development	**Unit -3 :** Pedagogy of teaching-learning i) Teaching –learning of 3 R's ii) Teaching –learning of verbal conditioning iii) Teaching –learning of psychomotor skill	**Unit 3**:Attention and Memory i)Concept, nature and determinants of Attention	Hons-20 Gen-16	Hons-4
April,19	**24**	**Unit-4 :** Social Issues and education i)Education for poverty eradication	**Unit-4 :** Application of pedagogy in classroom i)Teaching- learning of principles and concepts	**Unit 3:** Attention and Memory ii)Concept and process of Memorisation, causes of forgettings	Hons-20 Gen-16	Hons-4

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May,19	**22**	**Unit-4** ii)Inclusive Education	**Unit- 4 :** ii)Teaching-learning of problem solving	**Unit- 4 :** Personality and Education a.Personality-Concept b.MMPI	Hons-18 Gen-10	Hons-4
June,19	**24**	**Unit-4** iii)Child rights and abuses	**Unit-4** iii)Teaching-learning of knowledge construction	**Unit- 4 :** Personality and Education c.Psychoanalytic theory	Hons-10 Gen-02	

SEMESTER-III								
Month	**No. of Teaching days available**	**Honours Course**			**General Course**	**SEC I** **Both Hons & Gen**	**Class teaching in hours of each core**	**Tutorial In hours**
		EDCACOR05T **Marks:50+25=75**	**EDCACOR06T** **Marks:50+25=75**	**EDCACOR07T** **&** **EDCACOR07P** **Marks:50Th+25Pr=75**	**EDCGCOR03T/EDCHGE03T** **Marks:50+25=75**	**EDCSSEC01M** **Marks:15+10=25**		
July,19	**26**	**EDUCATION IN PRE-INDEPENDENCE INDIA** **Unit1:**Development of Education in Ancient & Medieval India a.Aims of education b.Curriculum & methods of teaching c.Centres of learning	**EDUCATION IN POST-INDEPENDENCE INDIA** **Unit -1 :** Development of Education from1947-1953	**CONTEMPORARY ISSUES** **Unit -1 :** Traditional Issues	**DEVELOPMENT OF EDUCATIONAL POLICIES SINCE INDEPENDENCE** **Unit1:**Development of Education from 1813 to 1947 a.Charter Act, 1813 b.Wood's Despatch, 1854	**DEVELOPMENTAL SKILL FOR SOCIAL AWAWRENESS** **Unit-1:**Social Awareness-Basic Concept a.Meanning and nature of social awareness	Hons-22 Gen-16 SECI-08	Hons-4

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August,19	**24**	**Unit- 2:**Development of Education under East India Company a.Charter Act, 1813 b.Macaulay Minute c.Bengal Renaissance d.Contribution of Rammohan,Derozio,Vidyasagar	**Unit -2: :** Development of Education from1964-1968	**Unit -2:** Social Issues	**Unit1:**Development of Education from 1813 to 1947 c.Hunter Commission **Unit2:**Development of Education from 1947 to1970 a.UEC,1948-49 b.SEC,1952-53	**Unit-1:** b.Need and Types of social awareness programme	Hons-20 Gen-16 SECI-06	Hons-4
September,19	**22**	**Unit-3:**Development of Education under British rule a. Wood's Despatch, 1854 b.Hunter Commission	**Unit -2:** Development of Education from1964-1968 **Unit -3:** Development of Education from1986-1992	**Unit -3:**Educational Issues	**Unit2:**Development of Education from 1947 to1970 c. Indian Education Commission,1964-66	**Unit2:**Planning of Social Awareness Programme a.Planning and execution of social awareness programme	Hons-20 Gen-12 SEC-6	Hons-4
October,19	**03**	**Unit -3:** Development of Education under British rule c.Curzon Policy	**Unit -3:** Development of Education from1986-1992	**Unit -4:** Current Issues	**Unit3:**Development of Education from 1970 to 2000 a.NPE 1986 b.PWD Act,1995	**Unit2:**Planning of Social Awareness Programme b.Relationship among IQ,EQ and Social awareness	Hons-03 Gen-03 SEC-1	

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November,19	**24**	**Unit -4:** Development of education from 1917-1947 a.Calcutta University Commission (1917-1919)	**Unit 4:**Development of education from1993 onwards	**Unit -4:** Current Issues	**Unit3:**Development of Education from 1970 to 2000 c. NEP,2000	**Unit2:**Planning of Social Awareness Programme b.Relationship among IQ,EQ and Social awareness	Hons-20 Gen-16 SEC-6	Hons-4
December,19	**20**	**Unit 4: :** Development of education from 1917-1947 b.Basic Education Policy	**Unit 4:** Development of education from1993 onwards	**EDCACOR07PR FIELD TOUR AND REPORT WRITING**	**Unit:**Development of Education from 2000 to 2016 a.ssm b. rusa c.NPE,2016(Pre-primary stage only)	**Unit3:**Skill Development in Social Awareness a.Organisation and Participation in Social Awareness Programme	Hons-14 Gen-08 SEC-1-5	Hons-4

SEMESTER-IV								
Month	**No. of Teaching days available**	**Honours Course**			**General Course**	**SEC II Both Hons & Gen**	**Class teaching in hours of each core**	**Tutorial In hours**
		EDCACOR08T Marks:50+25=75	**EDCACOR09T Marks:50+25=75**	**EDCACOR0T & EDCACOR10P Marks:50Th+25Pr=75**	**EDCGCOR04T/EDCHGE04T Marks:50+25=75**	**EDCSSEC02M Marks:15+10=25**		

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January,2020	**21**	**EDUCATIONAL MANAGEMENT** **Unit1:**Educational Management a.Concept,nature, need and scope b.Types of Educational Management c.Superivision and Inspection	**BASICS OF EDUCATIONALRESEACH AND EVALUATION** **Unit -1 :** Preliminary Concepts on Research Methodology a.Research- concept, nature and need b.Types of Research	**STATISTICS IN EDUCATION** **Unit -1Th :** Statistics –Basic Concept(T) a.Concept,scope and uses b.Organisation and tabulation of data c.Graphical Representation of data **Unit -1Pr:** Statistics in Education a.Introduction to data b.Collection of data for an achievement test	**EVALUATION IN EDUCATION** **Unit1:**Evaluation a.Concept,principle,types and importance b.Comparison between measurement and evaluation	**DEVELOPMENT OF OBSERVATIONALS KILLS** **Unit-1:**Observation-Basic Concept a.Meanning, nature and characteristics b.Classification, advantages and disadvantages of obsevation	Hons-17 Gen-16 SECI-07	Hons-4
February,2020	**20**	**Unit1:**Educational Management c.Superivision and Inspection **Unit- 2:**Leadership and Management a.Concept,scope,significance and characteristics b.Total Quality in educational management	**Unit -1: Unit -1 :** Preliminary Concepts on Research Methodology c.Research related terminologies **Unit2:** Sampling and Hypothesis a.Sampling-Meaning and nature b.Types of Sampling	**Unit -2Th:** Descriptive Statistics a.Measures of central tendency-concept,properties,uses, calculation **Unit -2 Pr:**Data Analyses by excel/software and manual both(Measures of central tendency)	**Unit2:**Tools of Evaluation a.questionnaire, Interview,Observation & CRC	**Unit-1:** Observation-Basic Concept b.Classification, advantages and disadvantages of obsevation **Unit2:**Planning of Social Awareness Programme a.Planning &Execution	Hons-16 Gen-14 SECI-06	Hons-4

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March,2020	**24**	**Unit-3:**Agencies of Educational Management a.MHRD b.Agencies of Education-UGC,NCERT	**Unit2:** Sampling and Hypothesis c.Research hypothesis **Unit -3:** Evaluation and Measurement a. Evaluation- Concept b.Meseasurement-Nature,characteristics,difference between evaluation and measurement	**Unit -2Th:** Descriptive Statistics b.Measures of variability-concept,types ,uses, calculation of SD,QD,variance **Unit -2 Pr:**Data Analyses by excel/software and manual both(Range, SD,QD	**Unit2:**Tools of Evaluation b.Comparision between evaluation and examination **Unit -3:** Educational Tests a.Concept b.Difference between educational and psychological tests	b.Recording and interpretation of observed data	Hons-20 Gen-16 SEC-06	Hons-4
April,2020	**24**	**Unit -3: Unit-3:**Agencies of Educational Management-SCERT,WBSCHE	**Unit -3:** Evaluation and Measurement b. Difference between evaluation and measurement **Unit 4:**Standardisation of a Test a.Test	**Unit -2Th:** c. NPC-concept,characteristics, uses,skeewness and kurtosis **Unit -2 Pr:**Data Analyses by excel/software and manual both (graphical representation of data) **Unit -3Th:** Inferential Statistics a.PP,PR- concept, calculation,uses	**Unit3: :** Educational Tests c.Criteria of a good test	**Unit3:**Developing observational skill a.Visit to socio-cultural event	Hons-20 Gen-16 SEC-06	Hons-4

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May,2020	**22**	**Unit -4:** Planning and Management a.Planning-Concept,need and types	**Unit 4:**Standardisation of a test a.Criteria of a good test b.Reliability	**Unit -3Th:** Inferential Statistics b.Correlation-rank difference method **Unit -3Pr:**Report Writing	**Unit3:**Statistics a.Concept,utility,score,tabulation b.measures of central tendency	**Unit3:**Developing observational skill b.Report Writing	Hons-18 Gen-14 SEC-05	Hons-4
June,2020	**24**	**Unit 4:** Planning and Management b.Resource management in educational institutions c.MIS	**Unit 4:** c.Validity	**Unit -3Th:** Inferential Statistics b.Correlation-product moment method **Unit -3Pr:**Report Writing	**Unit4:** .Measures of variability- concept,types ,uses, calculation of SD and QD	**Unit3:**Developing observational skill b.Report Writing	Hons-20 Gen-16 SEC-06	

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HONOURS	NUMBER OF LECTURES	JULY-SEPTEMBER	OCTOBER -DECEMBER	JANUARY-MARCH	TEST EXAMINATION	APRIL-JUNE	UNIVERSITY FINAL EXAMINATION
PART -III **PAPER –V** Comparative Education & Curriculum Studies **Full Marks 100**	**140**	Group-A(Comparative Education) Unit-I NO. OF CLASSES= 15 Unit-II NO. OF CLASSES= 15	Group-A(Comparative Education) Unit-III NO. OF CLASSES= 15	Group-A(Comparative Education) Unit-IV NO. OF CLASSES= 20		Extra classes – revision and tutorials.	
		Group-B(Curriculum Studies) Unit-I NO. OF CLASSES= 11 Unit-II NO. OF CLASSES= 15	Group-B(Curriculum Studies) Unit-III NO. OF CLASSES= 13	Group-B(Curriculum Studies) Unit-III NO. OF CLASSES= 16 Unit-IV NO. OF CLASSES= 20		Extra classes – revision and tutorials	
PAPER-VI Guidance, Counselling & Special Education **F.M-100**	**140**	Group-A(Guidance, Counselling) Unit-I NO. OF CLASSES= 31 Unit-II NO. OF CLASSES= 15	Group-A(Guidance, Counselling) Unit-III NO. OF CLASSES= 15	Group-A(Guidance, Counselling) Unit-IV NO. OF CLASSES= 20		Extra classes – revision and tutorials	
		Group-B(Special Education) Unit-I NO. OF CLASSES= 10	Group-B(Special Education) Unit-II NO. OF CLASSES= 10 Unit-III NO. OF CLASSES= 03	Group-B(Special Education) Unit-III NO. OF CLASSES= 16 Unit-IV NO. OF CLASSES= 20		Extra classes – revision and tutorials.	
PART -III **PAPER –VII** Evaluation & Statistics in Education **Full Marks 100**	**140**	Group-A(Evaluation With Basic Research Concept) Unit-I NO. OF CLASSES= 10 Unit-II NO. OF CLASSES= 11	Group-A(Evaluation With Basic Research Concept) Unit-III NO. OF CLASSES= 14	Group-A(Evaluation With Basic Research Concept) Unit-IV NO. OF CLASSES= 26		Extra classes – revision and tutorials.	

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		Group-B(Statistics in Education) Unit-I NO. OF CLASSES= 15 Unit-II NO. OF CLASSES=20	Group-B(Statistics in Education) Unit-III NO. OF CLASSES= 14	Group-B(Statistics in Education) Unit-IV NO. OF CLASSES= 30		Extra classes – revision and tutorials	
PAPER-VIII Practicum **F.M-100**	**150**	Group-A(ICT Based Statistics) Part-I NO. OF CLASSES= 20 Part-II NO. OF CLASSES= 15	Group-A(ICT Based Statistics) Part-I NO. OF CLASSES= 10 Part-II NO. OF CLASSES= 5	Group-A(ICT Based Statistics) Part-I NO. OF CLASSES= 25 Part-II NO. OF CLASSES= 10		Extra classes – revision and tutorials	
		Group-B(Project Work) Part-I NO. OF CLASSES= 15 Part-II NO. OF CLASSES= 10	Group-B(Project Work) Part-I NO. OF CLASSES= 5 Part-II NO. OF CLASSES= 15	Group-B(Project Work) Part-I NO. OF CLASSES= 10 Part-II NO. OF CLASSES= 15		Extra classes – revision and tutorials.	

GENERAL	NUMBER OF LECTURES	JULY-SEPTEMBER	OCTOBER -DECEMBER	JANUARY-MARCH	
PART-III **PAPER-IV** Evaluation and Guidance –Counselling in Education **F.M-100**	150	Group-A Unit-I NO. OF CLASSES= 15 Unit-II NO. OF CLASSES= 20 Unit-III NO. OF CLASSES= 10	Group-A Unit-III NO. OF CLASSES= 20		UNIVERSITY FINAL EXAMINATION
		Group-B Unit-I NO. OF CLASSES= 15	Group-B Unit-I NO. OF CLASSES= 10	Group-B Unit-II NO. OF CLASSES= 30 Unit-III NO. OF CLASSES= 30	

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Department of English

SEM:1

Papers & Topics	NUMBER OF LECTURES	JULY-SEPTEMBER		OCTOBER- DEC	1ST SEMESTER EAMINATION
PAPER- CC1	**180**	90		90	
			P	10	
Group A. Background discussion on Indian epic, themes and recension, classical Indian drama, theory and praxis, alamkara and rasa, dharma and the heroic.	20	10	U J A V A C A T I O N		
Group B.				20	
□ Vyasa, "The Book of the Assembly Hall' in *The Mahabharata*, trans, & ed. J.A.B Buitenen.	40	20			
□ Sudraka, *Mrcchakatika*trans M.M. Ramachandra Kale.				20	
	40	20			
Group C.					
□ Banabhatta, *Kadambari* (Chp I & II)					
□ Kalidasa, 'AbhijnanaShakuntalam' in *The Loom of Time,* trans. Chandra Rajan.	40	20		20	
				20	
	40	20			
Papers & Topics	NUMBER OF LECTURES	JULY-SEPTEMBER		OCTOBER- DEC	1ST SEMESTER EAMINATION

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PAPER- CC2	**160**	80		80	
			P	8	
Group A. Background study- the epic, comedy and tragedy in classical drama, the Athenian city state, catharsis and mimesis, satire, literary cultures in Augustan Rome.	16	8	U J A V A C A T I O N		
Group B.				18	
□ Homer, *The Illiad,* Bk I & II, trans. E.V. Rieu.	36	18			
□ Sophocles, 'Oedipus the King' in *Sophocles: The Three Theban Plays,* trans. Robert Fagles.	36	18		18	
Group C.				18	
□ Ovid, Selections from *Metamorphoses,* 'Bacchus' (BK III)	36	18			
□ Plautus, *Pot of Gold,* trans. E.F.Watling.				18	
	36	18			

SEM:2

Papers & Topics	NUMBER OF LECTURES	JAN-MARCH	ASSESS	APRIL-MAY	2ND SEMESTER EAMINATION

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PAPER- CC3	**160**	80		80 8	
Group A. Background study- the epic, comedy and tragedy in classical drama, the Athenian city state, catharsis and mimesis, satire, literary cultures in Augustan Rome.	16	8			
Group B. □ Homer, *The Illiad,* Bk I & II, trans. E.V. Rieu.	36	18		18	
□ Sophocles, 'Oedipus the King' in *Sophocles: The Three Theban Plays,* trans. Robert Fagles.	36	18		18	
Group C. □ Ovid, Selections from *Metamorphoses,* 'Bacchus' (BK III)	36	18		18	
□ Plautus, *Pot of Gold,* trans. E.F.Watling.	36	18		18	

Papers & Topics	NUMBER OF LECTURES	JAN-MAR	ASS ESS L	APR_MAY	2nd SEMESTER EAMINATION

ACADEMIC CALENDER FOR THE YEAR 2019-2020
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PAPER- CC4	**160**	80		80 8	
Group A. Background study- the epic, comedy and tragedy in classical drama, the Athenian city state, catharsis and mimesis, satire, literary cultures in Augustan Rome.	16	8			
Group B. □ Homer, *The Illiad,* Bk I & II, trans. E.V. Rieu.	36	18		18	
□ Sophocles, 'Oedipus the King' in *Sophocles: The Three Theban Plays,* trans. Robert Fagles.	36	18		18	
Group C. □ Ovid, Selections from *Metamorphoses,* 'Bacchus' (BK III)	36	18		18	
□ Plautus, *Pot of Gold,* trans. E.F.Watling.	36	18		18	

SEM:3

Papers & Topics	NUMBER OF LECTURES	JULY-SEPTEMBER	OCTOBER-DECEMBER	TEST	UNIVER

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	70	35	35		
PAPER-CC5					
American Lit.					
Background Study	10	05	05		
Poetry					
Fiction	20	10	10		
Drama	20	10	10		
	20	10	10		
PAPER-CC6					
Popular Literature	**110**	55	55		
Background study					
A. Through the Looking Glass	10	05	05		
	20	10	10		
B. i) *The Murder of Roger Ackroyd*					
ii) *The Philosopher's Stone*					
	20	10	10		
C. i) *Funny Boy*					
ii) *Tintin in Tibet*	20	10	10		
	20	10	10		
	20	10	10		
PAPER-CC7	**100**	50	50		
British Poetry & Drama (17th & 18th c.)					
A. Hist, poli, & soc-cult. background					
Paradise Lost, Bk 1	10	05	05		
The Rape of the Lock, Cantos 1-3					
B. Theatre: decadence, closing & restoration	20	10	10		
Webster: *The White Devil*	20	10	10		
Aphra Behn: *The Rover*					

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	10 20 20	05 10 10	05 10 10		

SEM:4

Papers & Topics	NUMBER OF LECTURES	JAN-MAR	APR-JUN	EXAMINATION	UNIVERSITY FINAL EXAMINATION
	70	35	35	TEST	
PAPER-CC8 **British Lit.** Background Study	10	05	05		
Poetry **Drama** **Prose**	20 20 20	10 10 10	10 10 10		

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PAPER-CC9 **British Romantic Lit.** Background study **A: Poetry** **B. Prose**	**90** 10 40 40	45 05 20 20	45 05 20 20		
PAPER-CC10 **19th C. British Lit.** Background **A. Poetry** **B. Novel** **C. Non-fictional Prose**	**100** 10 30 30 30	50 05 15 15 15	50 05 15 15 15		

SEM 1 : GENERIC ELECTIVE

Papers & Topics	NUMBER OF LECTURES	JULY-SEPTEMBER		OCTOBER- DEC	

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PAPER- GE 1 Unit 1: 2. Premchand, 'Deliverance' 3. Omprakash Valmiki, 'Joothan' Unit 2: Gender 1.Virginia Woolf, 'Shakespeare's Sister' . Eunice De Souza, 'Marriages Are Made' Unit 3: Langston Hughes, 'Harlem' 4. Maya Angelou, 'Still I Rise' Unit 4: Wilfred Owen, 'Dulce et Decorum Est' Amitav Ghosh, 'Ghosts of Mrs Gandhi' Unit 5: . Roland Barthes, 'Toys' Imtiaz Dharkar, 'At the Lahore Karhai'	**200** 40 40 40 40 40	100 20 20 20 20 20	PUJA VACATION	100 20 20 20 20 20	END- SEMESTER EXAMINATION

SEM 2 :GENERIC ELECTIVE

Papers & Topics	NUMBER OF LECTURES	JAN-MAR		APR-JUN	

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Recommended Text: *Glimpses* (Macmillan) **Poems** **Short stories**	**50** 25 25	20 15 15	INTERNAL ASSESSMENT	10 10	END-SEMESTER EXAMINATION

SEM 3 :GENERIC ELECTIVE

Papers & Topics	NUMBER OF LECTURES	JULY-SEPTEMBER	PUJA VAC	OCTOBER- DEC	
Recommended Text: *Glimpses* (Macmillan) **Novels & Plays** *Oliver Twist* *Merchant of Venice*	**40** 20 20	20 10 10		20 10 10	END-SEMESTER EXAMINATION

SEM 4 :GENERIC ELECTIVE

Papers & Topics	NUMBER OF LECTURES	JAN-MAR		MAR-MAY	

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Compilation to be published by WBSU	**40** 20 20	20 10 10	INTERNAL ASSESSMENT	20 10 10	END-SEMESTER EXAMINATION

SEM 3 :SEC (SKILL ENHANCEMENT COURSE)

Papers & Topics	NUMBER OF LECTURES	JULY-SEPTEMBER		OCTOBER- DEC	
ELT (English Language Teaching)	**40** 20 20	20 10 10	INTERNAL ASSESSMENT	20 10 10	END-SEMESTER EXAMINATION

SEM 4 :SEC (SKILL ENHANCEMENT COURSE)

Papers & Topics	NUMBER OF LECTURES	JAN-MAR		APR-JUN-	

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Creative Writing	**40** 20 20	20 10 10	INTERNAL ASSESSMENT	20 10 10	END-SEMESTER EXAMINATION

SEM 1 :COMPULSORY ENGLISH

Papers & Topics	NUMBER OF LECTURES	JUL-SEP		OCT-DEC	
	40 20 20	20 10 10	PUJA VACAY	20 10 10	END-SEMESTER EXAMINATION

SEM 2: COMPULSORY ENGLISH

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Papers & Topics	NUMBER OF LECTURES	JAN-MAR		APR-JUN	
	40	20		20	
Poetry	20	10		10	
The Quality of Mercy- William Shakespeare The Reverie of Poor Susan- William Wordsworth Because I could not stop for Death- Emily Dickinson Sympathy- Paul Laurence Dunbar			INTERNAL ASSESSMENT		END-SEMESTER EXAMINATION
Prose	20	10		10	
The Model Millionaire- Oscar Wilde The Accursed House- Émile Gaboriau A Cup of Tea- Katherine Mansfield Uncle Podger Hangs a Picture- Jerome K. Jerome					

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PART-III (HONOURS): Old System

Papers & Topics	NUMBER OF LECTURES	JULY-SEPTEMBER	OCTOBER-DECEMBER	JANUARY-MARCH	
PAPER-V	**100**	38	35	27	UNIVERSITY FINAL EXAMINATION
A. History & background of Romantic, Victorian, & 20th century poetry	24	10	10	04	
B. Romantic & Victorian Poetry	48	18	15	15	
C. 20th century poetry	28	10	10	08	
PAPER-VI	**105**	35	30	40	
A. History & Background of Eng. Drama	15	10	05	------	
Texts of 2 20th c. dramas prescribed					
Explanations from the texts	50	20	20	10	
B. Substance writing	20	05	05	10	
	20	-----	-----	20	

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Papers & Topics	NUMBER OF LECTURES	JULY-SEPTEMBER	OCTOBER-DECEMBER	JANUARY-MARCH	
PAPER-VII	**90**	40	31	19	UNIVERSITY FINAL EXAMINATION
Modern Fiction and Short Story					
A. History& background of British & European fiction	20	10	10	------	
Novel -1 (including short ques.)	30	20	05	05	
Short stories – 4 (including short ques.)	28	10	10	08	
Essay-writing (literary essays)	12	----	06	06	
PAPER-VIII					
Group A: Modern critical theories	**74**	30	30	14	
OPTION-B: AMERICAN LITERATURE	15	10	05		
Poetry (6)					
Prose (Novel: 1 + stories: 4)	24	10	10	04	
Drama (1)	15	10	05	----	
	20	----	10	10	

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PART 3 : GENERAL: Old System

Papers & Topics	NUMBER OF LECTURES	JULY-SEPTEMBER	OCTOBER-DECEMBER	JANUARY-MARCH	UNIVERSITY FINAL EXAMINATION
PAPER IV	**90**	25	30	35	
A. Indian writing in English					
Short story (4, including explanations)	35	10	15	10	
Poetry (5, including explanations)	35	10	10	15	
B. Unseen					
Dialogue writing	05	05	----	----	
Story writing	05	----	05	----	
Vocabulary & grammar	05	----	----	05	
Proof reading	05	----	----	05	

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DEPARTMENT OF GEOGRAPHY

HONOURS	JULY-ZEPTEMBER	OCTOBER-DECEMBER	JANUARY -MARCH	APRIL-JUNE
GEOACOR01T =50 MARKS ***(1ST SEMESTER)***	*Unit-I(Geotectonic)* *8classes*	*Unit=II(Geomorphology)* = 15 classes		
GEOACOR1P =25 Marks	1.*Identification of rocks and mineral* *2.Geological map* = 60 classes			
GEOACOR2T =50 MARKS	*Cartographic techniques* *Topic no. 1,2,3* =6classes	*Cartographic techniques* *Topic No. 4,5,6,7* No. of classes=08 classes		
GEOACOR1P =25 MARKS	Scale=07 classes Projection=06 classes	Survey=10 classes Toposheet=10 classes		
GEOACOR03T (2ND SEMESTER) =75 MARKS			*Unit-I(Nature and principles of Human Geography* Topic No. 1,2,3 and 4 =15 classes *Unit-II (Society, Demography and Ekistics*) Topic No. 5,6,7,8 =20 classes	*Unit-II (Society, Demography and Ekistics*) Topic No 9 and 10= 04 classes
GEOACOR04T =50 MARKS			Cartograms and thematic mappings Topic No. 1,2,3,4,5 =15 classes	Topic No.6 & 7= 06 classes
GEOACOR04P =25 MARKS			*Topic No.1*=08 classes *Topic No.2*=10 classes	*Cont. Topic No.2*= 10 classes

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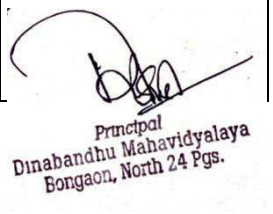
GENERAL	JULY-SEPTEMBER	OCTOBER-DECEMBER	JANUARY-MARCH	APRIL-JUNE
GEOHGECO1T =75MARKS	*Unit-I(Geotectonic &Geomorphology)* No. of classes=09	*Unit =II (Climatology and Oceanography* No of classes=18		
GEOHGEC02T =75 MARKS			*Unit –I(Population and Social Geography*) No of classes= 16	Unit=II (*Economic and Settlement Geography* No.of classes=10 classes

HONOURS	**JULY-SEPTEMBER**	**OCTOBER-DECEMBER**	**JANUARY - MARCH**	**APRIL-JUNE**
GEOACOR05T((Climatology) 50MARKS[60 classes] ***(3rd SEMESTER)***	*Unit-I(Elements of atmosphere) 8classes*	*Unit=II(Atmospheric Phenomena and climatic classification)* = 15 classes		
GEOACOR5P =25 Marks	1.*Interpretation of daily weather map* *2.construction and interpretation of hythergraph and climograph* *3. construction and interpretation of wind rose* *4. Project file from each of the above mentioned topic* = 60 classes			
GEOACOR6T (Geography of India) 75MARKS[90 classes]	*Unit-I (Geography of India) Topic No.1,2,3,4,5,6,7,8=50 classes*	*Cont.* *Unit-I (Geography of West Bengal) Topic No.9,10,11,and 12=40 classes*		
GEOACOR7T(Statistical methods in Geography) 40MARKS[60 classes]	Unit I (Frequency Distribution and Sampling) Topic 1 to 6 35 classes	Unit-II (Numerical Data Analysis) Topic 7 to 11 25 classes		
GEOACOR07P 25 MARKS [60 classes]	Statistical Mathods in Geography Topic 1 to 2 =30 classes	Cont…Statistical Mathods in Geography Topic 3 to 4 =30 classes		



GEOSSEC01M(Remote Sensing) 25 Marks [30 classes]	Remote Sensing Topic 1 to 2= 15 classes	Remote Sensing Topic 3 and 4= 15 classes		
GEOACOR08T- Regional Planning and Development(4th Semester) **=75 MARKS [90 classes]**			Unit-I (Regional Planning) Topic no. 1 to 4= 30 classes	*Unit-II (Regional development)* *Topic no. 5 to 12 =60 classes*
GEOACOR09T(Economic Geography) **75 marks [90 classes]**			Unit-I (Concept) Topic no 1 to 4 = 30 Classes	*Unit-II(Economic Activities)* *Topic No. 5 to 12= 60 Classes*
GEOACOR010T(Environmental Geography) **60 classes**			Unit-I (Concept) Topic no 1 to 4 = 20 Classes	*Unit-II(Enviornmental Policies)* *Topic No. 5 to 8= 40 Classes*
GEOACOR010P(Environmental Geography) **25 marks [60 classes]**			Topic 1 =20 classes	*Topic 2 and 3=40 classes*
GEOSSEC02M (Advanced spatial statistical techniques) *25 marks [30 classes]*			Topic 1 and 2 =10 classes	*Topic 3 and 4=15 classes*

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GENERAL	JULY-SEPTEMBER	OCTOBER-DECEMBER	JANUARY-MARCH	APRIL-JUNE
GEOHGEC03T(General Cartography) =50MARKS [60 classes]	Cartographic techniques topic 1 to 2 No. of classes=30	Cont. Topic 3 and 4 No of classes=30		
GEOHGEC03P =25MARKS [60 classes]	Cartographic techniques topic 4 and 5 No. of classes=30	Cartographic techniques topic 6 No. of classes=30		
GEOHGECO4T =75MARKS [90 classes] Environmental Geography			**Concepts Topic no 1 to 4 No. of classes= 45 classes**	Cont. topic 5 to 8 No of classes= 45 classes

HONOURS	NUMBER OF LECTURES	JULY-SEPTEMBER	OCTOBER - DECEMBER	JANUARY-MARCH	TEST EXAMIATION	APRIL-JUNE	UNIVERSITY FINAL EXAMINATION
PART III PAPER -V	**THEORY 36**	GROUP-B(20 MARKS) REGIONAL GEOGRAPHY NO. OF CLASSES=8	GROUP-B(20 MARKS) REGIONAL GEOGRAPHY NO. OF CLASSES=8	GROUP-A SOCIAL & CULTURAL GEOGRAPHY(30 MARKS) NO. OF CLASSES=10		GROUP-A POLITICALGEOGRAPHY (30 MARKS) NO. OF CLASSES=10	
PAPER - VI	**THEORY 51**	GROUP-A(20 MARKS) PHILOSOPHY OF GEOGRAPHY NO. OF CLASSES=13	GROUP-A(20 MARKS) PHILOSOPHY OF GEOGRAPHY NO. OF CLASSES=13	GROUP-B CONTEMPORARY ISSUES IN GEOGRAPHY – SECTION-1(30 MARKS) NO. OF CLASSES=13		GROUP-B CONTEMPORARY ISSUES IN GEOGRAPHY – SECTION-2(30 MARKS) NO. OF CLASSES=12	
PART –III PAPER-VII	**PRACTICAL60**	FIELD REPORT (10 MARKS) NO. OF CLASSES=10	FIELD REPORT (15 MARKS) NO. OF CLASSES=14	REMOTE SENSING (15 MARKS) GIS (15 MARKS) NO. OF CLASSES=8+16=24		GEOLOGICAL MAPS (20 MARKS) WEATHER MAPS(15 MARKS) NO. OF CLASSES=7+5=12	
PAPER-VIII	**PRACTICAL 46**	STATISTICAL TECHNIQUES (25 MARKS) NO. OF CLASSES=10	STATISTICAL TECHNIQUES(25 MARKS) NO. OF CLASSES=10	CONTEMPORARY ISSUES SECTION-1(25 MARKS) NO. OF CLASSES=13		CONTEMPORARY ISSUES SECTION-2(25 MARKS) NO. OF CLASSES=13	

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GENERAL	NUMBER OF LECTURES	JULY-SEPTEMBER	OCTOBER -DECEMBER	JANUARY-MARCH	TEST EXAMIATION	APRIL-JUNE	UNIVERSITY FINAL EXAMINATION
PART III PAPER-IVA GROUP A: (70 MARKS	**THEORY 28**		SECTION I: LAND USE AND SETTLEMENT GEOGRAPHY (20 MARKS) NO. OF CLASSES=7	SECTION I: LAND USE AND SETTLEMENT GEOGRAPHY (10 MARKS) SECTION II: REMOTE SENSING AND GEOGRAPHICAL INFORMATION SYSTEM (20 MARKS) (05 LEC) NO. OF CLASSES=3+7=10		SECTION II: REMOTE SENSING AND GEOGRAPHICAL INFORMATION SYSTEM (40 MARKS) NO. OF CLASSES=11	
Paper-IV GROUP B (30 MARKS)	**PRACTICAL 23**	DAILY WEATHER MAPS (10 MARKS) NO. OF CLASSES=7	PREPARATION OF THEMATIC MAPS:I)FLOW DIAGRAM AND II) DETERMINATION OF DETOUR INDEX (07 MARKS) NO. OF CLASSES=6	AERIAL PHOTO INTERPRE - TATION FOR IDENTIFICATION OF BROAD PHYSICAL AND CULTURAL FEATURES. (07 MARKS) NO. OF CLASSES=10			

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DEPARTMENT OF HISTORY

B.A.(H), HISA

SEMESTER I – C1 - HISACOR01T –
HISTORY OF INDIA: FROM EARLIEST TIMES TO C.300BCE – CREDIT 6 – MARKS 75

THEME	SUB-THEME	NO. OF CLASS	NO OF REVISE CLASS	TOTAL CLASS
I. Reconstructing Ancient Indian History	(a) Early Indian notions of History. (b) Sources and tools of historical reconstruction. (c) Historical interpretations (with special reference to gender, environment, technology, and regions).	4 5 4	2	15
II. Pre-historic hunter-gatherers	(a) Paleolithic cultures- sequence and distribution; stone industries and other technological developments. (b) Mesolithic cultures- regional and chronological distribution; new developments in technology and economy; rock art.	4 4	2	10
III. The advent of food production:	Understanding the regional and chronological distribution of the Neolithic and Chalcolithic cultures: subsistence, and patterns of exchange	8	2	10
IV. The Harappan civilization	Origins; settlement patterns and town planning; agrarian base; craft productions and trade; social and political organization; religious beliefs and practices; art; the problem of urban decline and the late/post-Harappan traditions.	25	5	30

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V. Cultures in transition Settlement patterns, technological and economic developments; social stratification; political relations; religion and philosophy; the Aryan Problem.	(a) North India (circa 1500 BCE-300 BCE) (b) Central India and the Deccan (circa 1000 BCE - circa 300 BCE) (c) Sangam Age: society, language and literature, Megaliths, Tamilagan	7 7 7	4	25
TOTAL CLASSES				90

SEMESTER I – C2 - HISACOR02T –
II. SOCIAL FORMATIONS AND CULTURAL PATTERNS OF THE ANCIENT WORLD – CREDIT 6 – 75 MARKS

THEME	SUB-THEME	NO. OF CLASS	NO OF REVISE CLASS	TOTAL CLASS
I. Evolution of humankind	Paleolithic and Mesolithic cultures.	8	2	10
II. Food production	: Beginnings of agriculture and animal husbandry.	4	1	5
III. Bronze Age Civilizations, with reference to any one of the following	i) Egypt (Old Kingdom); ii) Mesopotamia (up to the Akkadian Empire); iii) China (Shang); IV) Eastern Mediterranean (Minoan) economy, social stratification, state structure, religion.	20	5	25
IV. Nomadic groups	Nomadic groups in Central and West Asia; Debate on the advent of iron and its implications	8	2	10
V.Greece:	Slave society in ancient Greece: Agrarian economy, urbanization, trade.	16	4	20
VI. Greece:	Polis in ancient Greece: Athens and Sparta; Greek Culture.	16	4	20
TOTAL CLASSES				90

SEMESTER II – C3 - HISACOR03T –
III. HISTORY OF INDIA- II (C.300 BCE TO 750CE) – CREDIT 6 – 75 MARKS

THEME	SUB-THEME	NO. OF CLASS	NO OF REVISE CLASS	TOTAL CLASS
I. Economy and Society (circa 300 BCE to circa CE 300):	(a) Expansion of agrarian economy: production relations. (c) Urban growth: north India, central India and the Deccan; Craft Production: trade and trade routes; coinage.	2 6	2	15

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	(c) Social stratification: class, varna, jati, untouchability; gender; marriage and property relations	5		
II. Changing political formations (circa 300 BCE to circa CE 300):	(a) The Mauryan Empire. (b) Post-Mauryan Polities with special reference to the Kushanas and the Satavahanas; GanaSanghas.	6 6	2	14
III. Towards early medieval India (circa CE fourth century to CE 750):	(a) Agrarian expansion: land grants, changing production relations; graded Land rights and peasantry. (c) The problem of urban decline: patterns of trade, currency, and urban Settlements. (d) Varna, proliferation of jatis: changing norms of marriage and property. (d) The nature of polities: the Gupta empire and its contemporaries: post- Gupta polities - Pallavas, Chalukyas, and Vardhanas	2 2 2 10	4	20
IV. Religion, philosophy and society (circa 300 BCE- CE 750):	(a) Consolidation of the brahmanical tradition: dharma, Varnashram, Purusharthas, samskaras. (b) Theistic cults (from circa second century BC): Mahayana; the Puranic tradition. (c) The beginnings of Tantricism	8 3 2	3	16
V. Cultural developments (circa 300 BCE - CE 750):	(a) A brief survey of Sanskrit, Pali, Prakrit and Tamil literature. Scientific and technical treatises. (b) Art and architecture & forms and patronage; Mauryan, post-Mauryan, Gupta, post-Gupta.	6 15	4	25
TOTAL				90

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SEMESTER II – C4 - HISACOR04T –

IV. SOCIAL FORMATIONS AND CULTURAL PATTERNS OF THE MEDIEVAL WORLD - CREDIT 6 – 75 MARKS

THEME	SUB-THEME	NO. OF CLASS	NO OF REVISE CLASS	TOTAL CLASS
I. Roman Republic	Roman Republic, Participate and Empire &slave society in ancient Rome: Agrarian economy, urbanization, trade.	15	3	18
II. Religion and culture in ancient Rome.		10	2	12
III. Crises of the Roman Empire.		8	2	10
IV. Economic developments in Europe from the 7th to the 14th centuries:	Organization of production, towns and trade, technological developments. Crisis of feudalism.	13	2	15
V. Religion and culture in medieval Europe		8	2	10
VI. Societies in Central Islamic Lands:	(a) The tribal background, ummah, Caliphal state; rise of Sultanates (b) Religious developments: the origins of shariah, Mihna, Sufism (c)Urbanization and trade	6 8 6	5	25
TOTAL CLASSES				90

SEMESTER III – C5 - HISACOR05T –

VI. HISTORY OF INDIA-III (C.750 CE- 1206 CE) – CREDIT 6 – 75 MARKS

THEME	SUB-THEME	NO. OF CLASS	NO OF REVISE CLASS	TOTAL CLASS
I. Studying Early Medieval India:	Historical geography Sources: texts, epigraphic and numismatic data Debates on Indian feudalism, rise of the Rajputs and the nature of the state	8	2	10
II. Political Structures:	(a) Evolution of political structures: Rashtrakutas, Palas, Pratiharas, Rajputs and Cholas	9	4	25

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	(b) Legitimization of kingship; brahmanas and temples; royal genealogies and rituals (d) Arab conquest of Sindh: nature and impact of the new setup; Ismaili dawah (d) Causes and consequences of early Turkish invasions: Mahmud of Ghazna; Shahab-ud-Din of Ghur	6 3 3		
III. Agrarian Structure and Social Change:	(a) Agricultural expansion; crops (b) Landlords and peasants (d) Proliferation of castes; status of untouchables (d) Tribes as peasants and their place in the Varna order	3 3 2 2	2	12
IV. Trade and Commerce:	(a) Inter-regional trade (b) Maritime trade (c) Forms of exchange (e) Process of urbanization (e) Merchant guilds of South India	2 3 2 2 2	2	13
V. Religious and Cultural Developments:	(a) Bhakti, Tantrism, Puranic traditions; Buddhism and Jainism; Popular religious cults (b) Islamic intellectual traditions: AlBiruni; Al-Hujwiri (c) Regional languages and literature (d) Art and architecture: Evolution of regional styles	12 2 6 6	4	30

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TOTAL CLASSES	90

SEMESTER III – C6 - HISACOR06T –
VI. Rise of the Modern West-I – CREDIT 6 – MARKS 75

THEME	SUB-THEME	NO. OF CLASS	NO OF REVISE CLASS	TOTAL CLASS
I. Transition from feudalism to capitalism:	problems and theories	10	2	12
II. Early colonial expansion:	motives, voyages and explorations; the conquests of the Americas: beginning of the era of colonization; mining and plantation; the African slaves.	16	2	18
III. Renaissance:	its social roots, city-states of Italy; spread of humanism in Europe; Art.	15	2	17
IV. Origins, course and results of the European Reformation in the 16th century.		10	2	12
V. Economic developments of the sixteenth century:	Shift of economic balance from the Mediterranean to the Atlantic; Commercial Revolution; Influx of American silver and the Price Revolution.	12	2	16
VI. Emergence of European state system:	Spain; France; England; Russia.	12	3	15
TOTAL CLASSES				90

SEMESTER III – C7 - HISACOR07T –
VII. History of India- IV (1206 CE– 1526 CE) - CREDIT 6 – MARKS 75

THEME	SUB-THEME	NO. OF CLASS	NO OF REVISE CLASS	TOTAL CLASS
I. Sources for studying/Interpreting the Delhi Sultanate Survey of sources:	Persian tarikh tradition; vernacular histories; epigraphy	6	1	7
II. Sultanate Political Structures	Foundation, expansion and consolidation of the Sultanate of Delhi; The Khaljis and the Tughluqs; Mongol threat and Timur's invasion; The Lodis: Conquest of Bahlul and Sikandar; Ibrahim Lodi and the battle of Panipat Theories of kingship;	18	2	20

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	Ruling elites; Sufis, ulama and the political authority; imperial monuments and coinage			
III. Regional Political structures	Emergence of provincial dynasties: Bahamanis, Vijayanagar and Bengal Consolidation of regional identities; regional art, architecture and literature	15	2	17
IV. Sultanate Society and Economy-1	Iqta and the revenue-free grants Agricultural production	6	1	7
V. Sultanate Society and Economy-2	Changes in rural society; revenue systems Monetization; market regulations; growth of urban centers; trade and commerce; Indian Ocean trade	10	2	12
VI. Religion and Culture	Sufi silsilas: Chishtis and Suhrawardis; doctrines and practices; social roles; Bhakti movements and monotheistic traditions in South and North India; Women Bhaktas; Nathpanthis; Kabir, Nanak and the Sant tradition	25	2	27
TOTAL CLASSES				90

SEMESTER IV – C8 - HISACOR08T –
VIII. Rise of the Modern West - II - CREDIT 6 – MARKS 75

THEME	SUB-THEME	NO. OF CLASS	NO OF REVISE CLASS	TOTAL CLASS
I. 17th century European crisis:	economic, social and political dimensions.	16	2	18
II. The English Revolution:	major issues; political and intellectual currents.	10	2	12
III. Rise of modern science in relation to European society from the Renaissance to the 17th century.		10	2	12
IV. Mercantilism and European economics;	17th and 18th centuries.	6	2	8
V. European politics in the 18th century	parliamentary monarchy; patterns of Absolutism in Europe.	14	2	16
VI. Political and economic issues in the American Revolution.		10	2	12
VII. Prelude to the Industrial Revolution.		10	2	12
TOTAL CLASSES				90

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SEMESTER IV – C9 - HISACOR09T – IX. History of India- V (1526 CE– 1757 CE) –
CREDIT 6 – 75 MARKS

THEME	SUB-THEME	NO. OF CLASS	NO OF REVISE CLASS	TOTAL CLASS
I. Sources and Historiography	Persian literary culture; translations. Literature in regional languages	5	1	6
II. Establishment of Mughal rule	Babur‘s invasion of India - Struggle for Empire in North India –significance of Babar and Humayun‘s reign - Significance of Afghan despotism and rise of Sher Shah to power. His administrative and revenue reforms	8	2	10
III. Akbar and Consolodation of Mughal Empire	Akbar‘s Conquests - his Rajput Policy & administrative and religious reforms, Reign of Jahangir, Nurjahan- her role in imperial politics; The Mughals and the North Western frontier and central Asia.Making of a new imperial system and administration, the Mughal nobility, Mansab and Jagir.	14	2	16
IV. Mughal Empire Under Aurangazeb	State and religion under Aurangzeb; issues in the war of success ion; policies regarding Religious groups and Institutions - Conquests and limits of expansion - Beginning of the crisis: contemporary perceptions; agrarian and Jagir crises; revolts. Inland and ocean trade network.	14	2	16
V. Mughal Art, Architecture & Painting		6	1	7
VI. Patterns of Regional Politics	Rajput political culture and state formation -Rise of Maratha power under Shivaji, and expansion under the Peshwas - emergence of regional powers – case studies of Maharashtra, Awadh and Bengal; Bengal Nawabs and the rise of the English East India Company in Bengal.Debate of the 18th Century on the decline of the Mughal Empire	30	5	35
TOTAL CLASSES				90

SEMESTER IV – C10 - HISACOR10T –X. History of India-VI (1757 CE -1857 CE)
CREDIT 6 – MARKS 75

THEME	SUB-THEME	NO. OF CLASS	NO OF REVISE CLASS	TOTAL CLASS
I. Foundations of Company‘s Rule	Early contestations between the Dutch, French and the British East India The emergence of the English East India Company as a political power; Bengal as the _British bridgehead‘; Company Bengal Nawabs and the battle of Plassey, Buxar and	17	3	20

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	the grant of Dewani, (Anglo Mysore; Anglo Maratha and Anglo Sikh relations.The Subsidiary alliance and the Doctrine of Lapse.			
II. Legitimization of Company‘s rule in India	Regulating Act; Pitt‘s India Act; Charter Acts of 1813, 1833 and 1853 Administrative, Military, Police and Educational Reforms	10	2	12
III. Rural Economy and Society	Land revenue systems. Permanent settlement, Rayatwari and Mahalwari Commercialization of agriculture and indebtedness. Rural society: change and continuity, Famines.	13	2	15
IV. Trade and Industry	De industrialization Trade and fiscal policy Drain of Wealth Growth of modern industry	8	2	10
V. Renaissance and Reforms	Bengal Renaissance and Socio-religious Reforms:Rammohan Roy (Brahma Samaj), Young Bengal, Vidyasagar and others Educational Reforms initiated by the Company	15	2	17
VI. Popular Resistance	Santhal uprising (1855-57); Sanyasi Uprising, KolBhumijuprisisng, Wahabi Faraizi and Santhal Uprising, Revolt of 1857: causes and nature	14	2	16
TOTAL CLASSES				90

SEMESTER V – C11 - HISACOR11T – XI. History of Modern Europe -I (1789 CE-1919 CE) -
CREDIT 6 – MARKS 75

THEME	SUB-THEME	NO. OF CLASS	NO OF REVISE CLASS	TOTAL CLASS
I. The French Revolution and its European repercussions	Crisis of Ancien regime ---- Political, social, economic and intellectualbackground (role of Philosophers) of the French Revolution The revolution in the making – the Aristocratic Revolt and the consolidation of the Third Estate. The Constituent Assembly; Radicalization of the Revolution; the reign of Terror and the Thermedorian reaction; social base of the Revolution- Sans culottes, peasants and women; the directory and its achievements and failures.	15	2	17
II. Napoleon Bonaparte and the French Revolution	Rise of Napoleon; Napoleonic reforms, Napoleonic Empire and Europe Fall of Napoleon: The Continental System; The Spanish Ulcer; The Moscow campaign. Assessment of Napoleon: Character of the French Revolution; Impact of French Revolution on Europe and abroad.	10	2	12
III. Restoration and Revolution (1815-1848)	Vienna Congress; Concert of Europe; Metternich system Greek War of Independence, Revolution of 1830 &1848, & their Impact	10	2	12
IV. Industrialization	Industrial Revolution; Definition and characteristics ; Pre Industrial society;	10	2	12

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and socio economic transformation	Industrial Revolution in Britain; Impact on society, economy and polities . Industrialization in the continents, case study of France, Germany and Russia. Emergence of working class and its movements; early Utopian socialist thoughts.			
V. Age of Nationalism	Unification of Italy and Germany Specificities of economic development, political and administrative re organization – Italy and Germany The second Empire in France and Louis Napoleon	10	2	12
VI. The Eastern Question :	The Crimean War; Treaty of Paris, Balkan Nationalism	4	1	05
VII. Imperial Expansion:	Bismarck‘s diplomacy and the new balance of power; Kaiser WilliamII and Welt Politik; new course in German foreign policy; the eastern question of the late 19th century, Balkan wars	7	1	8
VIII. First World War and its aftermath:	Outbreak of the first world war, emergence of the two armed camps; impact of the first world; the Russian revolution, the peace settlements of 1919, the League of nations.	10	2	12
TOTAL CLASSES				90

SEMESTER V – C12 - HISACOR12T – XII. History of India-VII (1858 CE-1947CE)
CREDIT 6 – MARKS 75

THEME	SUB-THEME	NO. OF CLASS	NO OF REVISE CLASS	TOTAL CLASS
I. The aftermath of 1857	Queen‘s Proclamation; The Indigo rebellion, The Deccan Riots, The growth of the new middle class; the age of associations, The Aligarh movement, The Arya and the PrarthanaSamaj	13	2	15
II. The early phase of Indian Freedom Movement	Historiography of Indian Nationalism; Birth of Indian National Congress, The Moderates and the Extremists, Partition of Bengal, the Swadeshi movement, Muslim League, Morle Minto Reforns; Revolutionaries in India and abroad, the Lucknow pact	20	4	24
III. The Gandhian era	Gandhi‘s rise to power, Rowlatt Satyagraha, Montagu Chelmsford reforms; Khilafat and Non-co-operation movement, The Swarajya party, Poona Pact, Civil Disobedience Movement, Quit India Movement	15	2	17
IV. Towards freedom	Government of India Act 1935, The rise of the leftist movements, The Peasant and Working class movements, Cripps Mission, Subhas Bose and INA, RIN mutiny; Wavell Plan, Cabinet Mission; Tebhaga and Telengana movements	15	2	17
V. Communal Politics and Partition	Demand for Pakistan; Lahore session of the Muslim League, rise of Hindu Mahasabha and the RSS; Akali Dal, Partition and its consequences.	15	2	17

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of India				
TOTAL CLASSES				90

SEMESTER VI – C13 - HISACOR13T – XIII. History of India -VIII (India since 1947 CE)
CREDIT 6 – MARKS 75

THEME	SUB-THEME	NO. OF CLASS	NO OF REVISE CLASS	TOTAL CLASS
I. The Nehru era:	Internal policy between 1947 to 1964- movements for social justice, the new constitution, integration of the princely states, growth of parliamentary democracy, Five years' plan	15	2	17
II. Towards Independence and Emergence of the New State	Government of India Act 1935Working of the GOI Act. Negotiations for Independence and Popular Movements	8	2	10
III. Partition: Riots and Rehabilitation		13	2	15
IV. Making of the Republic	The Constituent Assembly; Drafting of the Constitution Integration of Princely States	10	2	12
V. Indian Democracy at Work c1950- 1970s	Language, Region, Caste and Religion. Electoral Politics and the Changing Party System; Regional Experiences India and the World; Non Aligned Movement	10	2	12
VI. Economy, Society and Culture c 1950-1970s	The Land Question, Planned Economy, Industry and Labour Science and Education. The Women's Question: Movements and Legislation. Cultural Trends: Institutions and Ideas, Literature, Media, Arts	20	4	24
TOTAL CLASSES				90

SEMESTER VI – C14 - HISACOR14T – XIV. Trends in World Politics (1919 CE -2001 CE)
CREDIT 6 – MARKS 75

THEME	SUB-THEME	NO. OF CLASS	NO OF REVISE CLASS	TOTAL CLASS
I. Challenges to the new European order:	Consolidation and Development of power of the Soviet State, French search for security, Rise of Fascism in Italy and Nazism in Germany, World Economic depression of 1929, the Crisis of the Inter War	13	2	15

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	European Order			
II. The Road to 2nd World War;	Germany‘s aggressive foreign policy; the role of the war economy, Spanish civil war, Mussolini‘s foreign policy and Abyssinian crisis, formation of the Rome Berlin Tokyo Axis – Grand Alliance and the Second World War - Impact of the War	18	2	20
III. United Nations Organization:	its origin and functions	8	2	10
IV. Cold War and the emergence of bipolar politics	– Rise of Communist China – Cold War in Asia: Korea, Cuba, Vietnam, Middle East – Third World and Non Aligned Movement	15	2	17
V. Détente and disintegration of the Soviet Bloc– Iranian Revolution – Afghanistan in turmoil		10	2	12
VI. Globalization and its impact – Rise of Terrorism – 9/11 and Its impact		14	2	16
TOTAL CLASSES				90

DISCIPLINE SPECIFIC ELECTIVE (DSE) offered: 4 Any Two from Papers I, II & III Any Two from Papers IV, V & VI
DSE 1 and DSE 2

SEMESTER V – DSE - HISADSE01T - Paper I: Aspects of the History of Modern South East Asia –I – CREDIT 6 – MARKS 75

THEME	SUB-THEME	NO. OF CLASS	NO OF REVISE CLASS	TOTAL CLASS
I. Historical writings on Southeast Asia in the early 20th century	– Debates on the question of ‗Indianisation‘ – Post-War historiography and the ‗autonomy‘ of Southeast Asia.	8	2	10
II. (a) Growth of early European interests in Southeast Asia:	(a) Growth of early European interests in Southeast Asia: 16th to 18th centuries – Colonial penetration and indigenous response: interaction and accommodation, collaboration and resistance. (b) Establishment of the colonial regimes in the 19th century: Stamford Raffles in Java, British forward movement in Malaya, foundation of Singapore, French colonial system in Indochina, British annexation of Burma, British movement in Borneo and the Brookes in Sarawak.	17	3	20
III. Pre-colonial polity, society, economy and	(a) Pre-colonial polity, society, economy and culture in Southeast Asia – a brief survey.	17	3	20

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culture in Southeast Asia	(b) Colonial impact on society: growth of Western education; changing position of women and the gender question under colonial rule; social anomalies and eradication efforts; colonial science; Western medicine and public health. (c) Independent modernisation of Siam from Mongkut to Vajiravudh.			
IV. Economic impact of colonialism:	(a) Dutch domination in Indonesia – from the Culture system to the Liberal system. (b) Colonial policy and land question in Indochina – communication and plantation economy. (c) British economic policy in Burma – agricultural expansion. (d) Development of plantation economy in Malay. (e) Singapore as a strategic defence centre and its growing significance in international economy	17	3	20
V. Nationalism in Indonesia:	Sarekat Islam, PKI, PNI and other political parties – Japanese impact during the World War II – Birth of Indonesian Republic and the constitution of 1945 – Indonesian National Revolution, 1945-50.	17	3	20
TOTAL CLASSES				90

SEMESTER V – DSE - HISADSE02T - Paper II: Aspects of the History of Modern South East Asia – II – CREDIT 6 – MARKS 75

THEME	SUB-THEME	NO. OF CLASS	NO OF REVISE CLASS	TOTAL CLASS
I. Early nationalist protest movement against French rule in Indochina	– Rise of HoChih Minh and birth of Communist party – Vietminh and the August Revolution (1945) – The First Indochina war and Geneva Agreements – the nature of American participation.	17	3	20
II. Nationalism and religion in Burma:	the Pongyis and the Sayasan Rebellion – the Thakin movement – Second World War, the struggle for independence and the transfer of power.	17	3	20
III. Growth of anti-Spanish sentiments in the Philippines	– Dr. Jose Rizal and the propaganda movement – the anti-Spanish revolution of 1898 – the U.S. intervention and the road to self-government – Transfer of power and birth of a republic (1946).	17	3	20
IV. Growth of nationalism in British Malaya	– National liberation movement – Malaya Union Plan.	14	2	16
V. Decolonisation and cold war politics	– Regional cooperation initiatives: SEATO, ASA, ASEAN and NAM	12	2	14
TOTAL CLASSES				90

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SEMESTER V – DSE - HISADSE03T - Paper III: History of The United States Of America (1776 CE -1864 CE) – CREDIT 6 – MARKS 75

THEME	SUB-THEME	NO. OF CLASS	NO OF REVISE CLASS	TOTAL CLASS
I The Background:	a] The land and the aborigines. [b] European settlement and colonization. [c] Early colonial society and politics; indentured labour: White and Black.	10	2	12
II Independence and making of the Republic:	[a] Sources of conflict: Revolutionary groups, Ideology: The War of Independence and its historical interpretations. [b] Constitution making: Historical debates and interpretations.	16	2	18
III Evolution of American Democracy:	[a] Federalists: Jeffersonianism to Jacksonianism, Rise of political parties; judiciary and the Supreme Court. [b] Expansion of Frontier: Turner's Thesis; Marginalization, displacement and decimation of native Americans; Case histories of Tecumseh; Shawnee Prophet. [c] Limits of democracy: Blacks and women.	23	3	26
IV Early Capitalism:	[a] Beginnings of Industrialization. [b] Immigrants and changing composition of Labour; Early Labour movements and associations	10	2	12
V Foreign Policy:	Isolationism and involvement; War of 1812: Monroe Doctrine: Manifest Destiny.	8	2	10
VI Slavery to Civil War:	[a] Plantation economy and slave society. [b] Abolitionism and Sectionalism: Issues and interpretations. [c] Republicanism, Emancipation and Lincoln.	10	2	12
TOTAL CLASSES				90

SEMESTER VI – DSE - HISADSE04T - Paper IV: History of Modern East Asia-1 (1839 CE -1919 CE) -1864 CE) – CREDIT 6 – MARDKS 75

THEME	SUB-THEME	NO. OF CLASS	NO OF REVISE CLASS	TOTAL CLASS
I. Pre-colonial China	(a) Nature and structure of the traditional Chinese society. (b)The peasantry and gentry; Government bureaucracy and central control. (C) The Confucian value system. (d) China's pre-modern economy.	10	2	12
II. Anglo Chinese	(a) The Tribute system; the Canton trade and its collapse.	12	2	14

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relations till the Opium War	(b) First & Second Opium Wars—the unequal treaties. (c)Financial Imperialism: Open Door policy.			
III. Rebellion, Restoration and Nationalism	(a)The Taiping Rebellion: causes, nature and failure. (b) Tung- Chih Restoration; the Hundred Days' Reform and the Self – Strengthening Movement. (c) Boxer Uprising: causes, nature and failure. (d) The Revolution of 1911: background and causes, nature and significance; role of Dr Sun Yat- Sen; principles and polities, formation of the Republic; Yuan Shih-kai and warlordism; the rise of the Kuomintang.	22	3	25
IV. Pre-Meji Japan	(a) Tokugawa Shogunate: the feudal society and the government; Shintoism. (b) Economic condition. (c) Encounter with the West: the Perry Mission; the opening of the Japan to the west. (d) The crisis and fall of the Shogunate.	15	2	17
V. Meiji Restoration	(a) Causes and nature of Restoration. (b)Transformation of Japan: process of modernization. (c) Meiji Constitution	8	2	10
VI. Expansion of Japan up to the First World War	(a) Sino–Japanese war (1894-95). (b) The Anglo-Japanese Alliance (1902). (c) Contest for Korea and the Russo-Japanese war (1904-05). (d) Japan and the First World War.	10	2	12
TOTAL CLASSES				90

SEMESTER VI – DSE - HISADSE05T - Paper V: History of Modern East Asia II (1919 CE-1939 CE) – CREDIT 6 – MARKS 75

THEME	SUB-THEME	NO. OF CLASS	NO OF REVISE CLASS	TOTAL CLASS
I. Nationalism in China	[a] Emergence of the Republic and Yuan Shih Kai: Warlordism. [b] May 4th Movement: origin, nature and significance.	10	2	12
II. The Kuomintang and the Nationalist government	[a] The rise of the Kuomintang Party: Political crisis in the 1920s; The First United Front [b] Chiang Kai-shek: the KMT-CCP conflict. [c] Ten Years of Nanking Government.	11	2	13
III. The Communist Victory in China	[a] Background of the foundation of the Communist Party. [b] CCP under Mao Tse-tung: the making of the Red Army; the Second United Front; Long March.	15	2	17

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	[c] The Yenan experiment; [d] The Chinese Revolution (1949): Ideology, causes and significance; the establishment of the Peoples' Republic of China.			
IV. Rise of modern Japan	[a] Process of modernization: social, military, political and educational; popular and democratic movement; [b] Rise of Political Parties, abolition of feudalism and economic growth. [c] Industrialization and the role of the state; the Zaibatsu.	18	2	20
V. Imperial Japan	[a] Japan and World war I: Twenty-one Demands. [b] Washington Conference. [c] Manchurian crisis: role of the League of Nations. [d] Failure of the Democratic system and the rise of militarism in the 1930s and the 1940s.	14	2	16
VI. Japan and World War II	[a] Japan's bid for supremacy and defeat. [b] Post war Japan under General Douglas MacArthur.	10	2	12
TOTAL CLASSES				90

SEMESTER VI – DSE - HISADSE06T - Paper VI: History of The United States Of America (1865 CE-1945 CE) – CREDIT 6 – MARKS 75

THEME	SUB-THEME	NO. OF CLASS	NO OF REVISE CLASS	TOTAL CLASS
I. Reconstruction:	[a] Conservative and Radical phases. [b] The New South: Participants and Reactions, Carpetbaggers; Scalawags, Blacks, Ku Klux Klan.	15	2	17
II. Industrial America:	[a] Growth of Capitalism and Big Business. [b] Business cycles; Depression.	6	1	7
III. Resistance and Reform:	[a] Labour movements and Unionization. [b] Agrarian crises and populism; Urban corruption and progressivism. [c] New Deal.	12	2	14
IV. The U.S.A. becomes a world power:	[a] Spanish-American War [b] Expansion in the Far East and Latin America [c] World War I, Fourteen Points and Isolationism [d] USA and World War II	13	2	15
V. Afro-American and Women's Movements:	[a] Black Movements: Booker T. Washington, W.E.B. Dubois; NAACP and Marcus Garvey.	13	2	15

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	[b] Abolitionists and Women‘s rights [c] Suffrage [d] Afro-American Women			
VI. Religious,Cultural and Intellectual Trends:	[a] Religious movements; Early Revivalism; Puritans, Quakers; Mormons; Temperance. [b] Mass culture (circa 1900 - 1945) [c] Major literary trends (circa 1900 - 1945).	19	3	22
TOTAL CLASSES				90

SEMESTER I - GENERIC ELECTIVE - (GE 1) - HISHGEC01T - Paper I: History of India from Earliest Times up to 300 CE
CREDIT 6 – MARKS 75

THEME	SUB-THEME	NO. OF CLASS	NO OF REVISE CLASS	TOTAL CLASS
I. Sources & Interpretation		4	1	5
II. A broad survey of Palaeolithic, Mesolithic and Neolithic Cultures.		6	1	7
III. Harappan Civilization	Origin, Extent, dominant features &decline, Chalcolithic age.	12	2	14
IV. The Vedic Period:	Polity, Society, Economy and Religion, Iron age with reference to PGW and Megaliths.	10	2	12
V. Territorial States and the rise of Magadha	Conditions for the rise of Mahajanpadas and the Causes of Magadha‘s success	4	1	5
VI. Iranian and Macedonian Invasions,	Alexander‘s Invasion and impact	4	1	5
VII. Jainism and Buddhism:	Causes, Doctrines, Spread, Decline and Contributions	8	1	9
VIII. The Satvahanas Phase	Aspects of Political History, Material Culture, Administration, Religion	6	1	7
IX. Emergence and Growth of Mauryan Empire	State, Administration, Econoy, Ashoka‘s Dhamma, Art & Architecture	10	2	12
X. The Sangam Age:	Sangam Literature, The three Early Kingdoms, Society & the Tamil language	5	1	6
xi. The age of Shakas: Parthians andKushanas,	Aspects of Polity, Society, Religion, Arts &Crafts, Coins, Commerce and Towns.	7	1	8
TOTAL CLASSES				90

SEMESTER II – GENERIC ELECTIVE - GE2 - HISHGEC02T - Paper-II: History of India from. C. 300 to 1206 CE

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CREDIT 6 – MARKS 75

THEME	SUB-THEME	NO. OF CLASS	NO OF REVISE CLASS	TOTAL CLASS
I. The Rise & Growth of the Guptas:	Administration, Society, Economy, Religion, Art, Literature, and Science &Technology.	16	2	18
II. Harsha & His Times:	Harsha's Kingdom, Administration, Buddhism & Nalanda	10	2	12
III. South India:	Polity, Society, and Economy and Culture	8	2	10
IV. Towards the Early Medieval:	Changes in Society, Polity Economy and Culture with reference to the Pallavas, Chalukayas and Vardhanas..	8	2	10
V. Evolution of Political structures of Rashtakutas, Pala &Pratiharas.		10	2	12
VI. Emergence of Rajput States in Northern India:	Polity, Economy andSociety.	8	2	10
VII. Arabs in Sindh:	Polity, Religion &Society.	7	1	8
VIII. Struggle for power in Northern India and establishment of Sultanate.		8	2	10
TOTAL CLASSES				90

SEMESTER III – GENERIC ELECTIVE – GE3 - HISHGEC03T - Paper III: History of India from 1206 CE to1707 CE

CREDIT 6 – MARKS 75

THEME	SUB-THEME	NO. OF CLASS	NO OF REVISE CLASS	TOTAL CLASS
I. Foundation, Expansion &consolidation of the Delhi Sultanate; Nobility &Iqta system.		7	1	8
II. Miltary, administrative &economic reforms under the Khiljis&the Tughlaqs.		8	2	10
III. Bhakti &Sufi Movements.		8	2	10
IV. Provincial kingdoms:	Mewar, Bengal, Vijaynagar and Bahamani.	16	2	18
V. Second Afghan State.		5	1	6
VI. Emergence and consolidation of Mughal State, C.16th century to mid 17th century.		3		3
VII. Akbar to Aurangzeb:	administrative structure. Mansab and Jagirs, State &Religion, Socio-Religious Movements.	13	2	15

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VIII. Economy, Society and Culture under the Mughals.		8	2	10
IX. Emergence of Maratha Power.		8	2	10
TOTAL CLASSES				90

SEMESTER IV – GENERIC ELECTIVE – GE4 - HISHGEC04T - Paper-IV: History of India (1707-1950 CE.) – CREDIT 6 – MARKS 75

THEME	SUB-THEME	NO. OF CLASS	NO OF REVISE CLASS	TOTAL CLASS
I. Interpreting the 18th Century.		4	1	5
II. Emergence of Independent States &establishment of Colonial power.		8	2	10
III. Expansion &consolidation of Colonial Power upto 1857.		12	2	14
IV. Uprising of 1857:	Causes, Nature &Aftermath.	8	2	10
V. Colonial economy:	Agriculture, Trade & Industry.	8	2	10
VI. Socio-Religious Movements in the 19th century.		10	2	12
VII. Emergence &Growth of Nationalism with focus on Gandhian nationalism.		10	2	12
VIII. Communalism:	Genesis, Growth and partition of India.	8	2	10
IX. Advent of Freedom:	Constituent Assembly, establishment of Republic.	6	1	7
TOTAL CLASSES				90

B.A. HONOURS & GENERAL (HISA & HISG)
SKILL ENHANCEMENT COURSE (SEC)

SEMESTER III – SEC1 - HISSSEC01M - Paper I:Archives and Museums in India – CREDIT 2 – MARKS 25

THEME	SUB-THEME	NO. OF CLASS	NO OF REVISE CLASS	TOTAL CLASS
I. Definition and history of development	(with special reference to India)	4		4
II. Types of archives and museums:	Understanding the traditions of preservation in India Collection policies, ethics and procedures Collection: field exploration, excavation, purchase, gift and bequests, loans and deposits, exchanges, treasure trove confiscation and	16	2	18

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	others. Documentation: accessioning, indexing, cataloguing, digital documentation and de-accessioning Preservation: curatorial care, preventive conservation, chemical preservation and restoration			
III. Museum Presentation and Exhibition		4		4
IV. Museums, Archives and Society: (Education and communication Outreach activities		4		4
TOTAL CLASSES				30

SEMESTER IV – SEC2 - HISSSEC02M - Paper II: Understanding Indian Art – CREDIT 2 – MARKS 25

THEME	SUB-THEME	NO. OF CLASS	NO OF REVISE CLASS	TOTAL CLASS
I. Prehistoric and protohistoric art:	Rock art; Harappan arts and crafts	6		6
II. Indian art (c. 600 BCE – 600 CE):	World Heritage Site Managers, UNESCO World Heritage Manuals [can be downloaded/ accessed at www.unesco.org] Notions of art and craft Canons of Indian paintings. Major developments in stupa, cave, and temple art and architecture Early Indian sculpture: style and iconography. Numismatic art	8	1	9
III. Indian Art (c. 600 CE – 1200 CE):	Temple forms and their architectural features Early illustrated manuscripts and mural painting traditions Early medieval sculpture: style and iconography Indian bronzes or metal icons	5	1	6
IV. Indian art and architecture (c. 1200 CE – 1800 CE):	Sultanate and Mughal architecture Miniature painting traditions: Mughal, Rajasthani, Pahari Introduction to fort, palace and haveli Architecture	4		4
V. Modern and Contemporary Indian art and Architecture:	The Colonial Period_Art movements: Bengal School of Art, Progressive Artists Group, etc. Major artists and their artworks. Popular art forms (folk art traditions)	5		5
TOTAL CLASSES				30

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DEPARTMENT OF HISTORY (HONOURS)B.A.PART-3 HONS

Papers	NUMBER OF LECTURES	JULY-SEPTEMBER	OCTOBER-DECEMBER	JANUARY-MARCH	UNIVERSITY FINAL EXAMINATION
V	60	CH-1=2, CH-2=6, CH-3=7, CH-4=8, CH-5=7 TOTAL=30	CH-6=5, CH-7=5, CH-8=05	CH-9=8, CH-10=7 TOTAL=15	
VI	55	CH-1=2, CH-2=8, CH-3=5, CH-4=8 TOTAL=23	CH-5=6, CH-6=6, CH-7=5, TOTAL=17	CH-8=9, CH-9=6 TOTAL=15	
VII	55	CH-1=3, CH-2=6, CH-3=8, CH-4=8 TOTAL=25	CH-5=7, CH-6=6, TOTAL=13	CH-7=7,CH-8=5, CH-9=5 TOTAL=17	
VIII	60	GROUP-A : CH-1=5, CH-2=6, CH-3=7 GROUP-B: CH-6=7, CH-7=7 TOTAL= 32	GROUP-A : CH-4=7 GROUP-B : CH-8=7 TOTAL=14	GROUP-A : CH-5=5 GROUP-B : CH-9 =9 TOTAL=14	

DEPARTMENT OF HISTORY PART 3 (GENERAL)

Papers	NUMBER OF LECTURES	JULY-SEPTEMBER	OCTOBER-DECEMBER	JANUARY-MARCH	UNIVERSITY FINAL EXAMINATION
IV	53	CH-1=10, CH-2=10, CH-3=5 TOTAL=25	CH-4=4, CH-5=7, CH-6=10 TOTAL=21	CH-6=7 TOTAL=7	

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Month	No. of Teaching days available	SEMESTER-I Honours Course MTMACOR01T Marks:50+25=75 Calculus and Geometry and Ordinary Differential Equation	SEMESTER-I Honours Course MTMACOR02T Marks:50+25=75 Algebra	SEMESTER-I General Course MTMGCOR01T Marks:50+25=75 Differential Calculus	Class teaching in hours of each core	Tutorial In hours
July,2019	26	**Unit 1:** i)Leibintz Rule on diffn. ii)Point of Inflexion iii) Envelopes iv)Asymptote	**Unit -1 :** i)Polar rep. of complex numbers, nth roots of unity, ii)De Moivre's theorem . iii) Theory of equations: Relation between roots and coefficients, Transformation of equation.	i) Limit and Continuity (ε and δ definition), Types of discontinuities, ii)Differentiability of functions, iii)Successive differentiation, Leibnitz's theorem.	Hons-22 Gen-16	HONS-4
August,2019	24	**Unit 1:** v)Curve tracing vi)L'Hospital's rule **Unit- 2** i)Reduction Formulae ii)Arc length of different curves iii) Area of surface of revolution iv) Techniques of sketching of conics	**Unit -1 :** iv)Descartes rule of signs, v)Cubic (Cardan's method) and biquadratic equations (Ferrari's method). **vi)Inequality**: The inequality involving AM≥GM≥HM, Cauchy-Schwartz inequality. **Unit -2 :** i) Relation, Partition ii) Mapping	iv) Partial differentiation, Euler's theorem on homogeneous functions v)Tangents and Normals,	Hons-22 Gen-16	HONS-4 Graphical Demonstration (Teaching Aid) Plotting of graphs of function
September,2019	22	**Unit-3** i)Reduction of canonical form ii)Polar Equation of conic iii)Sphere iv)Conicoids	**Unit -2 :** iii)**Integer:** Well-ordering property, Division algorithm, Divisibility and Euclidean algorithm. Congruence. iv)Principles of Mathematical Induction, statement of Fundamental Theorem of Arithmetic. .	vi) Curvature, vii)Asymptotes, viii)Singular points, ix)Tracing of curves. Parametric representation of curves and tracing of parametric curves, Polar coordinates and tracing of curves in polar coordinates.	Hons-18 Gen-12	Hons-4 Graphical Demonstration (Teaching Aid) Plottingthe graphs of polynomial of degree 4 and 5, the derivative graph, the second derivative graph and comparing them.

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October,2019	03	**Unit-3** v)Plane sections of conicoids vi))Generating lines vii) Graphing of standard quadric surfaces	**Unit -3:** Linear Algebra: i) Systems of linear equations, row reduction and echelon forms	x) Rolle's theorem, xi)Mean Value theorems	Hons-3 Gen-2	
November,2019	24	**Unit -4:** i)Exact Differential equation, ii)Integrating factors iii)Linear equation iv)Bernoulli equations	**Unit 4:**, i) Vector equations, the matrix equation Ax=b, ii) Matrix inverse of a matrix, characterizations of invertible matrices. iii) Rank of a matrix	xii)Taylor's theorem with Lagrange's and Cauchy's forms of remainder. .	Hons-20 Gen-16	Hons-4 Graphical Demonstration (Teaching Aid) Sketching parametric curves (Eg. Trochoid, cycloid, epicycloids, hypocycloid).
Decembr,2019	20	Graphical Demonstration (Teaching Aid). .i)Tracing of conics in Cartesian coordinates/polar coordinates. vi)Sketching ellipsoid, hyperboloid of one and two sheets, elliptic cone, elliptic, paraboloid, and hyperbolic paraboloid using Cartesian coordinates.	**Unit 4:** **iv)**Eigen values, Eigen Vectors and Characteristic Equation of a matrix. v) Cayley-Hamilton theorem and its use in finding the inverse of a matrix.	xii)Taylor's series, Maclaurin's series of sin x, cos x, e^x, log(l+x), $(l+x)^n$ vxi)Maxima and Minima, xv) Indeterminate forms	Hons-16 Gen-6	Hons-4 Graphical Demonstration (Teaching Aid). iv) Obtaining surface of revolution of curves.
Mo	No. of	SEMESTER-II Honours Course		SEMESTER-II General Course	Class tea	Tutorial In hours

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		MTMACOR03T Marks:50+25=75 Real Analysis	MTMACOR04T Marks:50+25=75 Differential Equation and Vector Calculus	MTMGCOR02T Marks:50+25=75 Differential Equation		
January'2020	21	**Unit-1:** **i)** Review of Algebraic and Order Properties of $\mathbb{R}$, ε-neighbourhood of a point in $\mathbb{R}$. Idea of countable sets, uncountable sets and unaccountability of $\mathbb{R}$. ii)Bounded above sets, Bounded below sets, Bounded Sets, Unbounded sets.	**Unit-1 :** i) Lipschitz condition and Picard's Theorem (Statement only). ii) General solution of homogeneous equation of second order, principle of super position for homogeneous equation, Wronskian: its properties and applications,	i) First order exact differential equations. Integrating factors, rules to find an integrating factor. ii) First order higher degree equations solvable for x, y, p. Methods for solving higher-order differential equations.	Hons-17 Gen-14	Hons-5
February,2020	20	**Unit-1:** iii) Suprema and Infima, Completeness Property of $\mathbb{R}$ and its equivalent properties. iv) The Archimedean Property, Density of Rational (and Irrational) numbers in $\mathbb{R}$, Intervals. v) Limit points of a set, Isolated points, Open set, closed set. derived set, Illustrations of Bolzano-Weierstrass theorem for sets.	**Unit-1 :** iii) Linear homogeneous and non-homogeneous equations of higher order with constant coefficients, Euler's equation. **Unit -2 :** iv) Method of undetermined coefficients, method of variation of parameters.	iii) Basic theory of linear differential equations, Wronskian, and its properties. iv) Solving a differential equation by reducing its order. v) Linear homogenous equations with constant coefficients, vi) Linear non-homogenous equations, vii) The method of variation of parameters,.	Hons-16 Gen-14	Hons-4
March,2020	24	**Unit-1** **:**vi) compact sets in $\mathbb{R}$, Heine-Borel Theorem. **Unit-2 :**	**Unit-1 :** **v)** System of linear differential equations, types of linear systems, differential operators, an operator method for linear	viii) The Cauchy-Euler equation, Simultaneous differential equations, Total differential equations. ix)Order and degree of partial	Hons-20	Hons-4

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		i)Sequences, Bounded sequence, Convergent sequence, Limit of a sequence, lim inf, lim sup. Limit Theorems. Monotone Sequences, Monotone Convergence Theorem.	systems with constant coefficients.	differential equations, Concept of linear and non-linear partial differential equations.	Gen-16	
April,2020	24	**Unit-2 :** ii) Subsequences, Divergence Criteria. Monotone Subsequence Theorem (statement only). iii)Bolzano Weierstrass Theorem for Sequences. iv) Cauchy sequence, Cauchy'sConvergence criterion.	**Unit -2 :** vi) Basic Theory of linear systems in normal form, homogeneous linear systems with constant coefficients. vii) Two Equations in two unknown functions. **Unit-3 :** **i)** Equilibrium points, Interpretation of the phase plane.	x) Formation of first order partial differential equations, Linear partial differential equation of first order, Lagrange's method, Charpit's method.	Hons-20 Gen-16	Hons-4
May,2020	22	**Unit-3 :** **i)** Infinite series, convergence and divergence of infinite series, Cauchy Criterion.	**Unit-3 :** ii) Power series solution of a differential equation about an ordinary point, solution about a regular singular point.	xi) Classification of second order partial differential equations into elliptic, parabolic and hyperbolic through illustrations only.	Hons-18 Gen-12	Hons-4
June,2020	24	**Unit-3 :** ii) Tests for convergence: Comparison test, Limit Comparison test, Ratio Test, Cauchy's nth root test, Integral test. iii)Alternating series, Leibniz test. Absolute and Conditional convergence.	**Unit- 4 :** i)Triple product, introduction to vector functions, operations with vector-valued functions ii) Limits and continuity of vector functions, differentiation and integration of vector functions.		Hons-10 Gen-0	Hons-2

Mon	**No. of Teach**	SEMESTER-III Honours Course	SEMESTER-III General Course	Class	Tutori al in	**MTMACOR07P** Numerical	MTMSSEC01M (For both Hons and General)

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		MTMACOR05T Marks:50+25=75 Theory of Real Functions	MTMACOR06T Marks:50+25=75 Group Theory–I	MTMACOR07T Marks:50(Th)+ 25(Prac) =75 Numerical Methods	MTMGCOR03T Marks:50+25=75 Real Analysis			Methods Lab (Marks : 25) **List of practical (using C programming)**	Marks:25 C-Programming Language.
July,2019	26	Unit 1:Limits of functions (ε - δ approach), sequential criterion for limits, divergence criteria. Limit theorems, one sided limits. Infinite limits and limits at infinity. Continuous functions, sequential criterion for continuity and discontinuity.	**Unit-1 :** Symmetries of a square, Dihedral groups, definition and examples of groups including permutation groups and quaternion groups (through matrices), elementary properties of groups.	**Unit-1**: Algorithms, Convergence, Errors: Relative, Absolute. Round off, Truncation. Methods based on interpolations, methods based on finite differences.	i)Finite and infinite sets, examples of countable and uncountable sets. Ii)Real line, bounded sets, suprema and infima, completeness property of R, Archimedean property of R, intervals. Concept of cluster points andstatement of Bolzano-Weierstrass theorem.	Hons-22 Gen-16	Hons-4	i)Calculate the sum 1/1 + 1/2 + 1/3 + 1/4 + …. + 1/ N. ii)Enter 100 integers into an array and sort them in an ascending order. .	**Unit 1 : Basics of Computer Programming:** Definition, Requirement of programming language, Machine language, high-level programming languages, machine code of a program: compilation process, Problem solving approaches: algorithm and flowchart
August,2019	24	**Unit 1:** Algebra of continuous functions. Continuous functions on an interval, intermediate	**Unit-2:** Subgroups and examples of subgroups, centralizer, normalizer, center of a group, product of two	**Unit-2** : Transcendental and Polynomial equations: Bisection method, Newton's method, Secant	iii)Real Sequence, Bounded sequence, Cauchy convergence criterion for sequences. Cauchy's theorem on limits, order preservation and squeeze theorem, monotone sequences and	Hons-20	Hons-4	iii)Solution of transcendental and algebraic equations by a. Bisection method b. Newton Raphson method.	**Unit2: Fundamentals of Programming:** Built in Data Types: int, float, double, char; Constants and Variables; first program: printf(), scanf(), compilation etc., keywords, Arithmetic

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		value theorem, location of roots theorem, preservation of intervals theorem. Uniform continuity, non-uniform continuity criteria, uniform continuity theorem. **Unit-2**: Differentiability of a function at a point and in an interval, Caratheodory's theorem.	subgroups.	method, Regulafalsi method, fixed point iteration, Newton-Raphson method. Rate of convergence of these methods.	their convergence (monotone convergence theorem without proof).	Gen-16		c. Secant method. d. Regula Falsi method	operators: precedence and associativity, Assignment Statements: post & pre increment/decrement, logical operators: and, or, not.
September,2019	22	**Unit -2 A**lgebra of differentiable functions. Relative extrema, interior extremum, theorem. Rolle's	**Unit-3 :** Properties of cyclic groups, classification of subgroups of cyclic groups, Cycle notation for permutations,	**Unit -3** : System of linear algebraic equations: Gaussian Elimination and Gauss Jordan methods. Gauss	iv)Infinite series. Cauchy convergence criterion for series, positive term series, geometric series, comparison test, convergence of p-series, Root test, Ratio test, alternating series,	Hons-18	Hons-4	iv)Solution of system of linear equations a.LU decomposition method b. Gaussian elimination	**Unit 3 : Statements:** Relational operators, if-else statement, Iterative Statements: for loop, while loop and do-while loop; controlling loop execution: break and continue, nested

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		theorem. Mean value theorem, intermediate value property of derivatives, Darboux's theorem. Applications of mean value theorem to inequalities and approximation of polynomials.	properties of permutations, even and odd permutations, alternating group, properties of cosets, Lagrange's theorem and consequences including Fermat's Little theorem.	Jacobi method, Gauss Seidel method and their convergence analysis, LU Decomposition.	Leibnitz's test(Tests of Convergence without proof). Definition and examples of absolute and conditional convergence.	Gen-14		method c. Gauss-Jacobi method d. Gauss-Seidel method	loop.
October,2019	03	**Unit-3**: Cauchy's mean value theorem. Taylor's theorem with Lagrange's form of remainder, Taylor's theorem with Cauchy's form of remainder, application of Taylor's theorem to convex functions, relative extrema. .		**Unit-4**: Interpolation: Lagrange and Newton's methods, Error bounds, Finite difference operators. Gregory forward and backward difference interpolations. Numerical differentiation.	v) Sequences of functions.	Hons-3 Gen-3		v) Interpolation a.Lagrange Interpolation b.Newton Interpolation	**Unit 4 : Arrays:** Definition & requirement, declaration & initialization, indexing, one dimensional array: finding maximum, minimum, simple sorting and searching.
November,2019	24	**Unit-3**: Taylor's series and Maclaurin's series expansions of exponential and trigonometric functions, ln(1 +	**Unit-4:** External direct product of a finite number of groups, normal subgroups, factor groups, Cauchy's theorem	**Unit – 5:** Numerical Integration: Newton Cotes formula, Trapezoidal rule, Simpson's 1/3rd	vi)Series of functions, Point-wise and uniform convergence. Mn-test, M-test, Statements of the results about uniform convergence and	Hons-20	Hons-4	vi)Numerical Integration a. Trapezoidal Rule b. Simpson's one third rule c. Weddle's Rule	**Unit 5 : Multi-dimensional arrays:** Matrix Manipulations (Addition,Multiplication, Transpose) Arrays and Pointers, Memory llocation and

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		x), 1/ax+b and (1 +x)n. Application of Taylor's theorem to inequalities	for finite abelian groups.	rule, Simpsons 3/8th rule, Weddle's rule, Boole's rule. Midpoint rule, Composite Trapezoidal rule, Composite Simpson's 1/3rd rule, Gauss quadrature formula. The algebraic eigen-value problem: Power method.	integrability and differentiability of functions.	Gen-16		d. Gauss Quadrature vii)Method of finding Eigen-value by Power method viii)Fitting a Polynomial Function	deallocation: *malloc()* and *free()* functions
Decembr,2019	20	.	**Unit-5:** Group homomorphisms, properties of homomorphisms, Cayley's theorem, properties of isomorphisms, First, Second and Third	**Unit – 6:** Ordinary Differential Equations: The method of successive approximations, Euler's method, the modified Euler method,	vii)Power series and radius of convergence.	Hons-14	Hons-2	ix)Solution of ordinary differential equations a. Euler method b. Modified Euler method c. Runge Kutta method	**Unit6 : Functions:** Why?, How to declare, define and invoke a function, Variables' scope, local& global variables and function parameters, Pointers, arrays as function parameters, *return* statement, Header

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			isomorphism theorems	Runge-Kutta methods of orders two and four.		Gen-08			files and their role. Illustrate different examples like swapping values, compute n!, nCr, find max/min from a list of elements, sort a set of numbers, matrix addition/multiplication etc.
Month	No. of Teaching days available	SEMESTER-IV Honours Course			SEMESTER-IV General Course	Class teaching in hours of	Tutorial In hours		MTMSSEC02M (For both Hons and Gen) Marks:25 Logic and Sets
		MTMACOR08T Marks:50+25=75 Riemann Integration and Series of Functions	MTMACOR09T Marks:50+25=75 Multivariate Calculus	MTMACOR10T Marks:50(Th)+ 25(Prac) =75 Ring Theory and Linear Algebra I	MTMGCOR04T Marks:50+25=75 Algebra				
January'2020	21	**Unit -1 :** Riemann integration: inequalities of upper and lower sums, Darbaux integration, Darbaux theorem,	**Unit-1** : Functions of several variables, limit and continuity of functions of two or more variables Partial differentiation,	**Unit 1:** Definition and examples of rings, properties of rings, subrings, integral domains and fields, characteristic of a ring. Ideal,	Equivalence relations and partitions, Functions, Composition of functions, Invertible functions, One to one correspondence and cardinality of a set. Definition and examples of groups, examples of abelian and non-abelian groups, the group Zn of integers under addition modulo	Hons-17	Hons-4		**Unit 1 :** Introduction, propositions, truth table, negation, conjunction and disjunction. Implications, biconditional propositions, converse, contra positive and inverse propositions and precedence of logical operators.

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		Riemann conditions of integrability, Riemann sum and definition of Riemann integral through Riemann sums, equivalence of two Definitions. Riemann integrability of monotone and continuous functions, Properties of the Riemann integral; definition and integrability of piecewise continuous and monotone functions. Intermediate Value theorem for Integrals, Fundamental theorem of Integral Calculus.	total differentiability and differentiability, sufficient condition for differentiability. Chain rule for one and two independent parameters,.	ideal generated by a subset of a ring, factor rings, operations on ideals, prime and maximal ideals.	n and the group U(n) of units under multiplication modulo n.	Gen-16		
Februar y,2020		**Unit-2 :** Improper integrals, Convergence	**Unit-1:D**irectional derivatives, the gradient,	**Unit 2 :** Ring homomorphisms, properties of ring homomorphisms.	Cyclic groups from number systems, complex roots of unity, circle group, the general linear group GLn(n,R),	Hons-16	Hons-4	**Unit-1:** Propositional equivalence: Logical equivalences. Predicates and quantifiers:

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	20	of Beta and Gamma functions.	maximal and normal property of gradient, tangent planes, Extrema of functions of two variables, method of Lagrange multipliers, constrained optimization problems.	Isomorphism theorems I, II and III, field of quotients.	Groupsof symmetries of (i) an isosceles triangle, (ii)anequilateraltriangle,(iii) a rectangle, and (iv) a square.	Gen-14		Introduction, Quantifiers, Binding variables and Negations.
March,2020	24	**Unit-3 :** Pointwise and uniform convergence of sequence of functions. Theorems on continuity, derivability and	**Unit-2** : Double integration over rectangular region, double integration over non-rectangular region, Double integrals in polar co-ordinates, Triple integrals,	**Unit 3 :** Vector spaces, subspaces, algebra of subspaces, quotient spaces, linear combination of vectors, linear span,	The permutation group Sym (n), Group of quaternions. Subgroups, cyclic subgroups, the concept of a subgroup generated by a subset and the commutator subgroup of group, examples of subgroups including the center of a group. Cosets, Index of subgroup, Lagrange's theorem,	Hons-20	Hons-4	**Unit 2 :** Sets, subsets, Set operations and the laws of set theory and Venn diagrams. Examples of finite and infinite sets. Finite sets and counting principle. Empty set, properties of empty set. Standard set operations. Classes of

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		integrability of the limit function of a sequence of functions. Series of functions, Theorems on the continuity and derivability of the sum function of a series of functions; Cauchy criterion for uniform convergence and Weierstrass M-Test. integration of power series; Abel's Theorem; Weierstrass Approximation Theorem.	Triple integral over a parallelepiped and solid regions. Volume by triple integrals, cylindrical and spherical coordinates. Change of variables in double integrals and triple integrals.	linear independence, basis and dimension, dimension of subspaces.	order of an element, Normal subgroups: their definition, examples, and characterizations, Quotient groups.	Con-16		sets. Power set of a set.
April,2020	24	**Unit 4:** Fourier series: Definition of Fourier coefficients and series,	**Unit-3** : Definition of vector field, divergence and curl. Line integrals,	**Unit 4 :** Introduction to linear transformations, Subspaces, dimension of	Definition and examples of rings, examples of commutative and non-commutative rings: rings from number systems, Zn the ring of integers modulo n, ring of real	Hons-20	H0ns-4	**Unit 3 :** Difference and Symmetric difference of two sets. Set identities, Generalized union and intersections. Relation: Product set.

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		Reimann Lebesgue lemma, Bessel's inequality, Parseval's identity, Dirichlet's condition. Examples of Fourier expansions and summation results for series.	Applications of line integrals: Mass and Work. Fundamental theorem for line integrals, conservative vector fields, independence of path.	subspaces, null space, range, rank and nullity of a linear transformation.	quaternions, rings of matrices, polynomial rings, and rings of continuous functions.	Gen 16		Composition of relations, Types of relations, Partitions,
May,2020	22	**Unit – 5:** Power series, radius of convergence, Cauchy Hadamard Theorem. Differentiation and integration of power series; Abel's Theorem; Weierstrass Approximation Theorem.	**Unit-4** : Green's theorem, surface integrals, integrals over parametrically defined surfaces. Stoke's theorem, The Divergence theorem.	matrix representation of a linear transformation, algebra of linear transformations. Isomorphisms. Isomorphism theorems, invertibility and isomorphisms, change of coordinate matrix.	Subrings and ideals, Integral domains and fields, examples of fields: Zp, Q, R, and C. Field of rational functions.	Hons 18 Gen 14	Hons-4	**Unit-3:**Equivalence Relations with example of congruence modulo relation. Partial ordering relations, n- ary relations.
June,2020	24					Hons Gen	Hons-	

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. **DEPARTMENT OF MATHEMATICS**

HONOURS	NUMBER OF LECTURES	JULY-SEPTEMBER	OCTOBER -DECEMBER	JANUARY-MARCH	TEST EXAMINATION	APRIL-JUNE
PART III PAPER V	115	GROUP A REAL ANALYSIS III NO. OF CLASSES= 37	GROUP A REAL ANALYSIS III NO. OF CLASSES=43	GROUP A REAL ANALYSIS III NO. OF CLASSES=15		UNIVERSITY FINAL EXAMINATION
		GROUP B METRIC SPACE NO. OF CLASSES=15	GROUP C COMPLEX ANALYSIS NO. OF CLASSES=15			
PART III PAPER VI	125	GROUP A PROBABILITY NO. OF CLASSES= 20	GROUP A PROBABILITY NO. OF CLASSES= 10			
		GROUP A STATISTICS NO. OF CLASSES=15	GROUP A STATISTICS NO. OF CLASSES=20			
		GROUP B NUMERICAL ANALYSIS NO. OF CLASSES=30	GROUP B NUMERICAL ANALYSIS NO. OF CLASSES=10	GROUP B COMPUTER PROG. NO. OF CLASSES=20		
PART III PAPER VII	122	GROUP A VECTOR ANALYSIS NO. OF CLASSES=10	GROUP CD HYDROSTATICS NO. OF CLASSES=25	GROUP CD HYDROSTATICS NO. OF CLASSES=10		
		GROUP B ANALYTICAL STATICS NO. OF CLASSES=23		GROUP B ANALYTICAL STATICS NO. OF CLASSES=19		
		GROUP C RIGID DYNAMICS NO. OF CLASSES=15	GROUP C RIGID DYNAMICS NO. OF CLASSES=10	GROUP C RIGID DYNAMICS NO. OF CLASSES=10		

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HONOURS	NUMBER OF LECTURES	JULY-SEPTEMBER	OCTOBER - DECEMBER	JANUARY-MARCH	TEST EXAM	APRIL-JUNE

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PART III PAPER VIIIA	65	GROUP A LINEAR ALGEBRA NO. OF CLASSES= 13	GROUP A MODERN ALGEBRA NO. OF CLASSES= 10			UNIVERSITY FINAL EXAMINATION
		GROUP A BOOLEAN ALGEBRA NO. OF CLASSES=10		GROUP C TENSOR CALCULUS NO. OF CLASSES= 17		
		GROUP B DIFFERENTIAL EQN. II NO. OF CLASSES= 15				
PART III PAPER VIIIB PRACTICAL	50	NUMERICAL ANALYSIS NO. OF CLASSES= 5	NUMERICAL ANALYSIS NO. OF CLASSES= 20	STATISTICS NO. OF CLASSES= 25		

GENERAL	NUMBER OF LECTURES	JULY-SEPTEMBER	OCTOBER -DECEMBER	JANUARY-MARCH	UNIVERSITY FINAL EXAMINATION
PART -III PAPER -IV	90	GROUP A ELEMENTS OF COMPUTER SCIENCE NO. OF CLASSES= 14	GROUP A ELEMENTS OF COMPUTER SCIENCE NO. OF CLASSES= 10	GROUP A ELEMENTS OF COMPUTER SCIENCE NO. OF CLASSES= 12	
ANY ONE OF GR A, GR B, GR C.		GROUP B A COURSE OF CALCULUS NO. OF CLASSES= 14	GROUP B A COURSE OF CALCULUS NO. OF CLASSES= 10	GROUP B A COURSE OF CALCULUS NO. OF CLASSES= 12	
		GROUP C DISCRETE MATHEMATICS NO. OF CLASSES= 14	GROUP C DISCRETE MATHEMATICS NO. OF CLASSES= 10	GROUP C DISCRETE MATHEMATICS NO. OF CLASSES= 12	

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DEPARTMENT OF PHYSICAL EDUCATION, ACADEMIC CALENDAR 2019-2020

SEMESTER-1 PART-A
(Unit-1)

TOPIC	CLASSESS	JULY-AUGUST	SEPTEMBER-OCTOBER	NOVEMBER-DECEMBER
Meaning and definition of Physical Education	4	2	1	1
Aim and objectives of Physical Education	6	2	2	2
Modern concept and changing concepts of Physical Education	5	1	2	2
Importance, Nature and scope of Physical Education	8	2	3	3

SEMESTER-1 (Unit-2)

TOPIC	CLASSESS	JULY-AUGUST	SEPTEMBER-OCTOBER	NOVEMBER-DECEMBER
Biological Foundation- Meaning and definition of growth and development.	8	1	4	3
Factors affecting growth and development	8	2	3	3
Differences of growth and development	5	1	3	1
Principles of growth and development, Age- Chronological age, anatomical age, physiological age and mental age.	10	2	5	3
Sociological Foundation- Meaning and definition of Sociology, Society and Socialization	6	1	2	3
Role of games and sports in National and International integration, Introduction of philosophies – naturalism, pragmatism, realism, idealism	7	1	4	2

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SEMESTER-1 (Unit-3)

TOPIC	CLASSESS	JULY-AUGUST	SEPTEMBER-OCTOBER	NOVEMBER-DECEMBER
Biological Foundation- Meaning and definition of growth and development.	5	1	3	1
Historical development of Physical Education and Sports in India- Pre-Independence period and Post-Independence period,	4	2	1	1
Olympic Movement- Ancient Olympic Games and Modern Olympic Games, Brief historical background of Asian Games and Commonwealth Games	6	3	2	1
Modern and Ancient Historical perspectives: USA, UK, Greece, Rome, and India	5	1	3	1

SEMESTER-1 (Unit-4)

TOPIC	CLASSESS	JULY-AUGUST	SEPTEMBER-OCTOBER	NOVEMBER-DECEMBER
Meaning and definition of the term Yoga,	2	0	1	1
types, aim, objectives and important of Yoga	5	1	3	1
History of Yoga, Astanga Yoga, Hatha Yoga.	6	2	2	2

SEMESTER-1
PART-B (PRACTICAL)

TOPIC	CLASSESS	JULY-AUGUST	SEPTEMBER-OCTOBER	NOVEMBER-DECEMBER
Development of physical fitness through Marching	7	3	3	1
Callisthenics	6	1	4	1
Development of physical fitness and co-ordination through Aerobics	7	2	4	1

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SEMESTER-2 PART-A

(Unit-1)

TOPIC	CLASSESS	JANUAERY-FEBRUARY	MARCH-APRIL	MAY-JUNE
Concept and definition of Sports Management	3	2	1	0
Important of Sports Management	3	1	1	1
Purpose of Sports Management	2	2	0	0
Principles of Sports Management	2	1	1	0

SEMESTER-2 (Unit-2)

TOPIC	CLASSESS	JANUAERY-FEBRUARY	MARCH-APRIL	MAY-JUNE
Tournaments: Meaning and definition and types of tournaments (Knock-out, League, Combination, Challenge)	10	4	4	2
Procedure of drawing fixture (Knock-out, League, Combination	6	2	2	2
Method of organising Annual Athletic Meet and Play Day	4	1	2	1
Method of organising of Intramural and Extramural competition.	3	1	1	1

SEMESTER-2 (Unit-3)

TOPIC	CLASSESS	JANUAERY-FEBRUARY	MARCH-APRIL	MAY-JUNE
Method of calculation of Standard Athletic Track and Field marking	15	5	6	4
Care and maintenance of Playground and gymnasium	4	1	2	1
Importance, care and maintenance of sports equipment	3	1	1	1
Lay- out of Play-Field and Basic Rules: Football, Kabaddi, Kho-Kho, Badminton and Volleyball	5	1	2	2

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SEMESTER-2 (Unit-4)

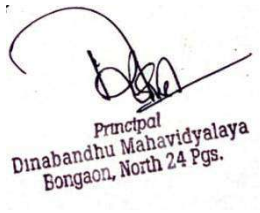
TOPIC	CLASSESS	JANUAERY-FEBRUARY	MARCH-APRIL	MAY-JUNE
Meaning and definition of leadership	2	1	1	0
Qualities of good leader in Physical Education	2	1	1	0
Principles of leadership activities	3	1	1	1
Hierarchy of Leadership in School	1	0	1	0
College and University level	1	1	0	0
Time Table: Meaning, importance and factors affecting Time Table.	2	1	1	0

SEMESTER-2
PART-B (PRACTICAL)

TOPIC	CLASSESS	JULY-AUGUST	SEPTEMBER-OCTOBER	NOVEMBER-DECEMBER
Track and Field events.	10	6	3	1
Games: Football, Kabaddi, Kho-Kho, Badminton and Volleyball	10	4	4	2

SEMESTER-3 PART-A
(Unit-1)

TOPIC	CLASSESS	JULY-AUGUST	SEPTEMBER-OCTOBER	NOVEMBER-DECEMBER
Meaning and definition of Anatomy	4	2	1	1
Physiology and Exercise Physiology	8	2	4	2
Importance of Anatomy	3	2	1	0
Physiology and Exercise Physiology in Physical Education	3	2	1	0
Human Cell- Structure and function	2	1	1	0
Tissue- Types and functions.	4	1	2	1



SEMESTER-3 (Unit-2)

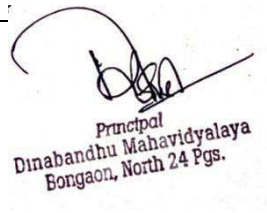
TOPIC	CLASSESS	JULY-AUGUST	SEPTEMBER-OCTOBER	NOVEMBER-DECEMBER
Skeletal System- Structure of Skeletal System	**8**	**4**	**2**	**2**
Classification and location of bones and joints	**6**	**1**	**3**	**2**
Anatomical differences between male and female	**4**	**1**	**2**	**1**
Muscular System- Type, location, function and structure of muscle	**8**	**2**	**4**	**2**
Types of muscular contraction, Effect of exercise on muscular system	**6**	**4**	**1**	**1**

SEMESTER-3 (Unit-3)

TOPIC	CLASSESS	JULY-AUGUST	SEPTEMBER-OCTOBER	NOVEMBER-DECEMBER
Blood- Composition and function	**4**	**1**	**2**	**1**
Heart- Structure and functions	**3**	**2**	**1**	**0**
Mechanism of blood circulation through heart. Blood Pressure, Athletic Heart and Bradycardia	**10**	**3**	**5**	**2**
Effect of exercise on circulatory system	**5**	**2**	**3**	**0**
Structure and function of Respiratory organs	**6**	**4**	**2**	**0**
Mechanism of Respiration, Vital Capacity, O2 Debt and Second Wind	**10**	**4**	**4**	**2**
Effect of exercise on respiratory system.	**7**	**3**	**2**	**1**

SEMESTER-3 (Unit-4)

TOPIC	CLASSESS	JULY-AUGUST	SEPTEMBER-OCTOBER	NOVEMBER-DECEMBER
Meaning of Nervous System	**4**	**2**	**2**	**0**
Parts of Nervous System	**3**	**1**	**2**	**0**
system-structure of brain, spinal cord, Neuron, reflex action, Reciprocal Innervations	**8**	**5**	**2**	**1**
Meaning of Endocrine Gland, Function and Location of pituitary, Thyroid and Adrenal Glands.	**10**	**4**	**3**	**3**



SEMESTER-3 (PART B, Practical)

TOPIC	CLASSESS	JULY-AUGUST	SEPTEMBER-OCTOBER	NOVEMBER-DECEMBER
Assessment of, BMI, Heart rate, Blood Pressure, Respiratory Rate, Pick Flow Rate and VitalCapacity	**10**	**4**	**4**	**2**
Anthropometric measurement (Length, wide and circumference of bones) , Body fat	**12**	**4**	**5**	**3**

SEMESTER-4 PART-A
(Unit-1)

TOPIC	CLASSESS	JANUAERY-FEBRUARY	MARCH-APRIL	MAY-JUNE
Concept, definition and dimension of Health	2	2	0	0
Definition, aim, objectives and principles of Health Education	3	1	1	1
School Health Program- Health Service, Health Instruction, Health Supervision, Health appraisal and Health Record	4	2	2	0
Communicable Diseases& Non-communicable Diseases (Malaria, Cholera, Influenza and Chicken Pox, Obesity, Diabetes)	2	1	1	0
Basic Nutrients: - Protein, Carbohydrates, Fat, Vitamins, Minerals and Water, Balance Diet, Athletic Diet, Standard Diet	4	2	1	1

SEMESTER-4 (Unit-2)

TOPIC	CLASSESS	JANUAERY-FEBRUARY	MARCH-APRIL	MAY-JUNE
First aid- Meaning, definition, importance and golden rules of First-aid	5	3	1	1
Concept of sports injuries- Sprain, Muscle-pull, Dislocation, Fracture, Cramps, Shock, Burns and Artificial Respiration	6	2	2	2
Safety Education: Safety at Home, School, College, Play-ground, Streets, Postural deformities-	4	1	2	1

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Causes and corrective exercise of Kyphosis, Lordosis, Scoliosis, Knock Knees and Flat Foot	6	2	2	2

SEMESTER-4 (Unit-3)

TOPIC	CLASSESS	JANUAERY-FEBRUARY	MARCH-APRIL	MAY-JUNE
Concept of test, measurement & Evaluation	5	2	2	1
Criteria of good test	3	2	1	0
Principles of Evaluation	3	1	1	1
Importance of Test	2	0	2	0
Measurement and Evaluation in Physical Education and Sports	5	2	2	1

SEMESTER-4 (Unit-4)

TOPIC	CLASSESS	JANUAERY-FEBRUARY	MARCH-APRIL	MAY-JUNE
Body Mass Index (BMI)- Concept and method of measurement	8	2	3	3
Body Fat- Concept and method of measurement	5	2	3	0
Lean Body Mass (LBM)- Concept and method of measurement	6	2	3	1
Somatotype- Concept and method of measurement	4	1	2	1

SEMESTER-4
PART-B (PRACTICAL)

TOPIC	CLASSESS	JULY-AUGUST	SEPTEMBER-OCTOBER	NOVEMBER-DECEMBER
Kraus-Weber Muscular Strength Test	5	3	1	1
AAHPER Youth Fitness Test	3	1	1	1
Queens College Step Test	4	1	2	1
Harvard Step Test	3	1	1	1
Assessment of% body fat	5	3	1	1
Lockhart and McPherson Badminton Skill Test	4	1	2	1
Johnson Basketball Test Battery	3	1	1	1
McDonald Soccer Test	4	1	2	1
Brady Volleyball Test	3	1	1	1

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Semester- III
SKILL ENHANCEMENT COURSE
Unit – I (Track Events)

TOPIC	CLASSESS	July-August	September-October	November-December
Standing start and Crouch start (its variations) use of Block	2	1	1	0
Acceleration with proper running techniques	3	1	1	1
Run Through, Forward Lunging and Shoulder Shrug	4	2	1	1
Starting, Baton Holding, Carrying, Baton Exchange in between zone, and Finishing.	2	0	1	1

Unit – II (Field Event)

TOPIC	CLASSESS	July-August	September-October	November-December
Long Jump: Approach Run, Take-off, Flight in the air (Hang Style/Hitch Kick) and Landing.	4	1	2	1
High jump: Approach Run, Take-off, Bar Clearance (Straddle) and Landing.	4	2	1	1
Shot put: Holding the Shot, Placement, Initial Stance, Glide, Delivery Stance and Recovery	3	1	1	1
Discus Throw: Holding the Discus, Initial Stance, Primary Swing, Turn, Release and Recovery (Rotation in the circle).	4	1	2	1
Javelin Throw: Grip, Carry, Release and Recovery	2	1	0	0

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Semester- IV
SKILL ENHANCEMENT COURSE
Unit – I (GYMNASTICS)

TOPIC	CLASSESS	JANUAERY-FEBRUARY	MARCH-APRIL	MAY-JUNE
Forward Roll	1	1	0	0
T-Balance	2	1	1	0
Forward Roll with Split leg	2	1	1	0
Backward Roll	2	1	1	0
Cart-Wheel	2	0	1	1
Optional (any two)				
Dive and Forward Roll	1	0	1	0
Hand Spring	1	1	0	0
Head Spring	1	1	0	0
Neck Spring	1	0	1	0
Hand Stand and Forward Roll	1	0	0	1
Summersault	1	0	0	1

Unit – II (YOGA)

TOPIC	CLASSESS	JANUAERY-FEBRUARY	MARCH-APRIL	MAY-JUNE
Standing Position (Ardhachandrasana,Brikshasana, Padahastasana)	3	1	1	1
Sitting Position(Ardhakurmasana ,Paschimottanasana , Gomukhasana)	3	1	1	1
Supine Position (Setubandhasana ,Halasana , Matsyasana)	2	1	0	1
Prone Position (Bhujangasana, Salvasana ,Dhanurasana)	2	0	1	1
Inverted Position (Sarbangasana ,Shirsasana, Bhagrasana)	3	1	1	1
Pranayama (any two) [Kapalbhati, Bhramri, Anulam, Vilom]	2	0	1	1

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3rd Year General

GENERAL	NUMBER OF LECTURE	JULY-SEPTEMBER	OCTOBER-DECEMBER	JANYARY-MARCH	APRIL-JUNE
Part –III Paper-IV	230	PHYSICAL EDUCATION PRACTICAL THEORY-60 **Group-A** **Number of Class-30** 1.Exercise and chronic diseases : osteoporosis, obesity, hypertension diseases, cardiovascular diseases. 2.Exercise Therapy : Corrective, Isotonic, Isometric and resistance exercise, Massage Therapy, Yoga as a Therapy. **Group-B** **Number of Class- 30** 3.Physical Activities, Health and Wellness- Modern Concepts. 4. Health and Fitness Active Lifestyle. • **Practical-** Hard bard step test, physical fitness test.	PHYSICAL EDUCATION PRACTICAL THEORY-70 **Group-A** **Number of Class-35** Electro Therapy, Cry Therapy, Thermo Therapy-Basic Principles. • Various Field Measurment **Group-B** **Number of Class-35** 1. Physical Activity and Childhood-Growth and Development. 2. Physical Activity and Woman-Puberty, adolescent, Post- Adolescent Periods. • **Practical Field Marking**- Kho-kho, Kabaddi, Shot-put, Discuss.	PHYSICAL EDUCATION PRACTICAL THEORY-60 **Group- A** **Number of Class-30** Basic Principal and Rehabilitation- Modalities and Relaxation Techniques. • Others skill Techniques of Various Games **Group-B** **Number of Class-30** Physical Activity for Aged: Exercise and Physiology of aging, Loss of Functional reserve with age.	PHYSICAL EDUCATION PRACTICAL THEORY-40 **Group-A** **Number of Class-10** Various Yoga Benefit **Group –B** **Number of Class-30** Physical activity for the disable: Types of Disability, Programme for The Disable. Revision All Measurement of Field.

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DEPARTMENT OF PHILOSOPHY

Semester –I

	PHIACOR01T [History of Western Philosophy	**PHIACOR02T [Western Logic-I]**	**PHIHGEC01T [Logic]**
JULY:	Basic concepts of pre-Socratic philosophy [In brief]: [10 Lectures] Cosmology-origin (Ionian) Being and change (Eliatics) Process philosophy (Heraclitus) The Sophists Plato [2 Lectures] TUTORIAL: 2	Basic concepts---Propositions, Propositional form, Argument and Argument form, Truth functional connectives, Truth and Validity [5 Lectures] An overview of traditional laws of Logic, Boolean interpretation of Categorical propositions and consequences [7 Lectures] TUTORIAL: 2	Basic concepts: Proposition, Categorical Proposition, Quality, Quantity of categorical Propositions, argument, truth, validity. [5Lectures] Distribution of terms, Traditional Square of Oppositions:, conversion, observation and contraposition [7Lectures] TUTORIAL: 2
AUGUST:	Plato [3 Lectures] Aristotle: [5 Lectures] Theory of knowledge (episteme) and opinion (doxa)and its refutation by Aristotle. Plato's theory of Idea, Aristotle's refutation, Aristotle: Form and Matter Medieval philosophy: [10 Lectures] Reason, Faith [Both in brief], God---Aquino's, Augustine Descartes- Method of doubt [3 Lectures] TUTORIAL: 4	Syllogism, Venn Diagram [8 Lectures] Propositional Logic The Method of Truth Table and Truth Tree as decision procedures [13 Lectures] TUTORIAL: 4	Categorical Proposition: Existential Import of propositions, Boolean Interpretation of Categorical propositions [8 Lectures] Categorical syllogism: Figure, Mood, Rules for Validity, [13 Lectures] TUTORIAL: 4
SEPTEMBER:	Descartes--- *Cogito*, Different Types of Ideas, Criterion of Truth, Theory of knowledge, Theory of substance [12 Lectures] Spinoza---Substance, Attributes and Modes, [8 Lectures] TUTORIAL: 3	Statement forms and statements---Tautologous, Contradictory and Contingent; Statement forms by Truth Table and Truth Tree method. [5 Lectures] Consistency by Truth Tree method—Validity testing by Truth table method and Truth value assignment method [5 Lectures] Method of Deduction ---Construction of formal proof of validity by using 19 Rules [10Lectures] TUTORIAL: 3	Testing the validity of arguments by Venn diagram [12 Lectures] Symbolic Logic: The value of special symbols for conjunction, Negation, disjunction, [8 Lectures] TUTORIAL: 3

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OCTOBER		Method of Deduction ---Construction of formal proof of validity by using 19 Rules [2 Lectures] TUTORIAL: 1	Implication, equivalence, [2 Lectures] TUTORIAL: 1
NOVEMBER	Spinoza---Existence of God, [2 Lectures] TUTORIAL: 1 NOVEMBER: Spinoza--- Pantheism, Theory of knowledge[5 Lectures] Leibnitz--- Innate Idea, Monad, [6 Lectures] TUTORIAL: 2	I.P. and C.P. [11 Lectures] TUTORIAL: 2	Tautology, contradiction and contingency [5 Lectures] Truth Table: Truth-table Method for testing arguments [5 Lectures] Inductive Logic [1 Lectures] TUTORIAL: 2
DECEMBER:	Leibnitz--- Truths of Reason, Truths of Fact, Pre-established Harmony [9 Lectures] TUTORIAL: 3	Invalidity by shorter Truth table method [9 Lectures] TUTORIAL: 3	Inductive Logic: Mill's methods of experimental inquiry [9 Lectures] TUTORIAL: 3

Semester-II

	PHIACOR03T [History of Western Philosophy-II]	**PHIACOR04T: Outlines of Indian Philosophy-I**	**PHIHGEC02T [Western Epistemology and Metaphysics]**
JANUARY	Locke---Ideas and their classifications [3 Lectures] TUTORIAL: 1	1. Basic concepts in Indian Philosophy: *ṛta, rṇa, Jajña, panca-Kośa,* [3 Lectures] TUTORIAL: 1	Theories of the origin of knowledge: Rationalism, [3 Lectures] TUTORIAL: 1
FEBRUARY	Refutation of innate ideas, Substance, Locke's realism and theory of knowledge, Primary and secondary qualities [18 Lectures] TUTORIAL: 3	*ātman, Brahman, jīva, śreyas, preya, mokṣa* [5 Lectures] Cārvāka Epistemology—perception as the only source of Knowledge, refutation of Inference Metaphysics---Causality--- *yadṛicchāvāda/svabhāvavāda/akasmikatāvāda, jagat* and *bhūtacaitanyavāda*.[6 Lectures] Bauddha---Four noble truths, *Pratītyasamutpādavāda*,[7 Lectures] TUTORIAL: 3	Empiricism and Kant's Critical Theory [12 Lectures] Realism and Idealism as theories of Reality: General Introduction [2 Lectures] Realism: Naive Realism [4 Lectures] TUTORIAL: 3

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MARCH	Berkeley---Rejection of Abstract Ideas, rejection of the distinction between Primary and Secondary qualities, *esse est percipi:* [11 Lectures] TUTORIAL: 2	*Kṣṇabhaṅgavāda*, *Nairātmyavāda*, Basic tenets of four Bauddha schools (In brief). [8 Lectures] Jaina--- Concepts of *Jīva,* [3 Lectures] TUTORIAL: 2	Locke's Representationalism [6 Lectures] Idealism: Subjective Idealism :Berkeley - refutation of the distinction between Primary and Secondary qualities, Subjective Idealism. [5 Lectures] TUTORIAL: 2
APRIL	Berkeley-Idealism: Hume---Impression and Ideas, Association of Ideas [10 Lectures] TUTORIAL: 3	*Ajīva, Dravya, Guṇa, Paryaya , Anekāntavāda, Syādvāda* [7 Lectures] Nyāya system---Four *Pramāṇas---Pratyakṣa---laksana*, [3Lectures] TUTORIAL: 3	Substance: Empiricist andRationalist view of Substance [10 Lectures] TUTORIAL: 3
MAY	Judgement concerning relations of Ideas and matters of fact, Causality and Scepticism [8 Lectures] TUTORIAL: 2 Conception of critical Philosophy, Possibility of metaphysics, [3 Lectures] TUTORIAL: 1	classification into *nirvikalpaka* and *savikalpaka* (including *pratyabhijñā)* and *laukika* and *alaukika* *Anumāna—laksana*, *pakṣa, sādhya, hetu, vyāpti, vyāptigrahopāya,* [11 Lectures] TUTORIAL: 3	Empiricist and Rationalist view of Substance [5 Lectures] Causality: Entailment theory [6 Lectures] TUTORIAL: 3
JUNE	Copernican Revolution, Distinction between *a priori* and *a posteriori* , Distinction between Analytic and Synthetic judgement, possibility of Synthetic a priori Judgement, space and time, transcendental idealism, noumena and phenomena. [22 Lectures] TUTORIAL: 3	*svārtha and parārthānumana*. Outlines of *upamāna* and *Śabda*. [7 Lectures] *Vaiśeṣika* System---The Basic outlines of *Dravya,Guṇa, Karma* and detailed analysis *of Sāmānya,Viśeṣa, Samavāya and Abhāva. Paramāṇuvāda.* [15 Lectures] TUTORIAL: 3	Regularity Theory [8 Lectures] Mind-body Problem: Interactionism, Parallelism, and Epiphenomenalism. [14 Lectures] TUTORIAL: 3

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Semester-III

	PHIACOR05T [History of Western Philosophy-II]	**PHIACOR06T [Outlines of Indian Philosophy-II]**	**PHIACOR07T [Western Ethics]**	**PHIHGEC03T [Indian Epistemology and Metaphysics]**	**PHISSEC01M - [Media Ethics]**
JULY:	Empiricism: Locke--- Ideas and their classifications, Refutation of Innate Ideas, Substance, 12 TUTORIAL-2	*Saṅkhya* System:- *Duhkha- traya*, *Satkāryavāda* as opposed to *Asatkāryavāda*, arguments in favour of *Satkāryavāda*, *Prakṛti*- Its Constituents and Evolutes, LECTURE-12 TUTORIAL-2	Introduction to Ethics-- Definition, Scope, Presuppositions, Basic concepts of morality, moral problems, moral action. Object of moral judgment. Different types of ethical theories---Descriptivism vs Normativism and Prescriptivism; LECTURE-12 TUTORIAL-2	Systems of Indian Philosophy: A. i)*Cārvāka* Epistemology: Perception as the only source of knowledge, Rejection of Inference and Testimony as sources of knowledge ii. Cārvāka Metaphysics: Causality- Svabhāvavāda, Yadṛcchāvāda, Akasmikatāvāda, Jagat, Bhūtacaitanyavāda **LECTURE-** 10 . Nyāya Epistemology: Classifications of *Pramana*: *Pratyaksa, Anumana, Upamana & Sabda* (In brief). **LECTURE-3** **TUTORIAL-2**	What is Media Ethics LECTURE-2
AUGUST:	Locke's Realism and theory of knowledge, Primary and Secondary Qualities 6 Berkeley---Rejection of Abstract Ideas, Rejection of the distinction between Primary and Secondary Qualities, *esse est percipi*, Idealism 15 TUTORIAL-4	Arguments for the existence of *Prakṛti*, *Puruṣa*- Arguments for its existence, Plurality of *Puruṣa,* Liberation. LECTURE-8 *Yoga* System: *Citta, Cittabhūmi, Cittavṛtti, Cittavṛtti -nirodha, Aṣṭāṅgayo*ga, LECTURE-13 TUTORIAL-4	Different types of ethical theories---Descriptivism vs Normativism and Prescriptivism; LECTURE- 8 Deontologism Teleologism LECTURE-13 TUTORIAL-4	*Pratyaksa*: *Laksana:* Classifications: Determinate (*Savikalpaka*) and Indeterminate (*Nirvikalpaka*), *Laukika, a-laukika*; Classification of *a-laukika* [**In brief].** *Sannikarsa*: *Laukika&a-laukika.* *Anumana: Laksana, Vyapti, Paramarsa, Svarthanumiti &*	Roles and Impact of Media LECTURE-8

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				Pararthanumiti. **LECTURE-** 18 **TUTORIAL-4**	
SEPTEMBER:	Hume---Impression and Ideas, Association of Ideas, Judgement concerning relations of Ideas and matters of fact, Causality and Scepticism LECTURE-17 Kant: Conception of Critical Philosophy LECTURE-3 TUTORIAL-3	Concept of *Ɪsvara.* LECTURE- 2 *Mīmāmsā* System: *Pramāṇas* in brief and *Arthāpatti* and *Anupalabdhi* in detail.(*Prābhākara* and *Bhāṭṭa* view). LECTURE-10 *AdvaitaVedānta* Philosophy of *Śaṅkara*: *Sattvatraividhyavada, Vivartavada,* LECTURE-8 TUTORIAL-3	Naturalism, Naturalistic fallacy LECTURE-5 Deontologism-- with special reference to Kant.[Good will, good will and duty, Categorical Imperative ,Duty for Duty's sake, Kingdom of Ends.] LECTURE-12 Teleologism ---Hedonism LECTURE-3 TUTORIAL-3	*Vaiśeṣika* Metaphysics: Sev categories: Outlines *Dravya, Guṇa, Karma*, a Detailed Explanations *Sāmānya,* **LECTURE-20** **TUTORIAL-3**	Media and Democracy LECTURE-8
OCTOBER:	Possibility of Metaphysics LECTURE-2 TUTORIAL-1	*Brahman*, LECTURE-2 TUTORIAL-1	Teleologism ---Hedonism LECTURE-2 TUTORIAL-1	*Viśeṣa* **LECTURE-2** **TUTORIAL-1**	Media and Democracy LECTURE-2
NOVEMBER:	Copernican Revolution, Distinction between *a priori* and *a posteriori* , Distinction between Analytic and Synthetic Judgement, Possibility of Synthetic a priori Judgement LECTURE-11 TUTORIAL-2	Relation of *Brahman* with *Jīva* and *Jagat*, Doctrine of *Māyā* LECTURE-10 *Ramānuja*: LECTURE-1 TUTORIAL-2	Teleologism ---Hedonism LECTURE-7 Utilitarianism and its different types(with special reference to Mill and Bentham) ---Act, Rule [basic concepts only] LECTURE-4 TUTORIAL-2	*Samavāya,* and *Abhāva* **LECTURE-4** Advaita Metaphysics:Natu of Brahman, *Māyā* **LECTURE-8** **TUTORIAL-2**	Functions and Responsibilities of Media LECTURE-5
DECEMBER:	Space and Time, Transcendental Idealism, Noumena and Phenomena LECTURE-9 TUTORIAL-3	*Brahman,Jīva, Jagat, Prapatti,* Refutation of *Śaṅkara's* theory of *Māyā* LECTURE-9 TUTORIAL-3	Utilitarianism and its different types(with special reference to Mill and Bentham) ---Act, Rule [basic concepts only] LECTURE-4 Theories of Punishment. LECTURE-5 TUTORIAL-3	*Jagat*, Relation between Brahman and *Jīva* **LECTURE-10** **TUTORIAL-3**	Functions and Responsibilities of Media LECTURE-5

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Semester-IV

	PHIACOR08T [Social and Political Philosophy-Western]	**PHIACOR09T [Psychology and Philosophy of Mind]**	**PHIACOR10T [Classical Indian Text]**	**PHIHGEC04T [Ethics-Indian and Western]**	**PHISSEC02M [Business Ethics]**
JANUARY:	Concept of Social Philosophy and Political Philosophy Relation and difference: Social and Political Philosophy on the one hand and Sociology and Political Science on the other. **LECTURE-** 4 **TUTORIAL-1**	Relation between Philosophy of Mind, Psychology and Philosophy of Psychology **LECTURE-**4 **TUTORIAL-1**	Annaṁbhaṭṭa's *Tarkasaṁgrahaḥ* with *Dīpikā tika* **LECTURE-4** **TUTORIAL-1**	Introduction, Differenc between Indian Ethics and Western Ethics **LECTURE-** 4 **TUTORIAL-1**	What is Business Ethics LECTURE-4
FEBRUARY:	Basic concepts: Society, Community, Association, Institution, Caste and Class, **LECTURE-**18 **TUTORIAL-3**	Relation between Philosophy of Mind, Psychology and Philosophy of Psychology. **LECTURE-**1 Psychology as science **LECTURE-**3 Associationism:Perception and Learning, Gestalt theory of Perception and Learning **LECTURE-** 12 Methods of Psychology: Introspection **LECTURE-**2 **TUTORIAL-3**	Annaṁbhaṭṭa's *Tarkasaṁgrahaḥ* with *Dīpikā tika* **LECTURE-18** **TUTORIAL-3**	*Purusarthas:* General view and their Inter-Relations **LECTURE-** 4 *Karma: Sakama, Niskama, Nitya-naimitt ,Kamya* **LECTURE-** *8* *Carvaka* Ethics. ***LECTURE-***4 Buddhist Ethics: The Four Noble Truths ***LECTURE-***2 **TUTORIAL-3**	Environmental Ethics related to business LECTURE-6
MARCH:	Social groups. **LECTURE-** 2 Social Change: The Marxist view and the Gandhian view **LECTURE-** 7 Family: **LECTURE-**1 **TUTORIAL-2**	Methods of Psychology:Extrospection and Experimental **LECTURE-**8 Freud's Theory: **LECTURE-**2 **TUTORIAL-2**	Annaṁbhaṭṭa's *Tarkasaṁgrahaḥ* with *Dīpikā tika* **LECTURE-10** **TUTORIAL-2**	*The Eight-fold Path, Pancasila.* ***LECTURE-*** *3* *Jaina Ethics:* Anuvrata Mahavrata. ***LECTURE-****5* *Moral and Non-moral actions: Concept and object of Moral Judgment.* ***LECTURE-*** *5* ***TUTORIAL-2***	Environmental Ethics related to business LECTURE-5

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APRIL:	The Marxist interpretation of Family. **LECTURE-**5 Sex gender divide, Patriarchy and the Feminist interpretation of Family. **LECTURE-**5 **TUTORIAL-3**	Conscious and Unconscious, Idand Ego **LECTURE-**10 **TUTORIAL-2**	Annaṁbhaṭṭa's *Tarkasaṁgrahaḥ* with *Dīpikā tika* **LECTURE-10** **TUTORIAL-2**	*Standards of Morality: (A) Teleological Ethics Hedonism-Psychologic & Ethical;* ***LECTURE-****10* ***TUTORIAL-2***	Advertising Ethics related to business. LECTURE-5
MAY:	The Marxist -Feminist Debate **LECTURE-**3 Political Ideals:Government: **LECTURE-**8 **TUTORIAL-2**	Super Ego **LECTURE-**3 Dualism, its types **LECTURE-**2 General discussion on Behaviourism---Methodological and Philosophical **LECTURE-**6 **TUTORIAL- 3**	Annaṁbhaṭṭa's *Tarkasaṁgrahaḥ* with *Dīpikā tika* **LECTURE-11** **TUTORIAL-3**	*Ethical-Egoism and Utilitarianism [Benthar & Mill].* ***LECTURE-****10* ***TUTORIAL-3***	Advertising Ethics related to business. LECTURE-5
JUNE:	Democracy and its different forms [Direct, Indirect, Parliamentary and Presidential] **LECTURE-**2 Socialism and its varieties: Utopian, Democratic, Scientific **LECTURE-** 15 Separation of Power: Three wings of the Government---Legislature, Executive and Judiciary(with special reference to Montesquieu) **LECTURE-**5 **TUTORIAL- 4**	The Relation between body and Mind: Parallelism, Interactionism, Bundle theory, Double Aspect theory, Occassionalism, Emergentism, and Epiphenomenalism. **LECTURE-**22 **TUTORIAL-4**	Annaṁbhaṭṭa's *Tarkasaṁgrahaḥ* with *Dīpikā tika* **LECTURE-22** **TUTORIAL-4**	*Deontological Ethics Kant: Good will, Categorical Imperative Duty for Duty's Sake.* ***LECTURE-*** *15* *Theories of Punishmen* ***LECTURE-****5* **TUTORIAL-4**	Advertising Ethics related to business. LECTURE-5

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PART III
(HONOURS)

Papers & Topics	NUMBER OF LECTURES	JULY-SEPTEMBER	OCTOBER-DECEMBER	JANUARY-MARCH	UNIVERSITY FINAL EXAMINATION
Paper V: INDIAN EPISTEMOLOGY AND LOGIC	73	CH-1=4.CH-2=4.CH-3=4CH-4=6.CH-5=7	CH-6=11.CH-7=22	CH-8=3.CH-9=12	
Paper VI: ETHICS(INDIAN/WESTERN) AND PHILOSOPHY OF RELIGION	66	GROUP-A-CH-1=6.CH-2=3GROUP-B-CH-1=5GROUP-C-CH-1=8.CH-2=8	GROUP-A-CH-5=6.CH-4=6 GROUP-B-CH-2=5 GROUP-C-CH-3=4.CH-4=2	GROUP-B-CH-3=13	
Paper VII: ANALITICAL PHILOSOPHY AND PROBLEMS OF PHILOSOPHY	50	GROUP-A-CH-1=11GROUP-B-CH-1=5.CH-2=5	GROUP-A- CH-2=6 GROUP-B- CH-3=5.CH-4=5	GROUP-A- CH-3=9. GROUP-B- CH-4=4	
Paper VIII: (OPTIONAL) PHILOSOPHICAL CLASSICS	GROUP-A=26+34 GROUP-B-=78	GROUP-A- Vedāntasāra-10 Practical and Environmental EthicsCH-1=7.CH-2=3.CH-3=5GROUP-B-SECTION-1=16SECTION-2=18-	GROUP-A- Vedāntasāra-8 <u>Practical and Environmental Ethics</u> CH-4=4.CH-5=5.CH-6=5 GROUP-B- SECTION-1=12 SECTION-2=14	GROUP-A- Vedāntasāra-8 <u>Practical and EnvironmentalEthics</u> CH-6=5 GROUP-B- SECTION-1=08 SECTION-2=10	

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PART III (**GENERAL**)

Papers & Topics	NUMBER OF LECTURES	JULY-SEPTEMBER	OCTOBER-DECEMBER	JANUARY-MARCH	UNIVERSITY FINAL EXAMINATION
PART -III PAPER-IV (OPTIONAL)	40	GROUP-A- GITA/PRACTICAL ETHICS=15	GROUP-A- GITA/PRACTICAL ETHICS=15	GROUP-A- GITA/PRACTICAL ETHICS=10	
	39	GROUP-B 15 SOCIAL AND POLITICAL PHILOSOPHY / PHILOSOPHY OF RELIGION	GROUP-B 15 SOCIAL AND POLITICAL PHILOSOPHY / PHILOSOPHY OF RELIGION	GROUP-B -9 SOCIAL AND POLITICAL PHILOSOPHY /PHILOSOPHY OF RELIGION	

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DEPARTMENT OF PHYSICS

HONOURS (CBCS Syllabus)	NUMBER OF LECTURES	JULY-SEPTEMBER 7 weeks	OCTOBER – DECEMBER 5 weeks	**HONOURS (CBCS Syllabus)**	NUMBER OF LECTURES	JANUARY-MARCH 5.5 weeks		APRIL-JUNE 7.5 weeks	
Semester-I C -I	THEORY 12 weeks Credit: 4	MATHEMATICAL PHYSICS – I Calculus, Vector Calculus NO. OF CLASSES= 28	MATHEMATICAL PHYSICS – I Calculus, Vector Calculus, Probability NO. OF CLASSES= 20	Semester-II C -3	THEORY 13 weeks Credit: 4	ELECTRICITY AND MAGNETISM NO. OF CLASSES= 22		ELECTRICITY AND MAGNETISM NO. OF CLASSES= 30	
Semester – I C-2	THEORY 12 weeks Credit: 4	MECHANICS NO. OF CLASSES=28	MECHANICS NO. OF CLASSES=20	Semester-II C -4	THEORY 13 weeks Credit: 4	WAVES AND OPTICS NO. OF CLASSES= 22		WAVES AND OPTICS NO. OF CLASSES= 30	
Semester – I P-I	PRACTICAL Credit:2	MATHEMETICAL PHYSICS LAB using **PYTHON** NO. OF. CLASSES= 28 **(subject to the arrival of new computer with given specifications)**	MATHEMETICAL PHYSICS LAB using **PYTHON** NO. OF. CLASSES= 20 **(subject to the arrival of new computer with given specifications)**	Semester – II P-3	PRACTICAL 13 weeks Credit: 2	1.To determine an unknown Low Resistance using Carey Foster's Bridge**.** 2. To verify the Thevenin and Norton theorems. 3. To verify the Superposition and Maximum power transfer theorems. 4. To determine self-inductance of a coil by Anderson's bridge. 5. To study response curve of a Series LCR circuit and determine its (a) Resonant frequency, (b) Impedance at resonance, (c) Quality		6.To study the response curve of a parallel LCR circuit and determine its (a) Anti- resonant frequency and (b) Quality factor Q. 7.To study the characteristics of a series RC Circuit. 8**.**To determine an unknown Low Resistance using Potentiometer. 9.**To determine the resistance of a**	

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						factor Q, and (d) Band width**.**		**galvanometer using Thomson's method**. **(subject to arrival of the instrument)** **10.Measurement of field strength B and its variation in a solenoid (determine dB/dx) (subject to arrival of the instrument)**	
Semester – I P-II	PRACTICAL Credit: 2	1. YOUNG'S MODULUS 2. MOMENT OF INERTIA 3. COEFFICIENT OF VISCOSITY 4. MODULUS OF RIGIDITY 5. TO STUDY RANDOM ERROR 6. TO DETERMINE 'g'AND VELOCITY OF A FREELY FALLING BODY BY DIGITAL TIME	8. To determine the elastic Constants of a wire by Searle's method 9. To determine the value of g using Bar Pendulum. 10. To determine the	Semester – I P-4	PRACTICAL 13 weeks Credit: 2	**To determine the frequency of an electric tuning fork by Melde's experiment** and verify λ2 –T law. **(Subject to arrival of the instrument**) 2. To determine refractive index of the Material of a prism using sodium source. 3. To determine the dispersive power and Cauchy constants of the material of a prism using mercury source. **(subject to the arrival of Hg source)** 4. To determine wavelength of sodium		To study Lissajous Figures to derermine the phase difference between two harmonic oscillatiions. **8. To determine the thickness of a thin paper by measuring the width of the interference fringes produced by a wedge-shaped** Film. **(Subject to arrival of theInstrument)** 9. Familiarization	

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		TECHNIQUE 7. TO DETERMINE HEIGHT OF A BUILDING USING SEXTANT NO. OF CLASSES=28	value of g using Kater's Pendulum 11. To study the Motion of Spring and calculate, (a) Spring constant, (b) g and (c) Modulus of rigidity. NO. OF CLASSES=20			light using Fresnel Biprism. 5. To determine wavelength of sodium light using Newton's Rings. 6. To determine dispersive power and resolving power of a plane diffraction grating. NO. OF CLASSES = 22		with: Schuster`s focusing; determination of angle of prism. 10. To determine wavelength of (1) Na source and (2) spectral lines of Hg source using plane diffraction grating. **(subject to arrival of the Hg. source)** 11.To investigate the motion of coupled oscillators. **(Subject to arrival of theInstrument)** 12.To determine the wavelength of sodium source using Michelson's interferometer. **(Subject to arrival of theInstrument)** NO. OF. CLASSES = 30
Semester-III C -5	THEORY 12 weeks	**Mathematical Physics II**	**Mathematical Physics II**	Semester-IV C -8	THEORY 13 weeks	**Mathematical Physics III**		**Mathematical Physics III**

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	Credit: 4	Fourier Series, Frobenues Methods and Special functions No. of Classes:28 **(Subject to the arrival of New computers)**	Some Special integrals, Variational Calculus in Physics, Analytical Dynamics, Partial Differential equations No. of Classes:20		Credit: 4	Complex analysis, Integral transform No. of Classes:22 **(Subject to the arrival of New Computers)**		Boundary value problems, matrices, Eigen value and Eigen vectors No. of Classes:30
Semester-III C -6	THEORY 12 weeks Credit: 4	**Thermal Physics** Introduction to thermodynamics, Thermodynamic potentials No. of Classes:28	**Thermal Physics** Thermodynamic potentials, Kinetic theory of gases No. of Classes:20	Semester-IV C -9	THEORY 13 weeks Credit: 4	**Elements of Modern Physics** Relativistic dynamics, Collection of identical entities No. of Classes:22		**Elements of Modern Physics** Emergence of Quantum Mechanics**, Lasers, Nuclear Physics** No. of Classes:30
Semester-III C -7	THEORY 12 weeks Credit: 4	**Digital Systems and Applications** Introduction,Integrated Circiuts, Digital Circuits, Arithmatic circuits, Data processing circuits No. of Classes:28	**Digital Systems and Applications** Sequential circuits, Timers, Registers,Counters, Computer Organization No. of Classes:20	Semester-IV C -10	THEORY 13 weeks Credit: 4	**Analog Systems and Applications** History of the development of Electronics,Semiconductor diodes, Two terminal devices, BJT No. of Classes:22		**Analog Systems and Applications** FET, Amplifiers, Oscillators, OPAMP. Application of OPAMP, Conversion No. of Classes:30
Semester-III	Theory + lab (Mixed) 12 weeks	**Basic Instrumentation Skills** Basic of Instruments,	**Basic Instrumentation Skills**	Semester-IV	Theory + lab (Mixed) 13 weeks	**Computational Physics**		**Computational Physics**

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Skilled Enhancement Course - I	Credit: 2	Electronic Voltmeter, Cathode Ray Oscilloscope, Signal generators and analysis instruments No. of Classes:14	Impedance bridges and Q meters. Digital Instruments, Digital multimeters No. of Classes:10	Skilled Enhancement Course - II	Credit: 2	Introduction, Scientific programming, Control Statements No. of Classes:12		Programming No. of Classes:16	
Semester III P5	Practical Credit: 2	**Mathematical Physics II Lab** General topics, Sorting, statistical Calculation, Interpolation, Numerical Differentiation No. of Classes: 28	**Mathematical Physics II Lab** Numerical integration, Integration by Stochastic method,Solution of ODE first order differential equation No. of Classes: 20	Semester IV P8	Practical Credit:2	**Mathematical Physics III Lab** ODE initial value problem, Solution of Linear System of equations,Inverse of a matrix, Orthogonalization method,Eigenvalue calculation,Eigen Vectors No. of Classes: 22		**Mathematical Physics III Lab** Boundary value problems, Newton Raphson method, Integral transform, Dirac Delta function, Introduction of OCTAVE and its use No. of Classes: 32	
Semester III P6	Practical Credit: 2	**Thermal Physics Lab** 1. Stefan's law 2. Thermal Conductivity of Bad conductor by Lee's method 3. Temperature coefficient of resistance of PRT using constant current source **(subject to the arrival of the instrument)**	Thermal Physics Lab 6.To calibrate a thermocouple to measure temperature in a specified range using OPAMP (subject to the arrival of the instrument) 7.Measuring Unknown temperature using Diode	Semester IV P9	Practical Credit:2	Elements of Modern Physics lab 1. Wavelenth of Hα emission of Hydrogen atom 2. Absorption ines of Iodine vapour 3. Value of e/m by bar magnet 4. Wavelength of laser source by diffraction of double slits 5. Wavelenth and		**Elements of Modern Physics lab** 8. Planck's Constant using blackbody radiation and photo detector 9. Photoelectric Effect 10. Planck's constant using 4 LEDs of different colours 11. Ionization	

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		4. To study thermo emf of a thermocouple 5. To calibrate a thermocouple to measure temperature in a specified range using potentiometer No. of Classes: 28 **(subject to the arrival of the Instrument)**	Sensor 8.To determine mechanical equivalent of heat (subject to the arrival of the Instrument) 9. Coefficient of thermal conductivity by Searle's apparatus (subject to the arrival of the Instrument) 10. Coefficient of thermal conductivity by Angstorm's method No. of Classes: 20 **(subject to the arrival of the Instrument)**			anguar spread of solid state laser by plane diffraction grating 6. Work function of the material of filament by directly heated diode 7. Tunneling effect in tunnel diode by IV characteristics No. of Classes: 22 **(subject to the arrival of the instruments)**		potential of mercury 12. Millican's Oil drop experiment 13. Wavelengt oflaser source using diffraction of single slit No. of Clases: 30 **(subject to the arrival of the instruments)**	
Semester III P7	Practical Credit:2	**Digital System and Applications lab** 1. Use of CRO 2. Use of Multimeter	**Digital System and Applications lab** 6.Different types of Adders 7 FlipFlop	Semester IV P10	Practical Credit: 2	**Analog Systems and Applications lab** 1. I-V characteristics of PN junction		**Analog Systems and Applications lab** 10. To add DC voltage using OPAMP in	

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		3. NOT gate using transistor 4. Use of Universal gate 5. For a given truth table find the equation and develop the circuit No. of Classes: 28	8. Astable Multivibrator and Monostable Multivibrator using 555 timer 9. Subtractor 10. JK Master Slave flipflops 11. Counters 12. Shift Registors No. of Classes: 20			diode and Light emitting diode using both votage and current source 2. To study Zener diode 3. V-I and power curves of Solar Cell 4. Characteristics of BJT in CE configuration 5. To Study RC coupled Oscillator 6. Inverting, Noninvering and buffer amplifier using OPAMP 7. Wien bridge oscillator 8. To deign a circuit to simulate 1st and 2nd order differential equation 9. To study inverting and non inverting amplifier using OPAMP and study its frequency response No. of Classes: 22		inverting and in noninverting mode 11. OPAP as integrator and differentiator 12. To Study CE transistor amplifier 13. Various biasing configuration of BJT for normal Class A operation 14. To study Phase shift Oscillator and Colpitt's Oscillator 15. To design DAC and ADC 16. Precision differential amplifier 17. To Study zero crossing detector and comparator 18. To study Schmitt trigger and associated circuits No. of Classes:30	

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DEPARTMENT OF PHYSICS

HONOURS	NUMBER OF LECTURES	JULY-SEPTEMBER	OCTOBER -DECEMBER	JANUARY-MARCH	TEST EXAMINATION	APRIL-JUNE	TUTORIAL AND UNIVERSITY FINAL EXAMINATION
PART -III PAPER -V	THEORY	UNIT VB, GROUP D QUANTUM MECHANICS NO. OF CLASSES= 21	UNIT VB, GROUP D QUANTUM MECHANICS NO. OF CLASSES= 18	UNIT VB, GROUP E SPECTROSCOPY NO. OF CLASSES= 6 UNIT VA, GROUP A CLASSICAL MECHANICS NO. OF CLASSES= 20			
		UNIT VA, GROUP B SPECIAL THEORY OF RELATIVITY NO. OF CLASSES= 14	UNIT VB, GROUP E SPECTROSCOPY NO. OF CLASSES= 10				
		UNIT VA, GROUP C STATISTICAL PHYSICS NO. OF CLASSES= 14					
			UNIT VB, GROUP E X-Ray= 5				
PART -III PAPER -VI	THEORY	UNIT VIA, GROUP A NUCLEAR PHYSICS NO. OF CLASSES=28	UNIT VIA, GROUP A NUCLEAR PHYSICS NO. OF CLASSES=20	UNIT VIB, GROUP C SOLID STATE PHYSICS NO. OF CLASSES= 18			
		UNIT VIA, GROUP D LASER AND FIBRE OPTICS NO. OF CLASSES= 7	UNIT VIA, GROUP B INSTRUMENTAL METHOD NO. OF CLASSES=5				
PART -III PAPER - VIIA	THEORY		UNIT VIIA ELECTRONICS NO. OF CLASSES= 12	UNIT VIIA ELECTRONICS NO. OF CLASSES= 12			
PART -III PAPER - VIIB	Practical	COMPUTER PROGRAMMING NO. OF CLASSES= 14	COMPUTER PROGRAMMING NO. OF CLASSES= 16	COMPUTER PROGRAMMING NO. OF CLASSES= 10			

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DEPARTMENT OF PHYSICS

HONOURS	NUMBER OF LECTURES	JULY-SEPTEMBER	OCTOBER -DECEMBER	JANUARY-MARCH	TEST EXAMINATION	APRIL-JUNE	UNIVERSITY FINAL EXAMINATION
PART -III PAPER - VIIIA	Practical	BIPRISM POLAROID GRATING NO. OF CLASSES=14	B-H LOOP(**SUBJECT TO ARRIVAL OF THE INSTRUENT)** ANDERSON BRIDGE FOURIER SPECTRUM NO. OF CLASSES=14	BAND GAP CROSSED GRATING NO. OF CLASSES= 10			
PART -III PAPER - VIIIB		VOLTAGE AMPLIFIER WIEN BRIDGE OSCILLATOR TEMPERATURE CONTROLLER NO. OF CLASSES=14	TRANSISTOR CHARACTERISTICS OP-AMP BOOLEAN EXPRESSION NO. OF CLASSES=14	REGULATED POWER SUPPLY H Parameters NO. OF CLASSES =10			

DEPARTMENT OF PHYSICS (GENERAL)

Semester I	Theory Credit: 4	JULY-SEPTEMBER 7 weeks Particle Dynamics STR Mathematical methods Elasticity NO. OF Classes = 28	OCTOBER –DECEMBER 5 weeks Particle Dynamics STR Oscillations Gravitation NO. OF Classes = 20	Semester II	Theory Credit: 4	JANUARY-MARCH 5.5 weeks Vector Analysis Electrostatics Electromegnetic Induction NO. OF CLASS = 30	APRIL-JUNE 7.5 weeks Linear Network Maxwells Equations Wave Propagation Magnetic Induction NO. OF CLASSES= 22

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Semester I	**PRACTICAL** **Credit: 2**	1Modulus of rigidity 2.Moment of Inertia 3.Coefficient of Viscosity 4.Young's Modulus 5.To study the random error in observations of time period of some oscillation using chronometer**.** NO. OF CLASSES=28	6.To determine the height of a building using a Sextant. 7. To determine the elastic Constants of a wire by Searle's method. 8.To determine the value of g using Bar Pendulum. 9. To determine the value of g using Kater's Pendulum**.** 10. To study the Motion of Spring and calculate, (a) Spring constant, (b) g and (c) Modulus of rigidity NO. OF CLASSES=20	Semester II Practical Credit: 2		1. To determine an unknown Low Resistance using Carey Foster's Bridge. **2.** To verify the Thevenin and Norton theorems. 3. To verify the Superposition and Maximum power transfer theorems. 4. To determine self-inductance of a coil by Anderson's bridge. 5. To study response curve of a Series LCR circuit and determine its (a) Resonant frequency, (b) Impedance at resonance , (c) Quality factor Q, and (d) Band width. **No. of Classes = 22**	6.To study the response curve of a parallel LCR circuit and determine its (a) Anti-resonant frequency and (b) Quality factor Q. 7. To study the characteristics of a series RC Circuit. 8. To determine an unknown Low Resistance using Potentiometer. 9. To determine the resistance of a galvanometer using Thomson's method.

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							10. Measurement of field strength B and its variation in a solenoid (determine dB/dx) **NO. OF CLASS = 30**
Semester III	**THEORY Credit: 4**	**Thermal Physics and Statistical Mechanics** Laws of Thermodynamics, Thermodynamic potentials, Kinetic theory of gases No. of Classes: 28	**Thermal Physics and Statistical Mechanics** Theory of Radiation Statistical Mechanics No. of Classes: 20	**Semester IV**	**THEORY** **Credit: 4**	**Waves and Optics** Superposition of two collinear harmonic oscillations, Superposition of two perpendicular harmonic oscillations, Interference Michelson Interferometer No. of Classes: 22	**Waves and Optics** Wave motion general, Fluids, Sounds, Wave Optics, Diffraction, Polarization
Semester III	**PRACTICAL Credit: 2**	**Thermal Physics and Statistical Lab** 1. Verification of Stefan's Law using a torch bulb 2. To determine the Coefficient of Thermal Conductivity of a bad conductor by Lee and	**Thermal Physics and Statistical Lab** 7. Measurement of un temperature using Diode sensor. 8. To determine Mech Equivalent of Heat, J, by Callender and Barne's constant flow method. 9. To determine the Coefficient of Thermal Conductivity of Cu by	**Semester IV**	**PRACTICAL** **Credit: 2**	**Waves and Optics Lab** 1.To determine the frequency of an electric tuning fork by Melde's experiment and verify $\lambda 2$ –T law. **2.** To determine oefficient of Viscosity of water by Capillary Flow Method (Poiseuille's method). 3. To determine refractive index of the Material of a	**Waves and Optics Lab** 7.To determine dispersive power and resolving power of a plane diffraction grating. **8.** To determine the thickness

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		Charlton's disc method. 3. To determine the Temperature Coefficient of Resistance by Platinum Resistance Thermometer (PRT).using constant current source (**Subject to the arrival of the instrument**) 4.To study the variation of Thermo-Emf of a Thermocouple with Difference of Temperature of its Two Junctions. 6. To calibrate a thermocouple to measure temperature in a specified Range by Null Method using a potentiometer. No. of Classes: 28	Searle's Apparatus. **10.** To determine the Coefficient of Thermal Conductivity of Cu by Angstrom's Method. No. of Classes: 20			prism using sodium source. 4.To determine the dispersive power and Cauchy constants of the material of a prism using mercury source. 5.To determine wavelength of sodium light using Fresnel Biprism. 6.To determine wavelength of sodium light using Newton's Rings. No. of Classes: 22	of a thin paper by measuring the width of the interference fringes produced by a wedge-shaped Film. **9.** Familiarization with: Schuster`s focusing; determination of angle of prism. **10.** To determine wavelength of (1) Na source and (2) spectral lines of Hg source using plane diffraction grating. **11.** To investigate the motion of coupled oscillators. **12.** To determine the wavelength of sodium source using

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							Michelson's interferometer. (**Subject to the arrival of the Instruments**) No. of Classes: 30

DEPARTMENT OF PHYSICS

GENERAL	NUMBER OF LECTURES	JULY-SEPTEMBER	OCTOBER - DECEMBER	JANUARY-MARCH	TEST EXAMINATION	APRIL-JUNE	UNIVERSITY FINAL EXAMINATION
PART -III PAPER – IV 70 MARKS	**THEORY**	PRODUCTION AND MEASUREMENT OF HIGH VACUUM ENERGY SOURCES NO. OF CLASSES=14	ELECTRONICS NO. OF CLASSES=14	COMMUNICATIONS AND TRANSMISSION OF E-M WAVE NO. OF CLASSES=14		COMPUTER PROGRAMMING TUTORIAL CLASSES ON PROGRAMMING NO. OF CLASSES=14	
PAPER – IV 30 MARKS	**PRACTICAL**	1. CONVERSION OF AMMETER TO VOLTMETER AND VICE VERSA 2. TO CONSTRUCT AN ADJUSTABLE VOLTAGE POWER SOURCE NO. OF CLASSES=28	3. INCREASE OF INTERNAL RESISTANCE OF AN ANALOG VOLTMETER BY USING OPAMP 4. USE OF OPAMP AS INVERTING, NON INVERTING, DIFFERENTIAL AMPLIFIER AND ADDER NO. OF CLASSES=20	TO CALIBRATE A GIVEN TEMPERATURE SENSOR AND USE THE SENSOR TO DEVELOP A PHOTOSENSOR AND USE OF IT NO. OF CLASSES=24		TO FAMILIARISE WITH THE OPERATING SYSTEM AND TO SOLVE SIMPLE PROBLEMS BY PROGRAMMING IN C OR FORTRAN NO. OF CLASSES=32	

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ACADEMIC CALENDER 2019 (ANNUAL SYSTEM Part III & CBCS SYSTEM Semester III & IV)
DEPARTMENT OF POLITICAL SCIENCE (HONOURS & GENERAL)
(HONOURS) PLSACOR

Papers & Topics	NUMBER OF LECTURES	JULY	AUG	SEPT	OCT	NOV	DEC
Semester I (HONOURS)							
Paper I Understanding Political Theory	90	Module 1 Module 2a	Module 2 b	Module 2c & d	Module 3a	Module 3 b & c	Module3d
Paper II Constitutional Government and Democracy in India	90	Module 1 a Module 3a (Executive)	Module1b Module3a (Legislature)	Module 1c Module3a (Judiciary)	Module2	Module3b (Executive)	Module 3b legislature & Judiciary
Semester II (HONOURS)							
Papers & Topics	NUMBER OF LECTURES	Jan	Feb	March	April	May	June
Paper III Political Theory- Concepts and Debates	90	Module 1(i) Nationalism & Nation State	Module 1(ii) Sovereignty: Monism Module3 a	Module 1(ii) Sovereignty: Pluralism Module 2 (i) Rights Module 3a	Module 2(i) Liberty Module 3 b	Module2 (i) Equality (ii)Justice Module 3 b	Module2 (ii)Justice Plato Rawls
Paper IV Political Process in India	90	Module 1(a) Party system in India: features	Module 1(a) Party system in India: Trends & coalition Governments Module 3(a) Corruption and politics:	Module 2(a) Module 3(a) Measures to curb corruption in Indian politics	Module 1(b) Module 2(b) Role of religion	Module 1(b) Module 2(b) Caste & Dalits	Module 2(b) Women Module 3(b)

Papers &Topics	NUMBER OF LECTURES	JULY	AUG	SEPT	OCT	NOV	DEC
Semester III (HONOURS)							
Paper – V Course Title - Introduction to Comparative	90	Module1a (Lecture-12 Tutorial-3)	Module1b Module2a (Lecture-17	Module 2b (Lecture-17 Tutorial-3)	Module2c (Lecture-3 Tutorial-2)	Module2c Module3- Britain	Module3- Brazil, China

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Government and Politics			Tutorial-4)			(Lecture-12 Tutorial-3)	Tutorial-4)
Paper – VI Course Title - Perspectives on Public Administration	90	Module1a Module2a-Scientific Management (Lecture-12; Tutorial-3)	Module1b Module2a-Administrative, Bureaucracy Management (Lecture-17 Tutorial-4)	Module1c Module2b-Elton Mayo, Herbart Simon (Lecture-17 Tutorial-3)	Module2c-Fred Riggs Module3-New Public Administration (Lecture-3 Tutorial-2)	Module2c-Peter Drucker Module3-New Public Management, New Public Service Approach (Lecture-12 Tutorial-3)	Module 3-Good Governance, Feminist Perspective (Lecture-10 Tutorial-4)
Paper – VII Course Title - Perspectives on International Relations and World History	90	Module 1a Module 2a (Lecture-5 Tutorial-3)	Module 1b,c Module 2b, c (Lecture-18 Tutorial-4)	Module 1d (Lecture-2 Tutorial-0)	Module2d&e Liberty Module 3a&b (Lecture-12 Tutorial-3)	Module 3c,d,e (Lecture-13; Tutorial-4)	Module3f,g&h (Lecture-22; Tutorial-3)
Semester IV (HONOURS)							
Papers &Topics	NUMBER OF LECTURES	Jan	Feb	March	April	May	June
Paper – VIII Course Title - Political Processes and Institutions in Comparative Perspective	90	Module 1(a) Module 2(a) (Lecture-5; Tutorial-3)	Module 1b Module 2b (Lecture-18; Tutorial-4)	Module 3(a)-USA, CANADA (Lecture-2; Tutorial-0)	Module 3a- India (Lecture-12; Tutorial-3)	Module 3i (Lecture-13; Tutorial-4)	Module 3ii (Lecture-22; Tutorial-4)
Paper – IX Course Title – Public Policy and Administration in India	90	Module 1a &b Module 2(a) (Lecture-5; Tutorial-3)	Module 1c&d Module 2a (Lecture-18; Tutorial-4)	Module 1e Module 2b (Lecture-2; Tutorial-0)	Module 2b Module 3a- (Lecture-12; Tutorial-3)	Module 3b (Lecture-13; Tutorial-4)	Module 3c (Lecture-22; Tutorial-4)
Paper X Course Title – Global Politics	90	Module 1a &b Module 2(a) (Lecture-5; Tutorial-3)	Module 1c&d Module 2b (Lecture-18; Tutorial-4)	Module 1e Module 2c (Lecture-2; Tutorial-0)	Module 2d, Module 3a- (Lecture-12; Tutorial-3)	Module 2e (Lecture-13; Tutorial-4)	Module 3 (Lecture-22; Tutorial-4)

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Generic Elective PLSHGEC & PLSADSE

Papers & Topics	NUMBER OF LECTURES	JULY	AUG	SEPT	OCT	NOV	DEC
Semester I							
PAPER I Introduction to Political Theory	90	Module Ia Module II (Democracy)	Module Ib Module II (Liberty, Equality &Justice)	Module II (Rights,& Gender) Module III a	Module II (Gender, Citizen) Module III a	Module II (Civil Society& State) Module IIIc&d	Module IIId
Semester II							
Papers & Topics	NUMBER OF LECTURES	Jan	Feb	March	April	May	June
Indian Government and Politics	90	1. Making of the Constitution by the Constitutional Advisor, 2. a	1. Drafting Committee 2b 3a Union Government: Executive &Legislature	1. the Constituent assembly 2.b 3a Judiciary	2b 3b State Government: Executive, Legislature	2c 3b State Government: Judiciary	2c 3c 3d

Papers &Topics	NUMBER OF LECTURES	JULY	AUG	SEPT	OCT	NOV	DEC
Semester III							
Paper – III Comparative Government and Politics	90	Module Ia Module IIa (Lecture-10; Tutorial-3)	Module Ib Module IIb (Lecture-18; Tutorial-4)	Module IIc Module III a (Lecture-20; Tutorial-3)	Module IIc (Lecture-2; Tutorial-1)	Module III (Lecture-12; Tutorial-2)	Module III (Lecture-10; Tutorial-3)
Semester IV							
Papers & Topics	NUMBER OF LECTURES	Jan	Feb	March	April	May	June
Paper – IV Introduction to International Relations	90	Module Ia (Lecture-4; Tutorial-1)	Module Ib Module IIa (Lecture-18; Tutorial-3)	Module IIb &c (Lecture-13; Tutorial-2)	Module III a &b (Lecture-11; Tutorial-2)	Module III c, d, e (Lecture-10; Tutorial-3)	Module III f, g, h, i Module II (Lecture-20; Tutorial-4)

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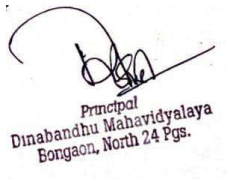
Part III Annual System

Papers & Topics	NUMBER OF LECTURES	JULY-SEPTEMBER	OCTOBER-DECEMBER	JANUARY-MARCH	UNIVERSITY FINAL EXAMINATION
PART-III (HONOURS)					
PAPER V INTERNATIONAL RELATIONS AND WORLD POLITICS	105	UNIT-I (20 Lectures) UNIT-II (20 Lectures) UNIT-III-(20 Lectures)	UNIT-IV-(20 Lectures) UNIT-V-(25 Lectures)		
PAPER VI WESTERN POLITICAL THOUGHT	105	UNIT-I (20 Lectures) UNIT-II (20 Lectures) UNIT-III-(20 Lectures)	UNIT-IV-(20 Lectures) UNIT-V-(25 Lectures)		
PAPER-VII-- INDIAN POLITICAL THOUGHT	105	UNIT-I (20 Lectures) UNIT-II (20 Lectures) UNIT-III-(20 Lectures)	UNIT-IV-(20 Lectures) UNIT-V-(25 Lectures)		
PAPER-VIII-PUBLIC AMINISTRATION AND MANAGEMENT	110	UNIT-I (20 Lectures) UNIT-II (20 Lectures) UNIT-III-(20 Lectures)	UNIT-IV-(25 Lectures) UNIT-V-(25 Lectures)		

Papers & Topics	NUMBER OF LECTURES	JULY-SEPTEMBER	OCTOBER-DECEMBER	JANUARY-MARCH	UNIVERSITY FINAL EXAMINATION
PART-III (GENERAL)					
PAPER-4- CONTEMPORARY POLITICAL AND ADMINISTRATIVE ISSUES IN INDIA	18	UNIT-I -4, UNIT-II - 4 UNIT-III-4,	UNIT-IV-3 UNIT-V-3		



SEMESTER-1 HONOURS (CORE 1 & 2)

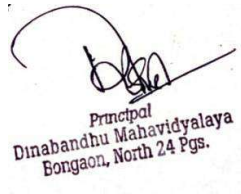
BOOKS	CLASSESS	JULY-AUGUST	SEPTEMBER-OCTOBER	NOVEMBER-DECEMBER
RAGHUVAMSAM	10	4	3	3
KUMARASABHAVAM	18	8	5	5
KIRATARJUNIYAM	22	9	8	5
NITISATAKAM	15	6	4	5
MAHAKAVYA & GITIKAVYA	10	3	3	4
VEDIC LITERATURE	20	7	7	6
RAMAYANA	10	4	3	3
MAHABHARATA	10	3	4	3
PURANAS	10	3	3	4
VYAKARANA, DARSANA, SAHITYASASTRA	25	9	8	8

SEMESRER -2 HONOURS (CORE 3 & 4)

BOOKS	CLASSESS	JULY-AUGUST	SEPTEMBER-OCTOBER	NOVEMBER-DECEMBER
SUKANASOPADESA	30	10	10	10
VISRUTACARITAM	23	8	7	8
PROSEROMANCES, FABLE LITERATURE	22	9	8	5
GITA: CONGNATIVE & EMOTIVE APPARATUS	23	8	9	6
GITA: CONTROLLING THE MIND	30	10	9	11
GITA: SELF MANAGEMENT THROU DEVOTION	22	9	8	5

EMESTER-1 GENERAL (DSC-1A/DSC2A)

BOOKS	CLASSESS	JULY-SEPTEMBER	OCTOBER-DECEMBER
RAGHUVAMSAM CANTO-1(VERSE 1-25)	10	5	5



KUMARASAMBHAVAM CANTO-5(VERSE 1-30)	30	14	16
NITISATAKAM (1-20 VERSES 1ST TWO PADDHATIS)	22	11	11
HISTORY OF SANSKRIT POETRY	15	8	7

SEMESTER-2 GENERAL (DSC-1B/DSC-2B)

BOOKS	CLASSESS	JULY-SEPTEMBER	OCTOBER-DECEMBER
SUKANASOPADESA	15	8	7
SIVRAJAVIJAYAM	30	16	14
SERVEY OF SANSKRIT LITERATURE- PROSE	30	15	15

SEMSETER-III HONOURS (CORE COURSE 5, 6 &7)

CORE COURSE	BOOKS	CLASSES	JULY-AUGUST	SEPTEMBER-OCTOBER	NOVEMBER-DECEMBER
CC-5	Svapnavāsavadattam	25	10	07	08
	Abhijñānasakuntalam	50	20	15	15
CC-6	Sanskrit Poetics	10	08	02	-
	Forms of Kavya Literature	15	05	06	04
	Sabda Sakti and Rasa Sutra	20	05	07	08
	Alamkara (Figure) and Chandasa(Metre)	30	12	10	08
CC-7	Indian Social Institution: Nature and Concept	15	05	06	04
	Structure of Society and Value of Life: Varna System and Caste System	25	08	09	08
	Indian Policy: Origin and Development	30	08	10	12
	Cardinal Theories and Thinkers of Indian Polity	15	02	08	05

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Semester-IV HONOURS (Core Course-8, 9 & 10)

CORE COURSE	BOOKS	CLASSES	JANUARY-FEBRUARY	MARCH-APRIL	MAY-JUNE
CC-8	Epigraphy	20	08	06	06
	Paleography	20	08	08	04
	Study of Selected Inscription	25	10	08	07
	Chronology	10	02	04	04
CC-9	Survey of Modern Sanskrit Literature in Bengal	35	14	10	11
	Gadyakavya and Rupaka	40	15	12	13
CC-10	Sanskrit Studies in West : William Jones,Charles Wilkins,H. Wilson, Maxmullar, J.G.Buhler,Mac Donell,Weber,W.T.Whitney	30	08	12	10
	Sanskrit Studies in East: Swami Vivekananda, Sri Aurobinda, Dayānanda Sarasvatī, Haridasa Siddhāntavāgīśa, Śrījīva Nyāyatīrtha, Kshitish Chandra Chatterji,Roma Chaudhuri, Pañcanana Tarkaratna & Ramaranjan Mukherji	45	20	14	11

Semester-III GENERAL (DSC-1C/GE-1C)

BOOKS	CLASSES	JULY-SEPTEMBER	OCTOBER-DECEMBER
Svapnavāsavadattam	25	15	10
Abhijñānasakuntalam	50	28	22

Semester-IV GENERAL (DSC-1D/GE-1D)

BOOKS	CLASSES	JANUARY-MARCH	APRIL-JUNE
Laghusiddhāntakaumudī: Samjyāprakaran	25	15	10
Laghusiddhāntakaumudī: Sandhiprakaran	50	32	18
Laghusiddhāntakaumudī: Vibhaktiprakaran	30	18	12

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SEMESTER III SEC-1 (AECC- SKILL BASED)

BASIC SANSKRIT	CLASSESS	JULY- AUGUST	SEPTEMBER - OCTOBER	NOVEMBER - DECEMBER
TRANSLATION	20	10	4	6
PARAGRAPH WRITING	02	0	2	0
LETTER WRITING	02	0	2	0
EASSY WRITING	06	2	2	2

SEMESTER IV SEC-2 (AECC-SKILL BASED)

SPOKEN SANSKRIT & COMPUTR AWARENESS FOR SANSKRIT	CLASSESS	JANUARY-FEBRUARY	MARCH-APRIL	MAY-JUNE
BASIC COMPUTR AWARENESS	15	7	4	4
TYPING IN UNICODE FOR PRESERVATION	8	4	4	0
DIGITALIZATION OF SANSKRIT TEXT WEB PUBLISHING	8	1	3	4

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PART III (HONOURS)

Papers & Topics	NUMBER OF LECTURES	JULY-SEPTEMBER	OCTOBER-DECEMBER	JANUARY-MARCH	UNIVERSITY FINAL EXAMINATION
PART-3 (HONOURS)					
PAPER-V	116				
RGVEDA		10	5	8	
SUKLAYAJURVEDA		2	2		
BRAHMANAN-SAT+AITEREYA		5	4	3	
BRI.UPANISAD-4/4		3	6	8	
VEDIC GRAMMAR+PADAPATH		5	10	15	
HSL(VEDIC PORTION)		10	8	12	
PAPER-VI	117				
MANUSAMHITA-7TH CHPTR		10	10	12	
ARTHASASTRA-ADHI-1 & 2		8	10	15	
YAJNAVALKYA SAMHITA-RINADAN		10	10	12	
SURVEY OF LIT.DHARMA,NITI &ARTHA		5	5	10	
PAPER-VII	123				
TARKASAMGRAHA		15	15	42	
INDIAN PHILOSOPHY		10	10	31	
PAPER-VIII	165				
SIDDHANTAKOUMUDI: a.KARAKAPRAKARAN		18	17	33	
b.SAMASAPRAKARANA		12	20	33	
ELEMENTS OF IE LINGUISTICS		10	10	12	

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PART III (GENERAL)

Papers & Topics	NUMBER OF LECTURES	JULY-SEPTEMBER	OCTOBER-DECEMBER	JANUARY-MARCH	UNIVERSITY FINAL EXAMINATION
PAPER-IV	91				
KAVYAPRAKAS-ULLAS-X		5	5	12	
MAHABHARATAM-UDYOGPARVAN-CHAPTER-33		5	5	20	
SCIENTIFIC & TECHNICAL LIT.		5	5	14	
COMPOSITION IN SANSKRIT		4	2	9	

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ACADEMIC CALENDAR FOR SEMESTER I AND II (HONOURS & GENERAL) (2019-2020)

Honours Course

		SEMESTER-I			
Month	No. of Teaching days available	Topic		Class teaching in hours of each core	Tutorial In hours
		ZOOACOR01T Marks:50+25=75 **NON-CHORDATE I**	ZOOACOR02T Marks:50+25=75 **ECOLOGY**		
July,19	26	**Unit 1: Protista, Parazoa & Metazoa** i)Characteristic and classification up to classes ii) study of *Euglena*, *Amoeba* and *Paramoecium* iii)Locomotion and reproduction in protista **Unit 2: Porifera** i)characteristic and classification upto classes ii)Canal system and spicules in sponges **Unit 3: Cnidaria** i)characteristic and classification upto classes ii) coral and coral reefs	**Unit -1 : Introduction to Ecology** i)History of ecology, Autecology and synecology, Laws of limiting factors **Unit -2: Population** i)Unitary and Modular populations, Demographic factors, life tables, fecundity tables. **Unit -3: Community** i)Species diversity, abundance, dominance	22	4

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		PRACTICAL 1.Study of whole mount of *Euglena, Amoeba, Paramoecium*. 2. Binary fission and Conjugation in Paramoecium 3. Examination of freshwater pond water collected from different places for diversity of protists in it.	**PRACTICAL** 1.Study of life tables and plotting of survivorship curves of different types from the hypothetical/real data provided. 2.Determination of population density of a natural/hypothetical population.		
August,19	24	**Unit 1: Protista, Parazoa & Metazoa** iv) Evolution of symmetry and segmentation of Metazoa. v) Life cycle and pathogenicity of *Giardia*, *Leishmania*, **Unit 3: Cnidaria** iii) Polymorphism in Cnidaria **Unit 6: Nemathelminthes** i)General characteristics and Classification upto classes ii) Origin and evolution of parasitic helminthes.	**Unit -1 : Introduction to Ecology** ii) levels of organization, study of physical factors, the Biosphere. **Unit -2: Population** ii)survivorship curves, dispersal and dispersion, iii) Geometric, exponential and logistic growth: equation and patterns, r and k strategies. Density dependent and density independent factor iv)Population interactions, Gause,s Principle with laboratory and field example, Lotka-Volterra equation for competition. **Unit -3: Community** ii)Richness, vertical stratification, Ecotone and edge effect.	22	4

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		PRACTICAL 4.Study of *Sycon, Hyalonema, Euplectella, Spongilla.* 5. Study of *Obelia, Physalia, millepora, Aurelia, Tubipora, Corallium.* 6. Examination of freshwater pond water collected from different places for diversity of protists in it. 7. One specimen/slide of any Ctenophore	**PRACTICAL** 3. Study of life tables and plotting of survivorship curves of different types from the hypothetical/real data provided. 4. Sampling of Phytoplankton and zooplankton. 5.Study of species diversity. Shannon-Weiner index		
September,19	22	**Unit-1: Protista, Parazoa & Metazoa** vi) Life cycle and pathogenicity of *Entamoeba* and *Plasmodium* **Unit 3: Cnidaria** iv) Metagenesis in Obelia. **Unit 6: Nemathelminthes** iii) Life cycle and pathogenicity of *Ascaris*	**Unit -3: Community** iii)Ecological succession and one example of it. **Unit -5: Applied Ecology** i)Wildlife Conservation (in situ and ex-situ conservation) ii)Management strategies for tiger conservation. iii)Wildlife Protection act (1972) .	18	4

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		PRACTICAL viii) Study of *Alcyonium, Gorgonia, Metridium, Pennatula, Fungia, Meandrina, Madrepora* ix) study of adult *Fasciola hepatica, Taenia solium* and their life cycles. x) Study of adult *Ascaris lumbricoides* and its life stages	**PRACTICAL** 6. Measurement of temperature, turbidity/penetration of light. 7. Determination of pH 8. Study of species diversity. Shannon-Weiner index		
October,19	3	**Unit – 4: Ctenophora** i)General characteristic	**Unit -4: Ecosystem** i)Types of ecosystem with an example in detail,	3	-
		PRACTICAL	**PRACTICAL**		
November,19	24	**Unit -5: Platyhelminthes** i)General characteristics and Classification upto classes. ii) Life cycle and pathogenicity of *Fasciola*. **Unit 6: Nemathelminthes** iv) Life cycle and pathogenicity of *Ancylostoma* and *Wuchereria*	**Unit 4: Ecosystem** **ii)** Food chain, Detritus and grazing food chain. Linear and Y-shaped food chain. iii) Food web, energy flow through ecosystem, Ecological pyramids. Ecological efficiencies	20	

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		PRACTICAL **xi) Field trip** xii)Preparation of field report	**PRACTICAL** **8.** Determination of Dissolve oxygen content 9. COD 10. Field Trip and preparation of report.		
December,19	20	**Unit – 4: Ctenophora** ii)General characteristic **Unit -5: Platyhelminthes** Life cycle and pathogenicity of *Taenia solium*	**Unit 4: Ecosystem** iii)Nutrient and biogeochemical cycle with an example of Nitrogen cycle. Human modified ecosystem.	16	4
		PRACTICAL xiii)Preparation and submission of field report	**PRACTICAL** 11. Determination of free CO_2 12. Preparation submission of report.		

		SEMESTER-II			
Month	No. of Teaching days available	Topic		Class teaching in hours of each core	Tutorial In hours
		ZOOACOR03T **Marks:50+25=75** **NON-CHORDATE-II**	**ZOOACOR04T** **Marks:50+25=75** **CELL BIOLOGY**		

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January'20	21	**Unit 1: Introduction to Coelomates** i)Evolution of Coelom **Unit 3: Arthropoda** i)General characteristics and Classification up to classes.	**Unit 1: Overview of cells** i)Prokaryotic and Eukaryotic cells **Unit 2: Plasma membrane** i)Various models of plasma membrane structure	17	5
		PRACTICAL i)Study of specimens	**PRACTICAL** i)Preparation of temporary stained squash of onion root tip to study various stages of mitosis.		
February,20	20	**Unit 1: Introduction to Coelomates** ii)Evolution of metamerism **Unit 2: Annelida** i)General characteristics and Classification up to classes. ii)Excretion in Annelida. **Unit 3: Arthropoda** i)Vision in Arthropods ii)Respiration in Arthropods **Unit 5: Mollusca** i) General characteristics and Classification up to classes.	**Unit 1: Overview of cells** ii)Virus, Viroids, Mycoplasma, Prions. **Unit 2: Plasma membrane** ii)Transport across membranes: Active and Passive transport, Facilitated transport. iii)Cell junctions: Tight junctions, Desmosomes, Gap junctions iv)Extracellular Matrix-cell interaction. **Unit 6: Nucleus** i)Structure of nucleus: Nuclear envelope,Nuclear pore complex. **Unit 7: Cell division** i)Mitosis	16	4

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		PRACTICAL Study of specimens	**PRACTICAL** ii) Preparation of temporary stained squash of onion root tip to study various stages of mitosis. iii)Study of various stages of meiosis. iv) Preparation of permanent slide to show the presence of Barr body in human female blood.		
March,20	24	**Unit 3: Arthropoda** iii)Metamorphosis in insect iv)Social life in bees. **Unit 4: Onychophora** i) General characteristics and Evolutionary significance **Unit 5: Mollusca** ii)Respiration inMollusca	**Unit 3: Endomembrane System** i)Structure and functions: Endoplasmic Reticulum,Golgi Apparatus, Lysosomes. **Unit 6: Nucleus** ii)Nucleolus Chromatin: Euchromatin and heterochromatin. **Unit 7: Cell division** ii) Meiosis	20	4
		PRACTICAL Study of specimens	**PRACTICAL** v) DNA by Feulgen reaction vi) Preparation of permanent slide to show the presence of Barr body in human female blood.		
April,20	24	**Unit 3: Arthropoda** v)Social life in termites **Unit 5: Mollusca** iii)Torsion and detorsion in Gastropoda **Unit 6: Echinodermata** i) General characteristics and Classification up to classes. **Unit 7:Hemichordata** i)General characteristics	**Unit 4: Mitochondria and Peroxisome** i)Mitochondria: Structure, semi-autonomous nature. ii)Endosymbiotic hypothesis iii)Peroxisome **Unit 6: Nucleus** iii)Packaging (Nucleosome) **Unit 7: Cell division** iii)Cell cycle and its regulation.	20	4

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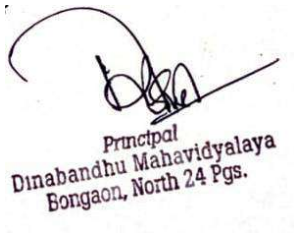
		PRACTICAL i)Study of specimens ii)Dissection of Digestive system of Periplaneta	**PRACTICAL** vii)Mucopolysaccharides by PAS reaction. viii)Cell viability by Trypan Blue staining.		
May,20	22	**Unit 5: Mollusca** iv)Pearl formation in bivalves. **Unit 6: Echinodermata** ii)Water-vascular system in Asteroidea **Unit 7:Hemichordata** ii)Phylogenetic relationship with non-chordates and chordates.	**Unit 4: Mitochondria and Peroxisome** iv)Mitochondrial Respiratory chain, Chemiosmotic hypothesis. **Unit 7: Cell division** iv)Cancer (Concept of oncogenes and tumour suppressor genes) **Unit 8: Cell signaling** i)Cell signaling pathways. ii)Types of signaling molecules and receptors. iii)GPCR and role of second messenger (cAMP)	18	4
		PRACTICAL i)Digestive system, septal nephridia and pharyngeal nepridia of earthworm. ii)Nervous system of Periplaneta. iii)Prepare Project report	**PRACTICAL** ix)Proteins by Mercurobromophenol blue/Fast Green. x) Cell viability by Trypan Blue staining.		
June,20	24	**Unit 5: Mollusca** v)Evolutionary significance of trochophore larva. **Unit 6: Echinodermata** iii)Larval forms in Echinodermata. iv)Affinities with chordates.	**Unit 5: Cytoskeleton** i)Structure and functions: Microtubules, Microfilaments and Intermediate filaments. **Unit 7: Cell division** v)Mechanisms of cell death	10	2



		PRACTICAL i)T.S. through pharynx, gizzard and typhlosolar intestine of earthworm. ii)Mount of mouth parts of Periplaneta. Preparation and submission of Project report.	**PRACTICAL** i)Proteins by Mercurobromophenol blue/Fast Green. ii)Mucopolysaccharides by PAS reaction. iii)Cell viability by Trypan Blue staining.		

General Course

		SEMESTER-I	
Month	No. of Teaching days available	Topic	Class teaching in hours of each core
		ZOOGCOR01T Marks:50+25=75 **Animal Diversity**	

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July,19	26	**Unit-1 Kingdom Protista** i)General characters and classification of Subkingdom Protozoa. ii)Locomotory organelles and locomotion in Protozoa **Unit-4 Phylum Platihelminthes** i)General characters and classification up to classes. ii)Life history of *Taenia solium*. **Unit-8 Phylum Mollusca** i)General characters and classification up to classes. ii)Respiration in *Pila* **PRACTICAL** i)Spot identification of the specimens	16
August,19	24	**Unit-2 Phylum Porifera** i)General characters and classification up to classes. ii)Canal system in *Sycon*. **Unit-3 Phylum Cnidaria** i)General characters and classification up to classes. ii)Polymorphism in Hydrozoa **Unit-7 Phylum Arthropoda** i) General characters and classification up to classes. **Unit-5 Phylum Nematoda** i) General characters and classification up to classes. ii)Life history of *Ascaris lumbricoides* and its parasitic adaptation. **Unit-6 Phylum Annelida** i) General characters and classification up to classes. **PRACTICAL** Spot identification of the specimens	16

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September,19	22	**Unit-7 Phylum Arthropoda** i)Vision in insect. ii)Metamorphosis in insects. **Unit-6 Phylum Annelida** i)Nephridia in Annelida **Unit-12 Pisces** i)General characters and classification up to Subclasses. ii)Osmoregulation in Fishes . **PRACTICAL** Spot identification of the specimens	12
October,19	3	**Unit-13 Amphibia** i)General characters and classification up to classes. **PRACTICAL** -	2
November,19	24	**Unit-9 Phylum Echinodermata** i)General characters and classification up to classes. ii)Water-vascular system in Asterias **Unit-10 Protochordates** i)General features **Unit-13 Amphibia**	16

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		i)Metamorphosis in Toad **Unit-14 Reptiles** i)General features and classification up to living Subclasses. ii)Biting mechanism in snakes, Poisonous and nonpoisonous snakes **PRACTICAL** **i)** ii)Study of the permanent slides ii)Identification of poisonous and non-poisonous snakes iii)Preparation of Animal album	
December,19	20	**Unit-10 Protochordates** i)Feeding in Branchiostoma **Unit-11 Agnatha** i) General characters and classification up to classes. **Unit-15 Aves** i)General characters and classification up to orders. ii)Flight adaptations in birds **Unit-16 Mammals** i)Classification up to Subclasses. ii)Origin and distribution of Cranial nerves in Cavia	6
		PRACTICAL i)Preparation and submission of Animal album	
		SEMESTER-II	

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Month	No. of Teaching days available	Topic	Class teaching in hours of each core
		ZOOGCOR02T Marks:50+25=75 Physiology and Biochemistry	
January,20	21	**Unit-1: Nerve and muscle** i)Structure of neuron **Unit-2:Digestion** i)Physiology of digestion in the alimentary canal. **Unit-9: Protein: Structure and Metabolism** i)Proteins and their biological functions, functions of amino acids, ii)Physiochemical properties of amino acids, Peptides – structure and properties. iii)Primary, secondary, tertiary and quaternary structure of proteins. iv)Transamination, Deamination. v)Urea cycle.	14
		PRACTICAL i)Preparation of Haemin crystals ii)Identification of permanent histological slides iii)Qualitative tests to identify functional groups of carbohydrates. iv)Lowry`s method for quantitative test of protein	

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February,20	20	**Unit-1: Nerve and muscle** ii)Resting membrane potential, Graded potential, Origin of action potential iii)Propagation of action potential through myelinated and unmyelinated nerve fibers. iv)Ultra-structure of skeletal muscle. **Unit-2:Digestion** ii)Absorption of carbohydrates, proteins and lipids. **Unit-5:Cardiovascular system** i)Composition of blood, Homeostasis. ii)Structure of heart. iii)Origin and conduction of the cardiac impulse. iv)Cardiac cycle.	14
		PRACTICAL i)Preparation of Haemin crystals ii)Identification of permanent histological slides iii)Qualitative tests to identify functional groups of carbohydrates. iv)Lowry`s method for quantitative test of protein	

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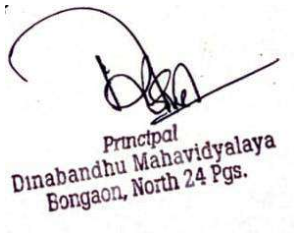
March,20	24	**Unit-1: Nerve and muscle** v)Molecular and chemical basis of muscle contraction. **Unit-3: Respiration** i)Pulmonary ventilation, Respiratory volumes and capacity. **Unit-6: Reproduction and Endocrine gland** i)Physiology of male reproduction: hormonal control of spermatogenesis. ii)Physiology of female reproduction: hormonal control of menstrual cycle. **Unit-7: Carbohydrate: Structure and Metabolism** i)Introduction to Carbohydrates, Structure and Types of Carbohydrates, Isomerism, ii) Glycolysis	16
		PRACTICAL i)Preparation of Haemin crystals ii)Identification of permanent histological slides iii)Qualitative tests to identify functional groups of carbohydrates. iv)Lowry`s method for quantitative test of protein	



April,20	24	**Unit-3: Respiration** ii)Transport of Oxygen. iii)Transport of Carbon-di-oxide. **Unit-6: Reproduction and Endocrine gland** iii)Structure and function of Pituitary. iv) Structure and function of Thyroid v) Structure and function of pancreas vi) Structure and function of adrenal **Unit-7: Carbohydrate: Structure and Metabolism** iii)Krebs cycle iv)Pentose phosphate pathway **Unit-10: Enzymes** i)Introduction, Classification of Enzymes ii)Mechanism of action iii)Enzyme kinetics iv)Inhibition and Regulation	16
		PRACTICAL i)Preparation of Haemin crystals ii)Identification of permanent histological slides iii)Qualitative tests to identify functional groups of carbohydrates. iv)Study of activity amylase under optimum conditions.	

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Mont	No of tea	SEMESTER-III	Cl	Tutorial In hours
May,20	22	**Unit-4: Excretion** i)Structure of nephron. ii)Mechanism of urine formation iii)Counter-current Mechanism **Unit-7: Carbohydrate: Structure and Metabolism** v) Gluconeogenesis vi)Electron Transport Systen **Unit-8: Lipid structure and Metabolism** i)Introduction to lipids: Definitions; fats and oils; classes of lipids. ii)Biosysthesis of palmitic acid iii) B-oxidation of palmitic acid.		12
		PRACTICAL i)Preparation of Haemin crystals ii)Identification of permanent histological slides iii)Qualitative tests to identify functional groups of carbohydrates. iv)Study of activity amylase under optimum conditions.		
June,20	24	-		0

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ACADEMIC CALENDER FOR SEMESTER-III (2019-2020) (HONOURS)

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		Honours Course				
		ZOOACOR05T **Marks:50+25=75** **CHORDATES**	**ZOOACOR06T** **Marks:50+25=75** **PHYSIOLOGY: CONTROLLING AND COORDINATING SYSTEMS**	**ZOOACOR07T** **Marks:50+25=75** **BIOCHEMISTRY**		
July,2019	26	Unit 1: Introduction to Chordates: 1.General characteristics and outline classification of phylum Chordata. **Unit 2**: Protochordata 2. general characteristics and classification of Urochordata and Cephalochordata upto Classes. 3. Metamorphosis in Ascidia. 4.chordates features and feeding in Branchiostoma Unit 3: Origin of Chordates 1.Dipleurula concept and the Echinoderm theory of origin of chordates. 2. Advanced features of vertebrates over protochordates.	Unit 1: Tissues 1.Strusture,locations, classification and functions of epithelial tissues. 2.Strusture,locations,classification and functions of connective tissue tissues. 3.Strusture,locations, classification and functions of muscular tissue tissues. 4.Strusture,locations, classification and functions of nerve tissues.	Unit 1: Fundamentals of biochemical reaction and metabolism: 1.Ionization of water, weak acids and bases, buffering and pH changes in living system. 2. catabolism and anabolism, compartmentalization of metabolic pathways, Shuttle systems and membrane transporters; ATP as "Energy Currency of cell"; coupled reactions; Use of reducing equivalents and co-factors; intermediary metabolism and regulatory mechanisms.	22	4

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		PRACTICAL 1.Protochordata *Herdmania*, *Branchiostoma* Colonial Urochordates; Sections of *Balanoglossus* through proboscis and branchiogenital regions, Sections of *Amphioxus* through pharyngeal, intestinal and caudal regions, *Herdmania* spicules, 2. Agnatha *Petromyzon, Myxine*	**PRACTICAL** **1.Recording of simple muscle twitch with electrical stimulation (Virtual)**	**PRACTICAL** 1.Qualitative tests of functional groups in carbohydrate, proteins and lipids.		

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August,2019	24	Unit 4: Agnatha 1.General characteristics and classification of cyclostomes up to order. Unit 5: Pisces 1. General characteristics and classification of Chondrichthyes and Osteichthyes upto Subclasses. 2. Accessory respiratory organ 3. Migration of fishes 4. Parental care of fishes. 5. Swim bladder in fishes. Unit 6: Amphibia 1. General characteristics and classification up to living orders 2. Metamorphosis in amphibia.	Unit 2: Bone and Cartilage 1.Structure and types of bones and cartilages, Ossification. Unit 5: Reproductive System 1. Histology of testis 2. Histology of ovary. 3. physiology of reproduction.	Unit 2: Carbohydrates 1.Structure and biological importance: Monosaccharides, Disaccharides, Polysaccharides; Derivatives of monosaccharides, 2. Carbohydrate metabolism: Glycolysis, Citric acid cycle, Pentose phosphate pathway, Gluconeogenesis. Unit 3: Lipids: 1.Structure and significance: Physiologically important saturated and unsaturated fatty acids, Triacylglycerols, Phospholipids, Sphingolipids, Steroids, Eicosanoids and terpinoids. 2. Lipid metabolism: beta-oxidation of fatty acids; fatty acid biosynthesis.	22	4
		PRACTICAL 3. Fishes Scoliodon, Sphyrna, pristis, Torpedo, chimaera, Mystus, Heteropneustes, Labeo, Exocoetus, Echeneis, Anguilla, Hippocampus, Tetradon, Anabas, Flat fish.	PRACTICAL **2. Preparation of temporary mounts: Squamous epithelium, Striated muscle fibers and nerve cells.**	PRACTICAL: 1.Paper chromatography of amino acids 2. Quantitative estimation by Lowry method.		

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September,2019	22	Unit 6: Amphibia 3. Parental care in amphibian. Unit 7: Reptilia 1. General characteristics and classification up to living orders. 2. poison apparatus and biting mechanism in Snake. Unit 8: Aves 1. General characteristics and classification up to Sub-classes 2. Exoskeleton in Birds 3. migration in Birds.	Unit 3: Nervous System 1.Structure of neuron 2. Resting membrane potential 3. Origin of action potential and its propagation across the myelinated and unmyalinated nerve fibers. 4. Types of synapse. 5. Reflex action and its type 6. Synaptic transmission and Neuromuscular junction.	Unit 4: Proteins: 1.Amino acid structure, Classification, General and Electrochemical properties of α amino acids. 2.Physiological importance of essential and non-essential amino acids 3.proteins bonds stabilizing protein structure; Levels of organization 4. Protein metabolism: Transamination, Deamination, Urea cycle, Fate of C-skeleton of Glucogenic and Ketogenic amino acids.	18	12
		PRACTICAL 4. Amphibia: Ichthyophis, Necturus, Bufo, Hyla, Alytes, Salamander, 5. Reptilia: Chelone, Trionix, Hemidactylus, Varanus, Uromastix, Chameleon, Ophiosaurus.	PRACTICAL **3. Study of permanent slides of Mammalian skin, cartilage, bone, Spinal cord, Nerve cell, pituitary**	PRACTICAL 4. Demonstration of protein seperation by SDS-PAGE		
October,2019	3	**Unit-8** **4.** Principles and aerodynamics of flight.	Unit 4: Muscular System 1.Histology of different types of muscle.	Unit 5: 1.Structure: purines and pyrimidines, Nucleo Nucleotides, Nucleic ac	3	-

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		PRACTICAL Mount of weberian Ossicles of Mystus or Grass Carp.	PRACTICAL **3. Study of permanent slides of Pancreas, testis,**			
November,2019	24	Unit 9: Mammals 1. General characteristics and classification up to living orders. 2. Phylogenetic significance of Prototheria 3. Exoskeleton derivatives of mammals. 4. Adaptive radiation in mammals with reference to locomotory appendages.	Unit 4: Muscular System 2. Ultrastructure of skeletal muscle 3. Characteristic of muscle fibers. 4. Molecular and chemical basis of muscle contraction. Unit 5: Reproductive system 1.histology of testis and ovary 2. Physiology of reproduction	Unit 5: 2. Types of DNA and RNA, Complementarity of DNA, Hypo-Hyperchropmaticity of DNA. 3. Otlines of nucleotide metabolism. Unit 6: Enzymes: 1.Nomenclature and classification; Cofactors; Specificity of enzyme action; isozymes; 2. Mechanism of enzyme action; Enzyme kinetics; Derivation of Michaelis-Menten equation, Lineweaver-Burk plot; Factors affecting rate of enzyme-catalyzed reaction	20	4

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		PRACTICAL **5.Reptilia** Draco, Bungarus, Vipera, Naja, Hydrophis, Zamenis, Crocodylus. Identification of poisonous and non-poisonous snakes. 6. Aves Study of six common birds from different orders (Stork, Owl/Falcon, Sun bird, Jacanna, Duck) – types of beaks and claws.	PRACTICAL **3. Study of permanent slides of ovary, adrenal and thyroid** **4. Microtomy: Preparation of permanent slide of any five (lung, salivary gland, stomach, small intestine, large intestine only) mammalian rat tissues**	. PRACTICAL 5. Study of the enzymatic activity of Trypsin and Lipase.		
Decembr,2019	20	Unit 9: Mammals 5. Echolocation in Microchiropterans and Cetaceans. Unit 10: Zoogeography 1.Zoogeographical real. 2. Plate tectonic and continental drift theory. 3. Distribution of birds and mammals in different realms.	. Unit 6: Endocrine System 4. Mechanism of hormone action. 5.Signal transduction pathways for Steroidal and Non-steroidal hormones. 6. Hypothalamus – principal nuclei involved in neuroendocrine control of anterior pituitary and endocrine system.	Unit 6: 3. Enzyme inhibition; Allosteric enzymes and their kinetics; Strategy of enzyme action-catalytic and Regulatory Unit 7: 1.Redox system; Review of mitochondrial respiratory chain, Inhibitors and un-couplers of Electron Transport System.	16	4

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		PRACTICAL 7. Mammalia Sorex, Bat, Funambulus, Loris, Herpestes, Erinaceous Power point presentation on study of any two animals from animals from two different classes by students 8. Pecten from Fowl head. Dissection of Fowl head.	**4. Microtomy: Preparation of permanent slide of any five (lung, salivary gland, stomach, small intestine, large intestine only) mammalian rat tissues**	PRACTICAL 6. Performing the Acid and alkaline phosphatise assay from serum/tissue.		

ACADEMIC CALENDER FOR SEMESTER-IV (2019-2020) (HONOURS)

Month	No of teaching days available	**SEMESTER-IV**			Class teaching in hours of each core	Tutorial In hours
		Honours Course				
		ZOOACOR08T **Marks:50+25=75** **COMPARATIVE ANATOMY**	**ZOOACOR09T** **Marks:50+25=75** **PHYSIOLOGY: LIFE SUSTAINING SYSTEM**	**ZOOACOR10T** **Marks:50+25=75** **IMMUNOLOGY**		

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January'2020	21	Unit 1: Integumentary System Structure, function and derivatives of integument in amphibian, birds and mammals	Unit 1: Physiology of Digestion 1.Structural organization and functions of Gastrointestinal tract and Associated gland; 2.Mechanical and chemical digestion of food, 3. Absorption of carbohydrates, Lipids, Proteins and Nucleic acids 4. Digestive enzymes	Unit 1: Overview of Immune System 1.Basic concepts of health and diseases. 2. Historical perspective of immunology. 3. Organs (primary and secondary lymphoid organs and its importance) and cells of the immune system. 4. Concept of Haematopoiesis and development of progenitor cells of the immune system Unit 2: Innate and Adaptive Immunity 1.Principle of Innate and Adaptive Immunity 2. Components of innate immunity	17	5
		PRACTICAL 1.Study of placoid, cycloid and ctenoid scales through permanent slides/ photographs.	PRACTICAL 1.Determination of ABO blood group.	PRACTICAL 1.Demonstration of lymphoid organs		

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February,2020	20	Unit 2: Skeletal system Overview of axial and appendicular skeleton; Jaw suspension; Visceral arches	Unit 2: Physiology of Respiration 1.Mechanism of Respiration 2. Respiratory volumes and capacities 3. Transport of Oxygen and Carbon dioxide in blood. 4. Dissociation curve and the factors influencing it. 5. respiratory pigments 6. Carbon monoxide poisoning.	Unit 2: Innate and Adaptive Immunity 3. Component of adaptive immunity Unit 3: Antigen, Antigen presentation and MHC 1.Concept of Antigen, Immunogen, Allergen and Pathogen 2. Adjuvants and haptens, 3. Factors influencing immunogenicity, Epitope 4. Types of Antigen Presenting Cells (APCs) 5. Structure of Major Histocompatibility Complex (MHC) molecules.	16	4
		PRACTICAL 2.Study of disarticulated skeleton of toad, pigeon and guineapig	PRACTICAL 2. Enumeration of red blood cells and white blood cells using haemocytometer	PRACTICAL 2. Histological study of spleen, thymus and lymph nodes through slides/photographs		

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March,2020	24	Unit 3: Digestive System Comparative anatomy of stomach; dentition in mammals Unit 4: Respiratory System Respiratory organs in fish, amphibian	Unit 3: Physiology of Circulation: 1.Components of blood and their function 2. Structure and functions of hemoglobin 3. Haemostasis 4. Blood clotting system. 5. Fibrinolytic system 6. Haemopoesis 7. Basic steps and its regulation. 8. Blood groups; ABO and Rh factor.	Unit 3: Antigen, Antigen presentation and MHC 6. Mechanism of antigen presentation and involvement of MHC molecules in details 7. Co-stimulatory molecules on APC Unit 3: T Cell development 1.Structure of T cell receptors, Co-stimulatory molecules on T cells 2. Concept of synapse between APC and T cells in details 3. Central differentialtion of T cells; 4. T cell selection in thymus. 5. Peripheral differentiation of T cells; Th1 and Th2	20	4
		PRACTICAL 3. Demonstration of carapace and plastron of turtle.	PRACTICAL 3. Estimation of haemoglobin using Sahli,s Haemoglobinometer	PRACTICAL 3. Preparation of stained blood film to study various types of blood cells		

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April,2020	24	Unit 4: Respiratory system Respiratory organs of birds and mammals Unit 5: Circulatory System General plan of Circulation, Comparative account of heart and aortic arches	Unit 4: Physiology of Heart 1.Structure of mammalian heart. 2. Coronary circulation, 3. Structure and working of conducting myocardial fibers 4.Origin and conduction of cardiac impulses 5. Cardiac cycle and cardiac output. 6. Blood pressure and its regulation.	Unit 4: Immunoglobulin 1.Structure and functions of different classes of immunoglobulins 2. Antigen-antibody interaction 3. Immunoassay (ELISA and RIA) 4. Hybridoma technology Monoclonal antibody production Unit 7: Complement system 1.Components and pathways of complement activation	20	4
		PRACTICAL 4. Identification of mammalian skulls: one herbivororous (Guineapig) and one carnivorous (dog)	PRACTICAL 4. Preparation of haemin and haemochromogen crystals	PRACTICAL 4. ABO blood group determination		
May,2020	22	Unit 6: Urinogenital System: Succession of kidneys, Evolution of urinogenital ducts, Types of mammalian uteri Unit 7: Nervous System Comparative account of brain	Unit 5: Thermoregulation and Osmoregulation 1.Physiological classification based on thermal biology 2. Thermal biology of endotherms 3. Osmoregulation in aquatic vertebrates; 4. Extra-renal osmo-regulatory organs in vertebrates	Unit 6: Cytokines and Chemokines 1.Brief concept on types of Cytokines and chemokines 2. Cytokines (source and function of IL-1,2,4,5,6,8,10,12, interferons, TNF, TGF, GM-CSF, M-CSF) 3. Chemokines (source and function of CCL2, CCL3, CCL4, CCL5, CxCL8, CxCL10)	18	4

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		PRACTICAL 5. Dissection of Tilapia: circulatory system, brain	PRACTICAL 5. Recording of blood pressure using a sphygmomanometer/ digital meter	PRACTICAL 5. Demonstration of ELISA using kit		
June,2020	24	Unit 7: Nervous System: Cranial nerves in mammals Unit 8: Sense organs Classification of receptors, Brief account of auditory receptors in vertebrate.	Unit 6: Renal Physiology 1.Structure of kidney and its functional unit 2. Mechanism of urine formation, 3. Regulation of acid-base balance.	Unit 8: Hypersensitivity 1.Gell and Coombs classification and brief description of various types of hypersensitivity. Unit 9: Immunology of diseases 1.Malaria, Visceral Leishmaniasis, Filariasis, Dengue and Tuberculosis Unit 10: Vaccines 1.Various types of vaccines. 2. Active and passive immunization (artificial and natural)	10	2
		5. Dissection of Tilapia: Urinogenital system, pituitary	5. Practice and repeat of previous practicals	5. Practice and repeat of previous practicals		

ACADEMIC CALENDAR FOR SEMESTER III,IV (2019-2020) (GENERAL)

Month	No. of Teaching days	**SEMESTER-III** Topic	Class teaching in hours of each core

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		ZOOGCOR03T Marks:50+25=75 **Insect, Vectors & Diseases**	**ZOOSSEC01M** **Aquarium Fish Keeping**	
July,19	26	**Unit-1 Introduction to Insects** i)General features of insects Morphological features, Head-Eyes, Types of antennae, Mouth parts with respect to feeding habit **Unit-7 Hemiptera as Disease Vectors** Bugs as insect vectors; Blood-sucking bugs, Chaghas disease. **PRACTICAL** 1.Mounting and study of different kinds of mouth parts of insects	**Unit-1 Introduction to Aquarium Fish Keeping** The potential scope of aquarium Fish Industry as a Cottage Industry, Exotic and Endemic species of Aquarium Fishes	16
August,19	24	**Unit-3 Insects as vector** Detailed features of insect orders as vectors – Diptera, Siphonoptera, Siphunculata, Hemiptera. **Unit-7 Hemiptera as Disease Vectors** Bed bugs as mechanical vectors, Control and prevention measures. **PRACTICAL** 2. Spot identification of following insect vectors through permanent slides/photographs: *Aedes, Culex, Anopheles, Pediculus humanuscapitis, Pediculus humanuscorporis,*	**Unit-2 Diversity of Aquarium fishes and their biology** Common characters and sexual dimorphism of Fresh water and Marine aquarium fishes such as Guppy, Molly, Sword tail, Gold fish, angel fish, Blue morph, Anemone fish and Butterfly fish	16

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September,19	22	**Unit-2 Concept of Vectors** Brief introduction to vectors (mechanical and biological) Reservoirs, Host-vector relationship, Adaptations as vectors, Host specificity. . **PRACTICAL** 2. Spot identification of following insect vectors through permanent slides/photographs: *Phithiruspubis, Xenopsylla cheopis, Cimex lectularius, Phlebotomus argentipes, Musca domestica.*	**Unit-2 Diversity of Aquarium fishes and their biology** Indigenous fishes suitable aquaria, problems of natural population depletion. Problem with exotic fishes	12
October,19	3	**Unit-4 Dipteran as Disease Vectors** Study of important Dipteran vectors – Mosquitoes.	-	2
November,19	24	**Unit- 4 Dipteran as Disease Vectors** Study of important Dipteran vectors – Sand fly, Housefly Study of mosquito born diseases – Malaria, Dengue, Chikungunya, Viral encephalitis, Filariasis, Control of mosquitoes. Unit – 6 Siphunculata as disease vectors Human louse (head, body and pubic louse) as important insect vectors; Control of human louse **PRACTICAL** 3. Study of different diseases transmitted by above insect vectors	**Unit-3 Food and feeding of aquarium fishes** Use of live fish feed organism Preparation and composition of formulated fish feeds, Aquarium fish as larval predator. **Unit-4 Fish transportation** Live fish keeping, breeding, transport – Fish handling, packing and forwarding techniques	16

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December,19	20	**Unit-Siphonaptera as disease vectors** Fleas as important insect vectors; Host-specificity, Study of flea borne diseases – plague, Typhus fever, Contrl of fleas **PRACTICAL** 4. Submission of a project report on any of the insect vectors and disease transmitted	**Unit-5 Maintenance of Aquarium** General Aquarium maintenance – budget for setting up an Aquarium Fish Farm as a Cottage Industry	6
		SEMESTER-IV		
		Topic		
Month	No. of Teaching days	**ZOOGCOR03T** Marks:50+25=75 **Environment and Public Health**	**ZOOSSEC02M** **Vermicompost Production**	
January2020	**21**	**Unit-1 Introduction** Sources of environmental hazards, Hazard identification and accounting, Fate of toxic and persistence substances in the environment, Dose response evaluation, Exposure assessment **PRACTICAL** To determine pH, Cl, SO4, NO3 in soil and water sample from different location.	**Unit-1 Introduction to Vermicompost Production** Natural role of earthworms in soil fertility, Concept of Vermicompost – the need for it **Unit-5 Properties of the Vermicompost** **Unit-6 benefits of vermicompost**	14
February 2020	**20**	**Unit-2 Climate Change** Greenhouse gases and global warming, Acid rain, Ozone layer destruction, Effect of climate change on public health. **PRACTICAL** To determine pH, Cl, SO4, NO3 in soil and water sample from different location.	**Unit-2 Production** Suitable worm species and their availability-for large scale/small scale, Climate and temperature, Feedstock- for small scale and home farming/ large scale or commercial	14

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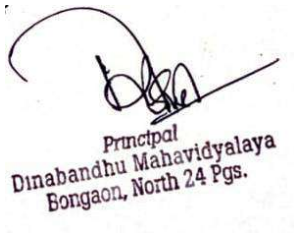
March 2020	**24**	**Unit-4 Waste management technologies** Sources of waste, types and characteristics, sewage disposal and its management, solid waste disposal **PRACTICAL** To determine pH, Cl, SO4, NO3 in soil and water sample from different location.	**Unit-3 Operations and maintenance** Smells, Moisture, Pest species, Worms escaping, Nutrient levels **Unit-4 Harvesting**	16
April 2020	**24**	**Unit-4 Waste management technologies** Biomedical waste handling and disposal, Nuclear waste handling and disposal, waste from thermal plants. **Unit-5 Diseases** Cause, symptoms and control of tuberculosis, Asthma, Cholera, **PRACTICAL** To determine pH, Cl, SO4, NO3 in soil and water sample from different location.	**Unit-7 Use as soil conditioner** **Unit-8 Application of**	16
May 2020	**22**	**Unit-5 Diseases** Cause, symptoms and control of Minamata disease, typhoid **Unit-3 Pollution** Air, water, noise pollution sources and effects, Pollution control. **PRACTICAL** To determine pH, Cl, SO4, NO3 in soil and water sample from different location.	**Unit-9 Visit to Vermicompost centre and Submission of Report**.	12



June 2020	**24**		.	0

ACADEMIC CALENDER FOR III YEAR HONOURS 2019-2020

Month	No. of Teaching days available	PART-III (HONOURS) TOPIC	Class teaching in hours of each core	Tutorial In hours
July,19	26	**PAPER-VII** **MODULE 701: ANIMAL PHYSIOLOGY** **1.transport across cell surface membrane, Donan membrane equilibrium** **2. Function of mammalian blood: Oxygen transport and CO2 transport.** **3. Neurophysiology** **MODULE 703: HISTOLOGY** **1.Basic tissue types** **PAPER VIII** **MODULE 801: DEVELOPMENTAL BIOLOGY** **1.outlines of historical concepts and experiments in the emergence of developmental biology.** **MODULE 802: ENVIRONMENTAL POLLUTION AND TOXICOLOGY** **1.Environmental pollution: water, soil, air and sound pollution**	22	4

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		PRACTICAL **GROUP-A** **1.Blood slide preparations to identify and study the characteristic features of different types of WBC, total count of WBC.** **GROUP-B** **1.identification of chick,s embryonic stages (at 24,48 and 96 hrs).** **2. Identification of fry stages of a carp fish**		
August,19	24	**PAPER-VII** **MODULE 701: ANIMAL PHYSIOLOGY** 4. Respiration 5. General architecture of skeletal muscle and smooth muscle. **MODULE 703: HISTOLOGY** 2. Membrane specializations of epithelia. 3. Exocrine glands **PAPER VIII** **MODULE 801: DEVELOPMENTAL BIOLOGY** 2. Germ layers and its contributions to the development of different tissues in vertebrates. 3. origin of germ layers, structural features of sperms and eggs in sea urchins and in mammals, gametogenesis in mammals. **MODULE 802: ENVIRONMENTAL POLLUTION AND TOXICOLOGY** 2. Environmental laws: major ones applicable in West Bengal.	22	*4*
		PRACTICAL **GROUP-A** **2.Determination of haemoglobin content of goat/rat blood by Sahli`s hemoglobinometer** **3. Human BP and pulse measurement** **GROUP-B** **3. Morphometric study**		

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September,19	22	**PAPER-VII** **MODULE 701: ANIMAL PHYSIOLOGY** 6.Swim bladder and its functions in teleosts. 7. water and osmotic regulations. **MODULE 703: HISTOLOGY** 4. Principle of tissue fixation, staining 5. Histological structure of mammalian nephron and functions of each regions. **PAPER VIII** **MODULE 801: DEVELOPMENTAL BIOLOGY** 4. Fertilization 5. cleavage **MODULE 802: ENVIRONMENTAL POLLUTION AND TOXICOLOGY** 3. Toxicology: including its significance as a branch of science. 4. Dose-response relationship.	18	4
		PRACTICAL **GROUP-A** **4. Determination of soil and water ph.** **5. Quantification of free CO2** **GROUP-B** **Morphometric study**		
October,19	3	**PAPER-VII** **MODULE 701: ANIMAL PHYSIOLOGY** 8. bioluminescence **MODULE 802: ENVIRONMENTAL POLLUTION AND TOXICOLOGY** 5. In vivo and in vitro toxicity test	3	

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November,19	24	**PAPER-VII** **MODULE 701: ANIMAL PHYSIOLOGY** 9. Urine formation in human kidney **MODULE 702: ENDOCRINOLOGY AND REPRODUCTIVE BIOLOGY** 1.Classification of vertebrate hormones based on chemical nature and mechanism of action. 2. Hormone delivery system 3. Feedback control of hormone secretion **MODULE 703: HISTOLOGY** 6. Histology of stomach, pancreas, testis, ovary, thyroid, lynph node **PAPER VIII** **MODULE 801: DEVELOPMENTAL BIOLOGY** 6. Gastrulation **MODULE 802: ENVIRONMENTAL POLLUTION AND TOXICOLOGY** 6. Introduction to the concepts of detoxification mechanism.	20	
		PRACTICAL **GROUP-A** **6. Quantification of dissolved O2 (Winkler`s method)** **GROUP-B** **Medical entomology**		4

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December,19	20	**PAPER-VII** **MODULE 702: ENDOCRINOLOGY AND REPRODUCTIVE BIOLOGY** **4. Hormone biosynthesis** **5. Physiologic function s of hormones: insulin, glucagon, T3 and T4** **PAPER VIII** **MODULE 801: DEVELOPMENTAL BIOLOGY** **7. Organogenesis: development brain in chick.** **MODULE 805: MEDICAL ZOOLOGY** **1.Mosquito-borne diseases: malaria and filarial- causative agents, their life cycle, modes of infections in man, major modes of treatments, major vector species in India, their ecology and life cycles, control measures.** **MODULE 006: ECONOMIC ZOOLOGY** **1.Fish and Fishery**	16	
		PRACTICAL **GROUP-A** **7. Microtomy** **GROUP-B** **Medical entomology**		4

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January,2020	21	**PAPER-VII** **MODULE 702: ENDOCRINOLOGY AND REPRODUCTIVE BIOLOGY** **6. Hormonal control of spermatogenesis** **7. Hormonal control of mammalian ovarian cycle, difference between menstrual and estrous cycle.** **PAPER VIII** **MODULE 801: DEVELOPMENTAL BIOLOGY** **8. Conceptual outlines of cell potency and stem cells. HOX genes in development.** **MODULE 805: MEDICAL ZOOLOGY** **2.Mosquito-borne diseases: Dengue and DHF, Chikungunya – causative virus, symptoms and treatments.** **MODULE 006: ECONOMIC ZOOLOGY** **2. Sericiulture** **3. Apiculture**		
		PRACTICAL **GROUP-A** **7. Microtomy** **GROUP-B** **Repeats and practice**	17	**5**

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February,2020	20	**PAPER-VII** **MODULE 702: ENDOCRINOLOGY AND REPRODUCTIVE BIOLOGY** **8. Mechanism of hormone actions** **PAPER VIII** **MODULE 801: DEVELOPMENTAL BIOLOGY** **9. Sex determination in Drosophila and Man** **10. Environmental sex determination in reptiles.** **MODULE 805: MEDICAL ZOOLOGY** **3. Visceral Leishmaniasis-causative species and vectors in West Bengal** **MODULE 006: ECONOMIC ZOOLOGY** **4. Lac culture** **5. Cattle, goats and lambs: different breeds, their advantages and disadvantages, importance of indigenous breeds.**		
		PRACTICAL **GROUP-A** **7. Microtomy** **GROUP-B** **Repeats and practice**	16	**4**
March,2020	24	**PAPER-VII** **MODULE 702: ENDOCRINOLOGY AND REPRODUCTIVE BIOLOGY** **9. Endocrine disorders(symptoms and causes only): diabetes insipidus; IDDM and NIDDM, Hypothyroidism and hyperthyroidism, Conn,s and Cushing,s sysdrome.** **MODULE 805: MEDICAL ZOOLOGY** **4. Common ticks and mites in human surroundings and diseases caused by them.** **MODULE 006: ECONOMIC ZOOLOGY** **6. Poultry birds: different breeds, their advantages and disadvantages, importance of indigenous breeds.**		
		PRACTICAL **-**	20	**4**

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April,2020	24	--	20	

ACADEMIC CALENDER FOR III YEAR (GENERAL) 2019-2020

Month	No. of Teaching days	PART - III (GENERAL) Topic	Class teaching in hours of each core
July,19	26	**PAPER-IV A:** **AQUACULTURE** 1.Principles, definition and scope. Fisheries sources of India. Exotic fishes – their merits and demerits. Induced breeding and its importance. **WILD-LIFE AND BIODIVERSITY** Conservation of wild life – important and strategies, Concept of biosphere reserve, National Park and Wild life sanctuary	16
		PRACTICAL 1.Identification of specimen 2. Estimation of dissolved O2 content water	

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August,19	24	**PAPER-IV A:** **AQUACULTURE** Basic principle of different aquaculture system (Polyculture and integrated farming). Marine pearl culture **WILD-LIFE AND BIODIVERSITY** Basic concept of biodiversity, Biodiversity hotspot **PRACTICAL** 1.Identification of specimen 2. Estimation of dissolved CO2 content water	16
September,19	22	**PAPER-IV A:** **AQUACULTURE** Culture of prawn and shrimp **WILD-LIFE AND BIODIVERSITY** Endangered Indian mammals, Animal Cruelty Prevention Act **PRACTICAL** 1.Identification of specimen 2. Pedigree analysis	12
October,19	3	**PAPER-IV A** **SERICULTURE** Characteristics of sericulture industry and its scope	2
November,19	24	**PAPER-IV A** **SERICULTURE** Kinds of silk worm, host plants. Life history and rearing of Bombyx mori, harvesting and processing of cocoon, reeling and extraction of silk. **BIOTECHNOLOGY AND IMMUNOLOGY** Basic concept of genetic engineering and cloning	16

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		PRACTICAL 1.Identification of specimen 2. Determination of ABO blood group and Rh factor	
December,19	20	**PAPER-IV A** **SERICULTURE** Pest on mulberry plants and diseases of Bombyx mori and control measures. **BIOTECHNOLOGY AND IMMUNOLOGY** Concept of immunity	6
		PRACTICAL 1.Identification of specimen	
January2020	**21**	**PAPER-IV A** **APICULTURE** Types of honey bees, modern methods of apiary management, products and its use. Problems and prospects. **BIOTECHNOLOGY AND IMMUNOLOGY** Outline structure and classification of immunoglobulin; antigen-antibody reaction	14
		PRACTICAL 1.Identification of specimen 2. Measurement of pH of water 3. Field trip	

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February 2020	**20**	**PAPER-IV A** **PEST AND PEST MANAGEMENT** Pest – definition, types, life history and control i) Scirpophaga ii) Sitophilus and iii) Bandicoota, Concept on IPM **BIOTECHNOLOGY AND IMMUNOLOGY** Basic principle of vaccination. **PRACTICAL** 1.Identification of specimen 2. Sampling of zooplankton and extraction of soil micro-arthropods	14
March 2020	**24**	**PAPER-IV A** **POULTRY AND POULTRY MANAGEMENT** Duck and fowl – Types of breeds, rearing and disease management. **PRACTICAL** 1.Test for food colors/adultaration	16
April,2020	**24**	--	16

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