



**VIVEKANANDA COLLEGE, TIRUVEDAKAM WEST - 625234**  
**DEPARTMENT OF ZOOLOGY**

<b>Course Code:</b>	09CT11	<b>Programme:</b>	B.Sc.,	<b>CIA:</b>	II
<b>Date:</b>	19.11.2021	<b>Course:</b>	Zoology	<b>Semester:</b>	I
<b>Duration:</b>	2 Hours	<b>Year:</b>	I	<b>Max.Marks:</b>	50
<b>Course Title:</b>	<b>INVERTEBRATES – I</b>				

**SECTION – A (Remembering)**

Answer **ALL** the Questions: **(10 X 1 = 10 Marks)**

- 1 Canal system is the characteristic of **CO2**  
a. Sponges                      b. Coelentrates                      c. Both a and b                      d. None of these
- 2 The cavity common to all types of canal systems is **CO2**  
a. In current canal                      b. Excurrent canal                      c. Radial chamber                      d. Spongocoel
- 3 Larvae of sponge is known as **CO2**  
a. Amphiblastula                      b. Paranchymula                      c. Trochophore                      d. Both A and B
- 4 \_\_\_\_\_ provides water current by beating its flagellum: **CO2**  
a. Amoebocytes                      b. Choanocytes                      c. Pinacocytes                      d. Haemocytes
- 5 Nematocysts are the specialized cells found in the members of the phylum **CO3**  
a. Coelenterata                      b. Porifera                      c. Annelida                      d. Mollusca
- 6 Medusa of Obelia is **CO3**  
a. Free swimming                      b. Fixed and non-mobile                      c. Floating                      d. None of these
- 7 Which one of the following animal is a “Beautiful gardens of the sea” **CO3**  
a. Earth worm                      b. Pin worm                      c. Coral reef                      d. Taenia
- 8 Sexual dimorphism is found in **CO5**  
a. *Hydra*                      b. Earthworm                      c. *Ascaris*                      d. *Fasciola*
- 9 Penial setae arise from **CO5**  
a. Vulva of female *Ascaris*                      b. Cloaca of male round worm  
c. Roof of diencephalon                      d. Cloaca of an amphibian
- 10 *Ascaris lumbricoides* is a \_\_\_\_\_ **CO5**  
a. Roundworm                      b. Hookworm                      c. Whipworm                      d. Threadworm

**SECTION – B (Remembering)**

Answer any **FIVE** Questions: **(5 X 2 = 10 Marks)**

- 11 Comment on the functions of Choanocyte in sponges. **CO2**
- 12 Give a short comment on the larvae of sponges. **CO2**
- 13 What are reduction bodies? **CO2**
- 14 Define the term polymorphism. **CO3**
- 15 What is colloblast? **CO3**
- 16 State the control measures of *Enterobius vermicularis*. **CO5**
- 17 Comment on filarial worm. **CO5**

**SECTION – C (Understanding)**

Answer any **THREE** Questions: **(3 X 6= 18 Marks)**

- 18 With neat diagram discuss the structure of ascon sponge and discuss their canal system. **CO2**
- 19 What are coral reefs? Discuss their types and importance of a marine ecosystem. **CO3**
- 20 Discuss the affinities of ctenophora. **CO3**
- 21 Explain the parasitic adaptations of helminthes. **CO5**
- 22 Briefly explain the general characters of Aschelminthes. **CO5**

**SECTION – D (Applying)**

Answer any **ONE** Question: **(1X 12= 12 Marks)**

- 23 Write an essay on the polymorphism in coelenterata. **CO3**
- 24 Give a detailed account on life cycle of *Ascaris lumbricoides*. **CO5**





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**DEPARTMENT OF ZOOLOGY**

<b>Course Code:</b>	09CT12	<b>Programme:</b>	B.Sc.	<b>CIA:</b>	II
<b>Date:</b>	23.11.2021	<b>Major:</b>	Zoology	<b>Semester:</b>	I
<b>Duration:</b>	2 Hours	<b>Year:</b>	I	<b>Max.Marks:</b>	50
<b>Course Title:</b>	<b>INVERTEBRATES - II</b>				

**SECTION – A (Remembering)**

Answer **ALL** the Questions:

**(10 X 1 = 10 Marks)**

- 1 How many sub phyla in phylum Arthropoda? CO2  
a) 8                                      b) 7                                      c) 6                                      d) 5
- 2 Pronounced cephalization is a characteristics of phylum CO2  
a) Echinoderms                      b) Annelida                      c) Mollusca                      d) Arthropoda
- 3 Spiders belongs to the class\_\_ CO2  
a) Arachnida                      b) Crustacea                      c) Myriapoda                      d) Insecta
- 4 Ink glands are present in the class CO4  
a) Cephalopoda                      b) Gastropoda                      c) Scaphopoda                      d) Pelecypoda
- 5 Which class of animal found the torsion movement, during larval development? CO4  
a) Cephalopoda                      b) Gastropoda                      c) Scaphopoda                      d) Pelecypoda
- 6 Pila belongs to the order\_\_ CO4  
a) Pectinibranchia                      b) Protobranchiata                      c) Decapoda                      d) Octopoda
- 7 Which one is the amphibious animal of class Gastropoda? CO4  
a) Pila                      b) Chiton                      c) Octopus                      d) Sepia
- 8 How many pairs of tentacles present in Pila? CO4  
a) 2                      b) 3                      c) 4                      d) 5
- 9 Water vascular system helps in CO5  
a) Locomotion                      b) respiration                      c) feeding                      d) all of these
- 10 The locomotor organs of Echinoderms is called CO5  
a) parapodia                      b) pseudopodia                      c) tube feet                      d) setae

**SECTION – B (Remembering)**

Answer any **FIVE** Questions:

**(5 X 2 = 10 Marks)**

- 11 Comment on Peripatus. CO2
- 12 List out the larval forms of crustacea. CO2
- 13 Give a short note on green glands. CO2
- 14 Comment on operculum. CO3
- 15 Name the digestive glands of pila. CO3
- 16 What are the functions of pedicellaria CO3
- 17 Mention the larval forms of star fish. CO4

**SECTION – C (Understanding)**

Answer any **THREE** Questions:

**(3 X 6= 18 Marks)**

- 18 Explain the external structure of Prawn with suitable labelled diagram. CO2
- 19 Critically comment on torsion in gastropods. CO4
- 20 List out the general characters of phylum Mollusca. CO4
- 21 Describe the excretory system of pila with a neat diagram. CO4
- 22 Enumerate the characteristic features of Echinodermata. CO5


**SECTION – D (Applying)**

Answer any **ONE** Question:

**(1X 12= 12 Marks)**

- 23 Give a detailed account on general characteristic features of phylum Arthropoda. CO2
- 24 Describe in detail the digestive system of star fish with a neat sketch. CO5



	<b>VIVEKANANDA COLLEGE, TIRUVEDAKAM WEST - 625234</b>					
	<b>DEPARTMENT OF ZOOLOGY</b>					
	<b>Course Code:</b>	09NE11	<b>Major:</b>	Non-Major	<b>CIA:</b>	II
	<b>Date:</b>	22.11.2021			<b>Semester:</b>	I
	<b>Duration:</b>	2 Hours	<b>Year:</b>	I	<b>Max.Marks:</b>	50
<b>Course Title:</b>	<b>HUMAN ANATOMY</b>					

### SECTION – A (Remembering)

- Answer **ALL** the Questions: (10 X 1 = 10 Marks)
- 1 “Jack of all trades” is CO1
    - a. Skin
    - b. Spleen
    - c. Nephron
    - d. Eye
  - 2 The study of bone is called CO1
    - a. Phycology
    - b. Osteology
    - c. Mycology
    - d. Ecology
  - 3 The functional unit of kidney is CO2
    - a. Dendron
    - b. Nephron
    - c. Neuron
    - d. Axon
  - 4 The study of alimentary canal is called CO2
    - a. Gastrology
    - b. Enterology
    - c. Gastroenteritis
    - d. Gerontology
  - 5 Fibrin is produced by CO3
    - a. WBC
    - b. RBC
    - c. Blood platelets
    - d. Lymphocytes
  - 6 The blood group in man were discovered by CO3
    - a. Mental
    - b. Nekton
    - c. Milter
    - d. Landsteiner
  - 7 Corpus callosum is found in the brain of CO4
    - a. Frog
    - b. Man
    - c. Snake
    - d. Parrot
  - 8 Rhodopsin is a constituent of CO4
    - a. Cornea
    - b. Choroid
    - c. Sclera
    - d. Cones
  - 9 Which is called “Master gland of the body”? CO5
    - a. Thyroid gland
    - b. Thymus gland
    - c. Adrenal gland
    - d. Pituitary gland
  - 10 Oxytocin is secreted by CO5
    - a. Pituitary gland
    - b. Thyroid gland
    - c. Thymus gland
    - d. Adrenal gland

### SECTION – B (Remembering)

- Answer any **FIVE** Questions: (5 X 2 = 10 Marks)
- 11 List out the any two uses of tissues. CO1
  - 12 Write the skeletal parts of human forelimb. CO1
  - 13 What is systolic pressure? CO2
  - 14 Name the different types of WBC. CO3
  - 15 What are alveoli? CO4
  - 16 State the functions of beta cell. CO5
  - 17 Mention any two female sex hormones CO5

### SECTION – C (Understanding)

- Answer any **THREE** Questions: (3 X 6= 18 Marks)
- 18 Explain the structure of human tooth. CO1
  - 19 Discuss the structure of human nephron. CO2
  - 20 Briefly explain the structure of human heart. CO3
  - 21 Describe the function of human growth hormone. CO5
  - 22 Write down the structure and functions of human skin. CO1

### SECTION – D (Applying)

- Answer any **ONE** Question: (1X 12= 12 Marks)
- 23 Narrate the structure of human eye. CO4
  - 24 Write an essay on ABO blood groups. CO3





**VIVEKANANDA COLLEGE, TIRUVEDAKAM WEST - 625234**  
**DEPARTMENT OF ZOOLOGY**

<b>Course Code:</b>	09CT31	<b>Programme:</b>	B.Sc.,	<b>CIA:</b>	II
<b>Date:</b>	19.11.2021	<b>Course:</b>	Zoology	<b>Semester:</b>	III
<b>Duration:</b>	2 Hours	<b>Year:</b>	II	<b>Max.Marks:</b>	50
<b>Course Title:</b>	<b>CELL BIOLOGY</b>				

**SECTION – A (Remembering)**

Answer **ALL** the Questions: (10 X 1 = 10 Marks)

- Study of aging is called  
a) Anthropology      b) Chronology      c) Gerontology      d) Histology      CO4
- The term chromosome was coined by  
a) Balbiani      b) J.B. Lamarck      c) Waldeyer      d) A.Weismann      CO4
- Nucleolus reappears during ----- of the cell division.  
a) Anaphase      b) Prophase      c) Prophase      d) Telophase      CO4
- The main axis of loops in lampbrush chromosome is coated with  
a) Proteins      b) RNA and protein      c) RNA      d) Amino acids      CO4
- The site of protein synthesis is  
a) Ribosome      b) Endoplasmic reticulum      c) Nucleus      d) Chromosome      CO5
- Plasma membrane of adjacent cells get thickened at certain regions which are called  
a) Desmosomes      b) Peroxisome      c) Parallel bars      d) Secondary wall      CO2
- Golgi bodies are concerned with  
a) Excretion      b) secretion      c) ATP synthesis      d) DNA synthesis      CO2
- In a double stranded DNA, two helices are held together by -- between complementary purine and pyrimidine residues.  
a) Hydrogen bonds      b) Hydrophobic interaction      c) Ionic bonds      d) van Der Waals force      CO5
- DNA replication is  
a) Conservative      b) Non-conservative      c) Semi-conservative      d) None      CO5
- The RNA constituting ribosome along with protein is  
a) mRNA      b) tRNA      c) rRNA      d) All the above      CO5

**SECTION – B (Remembering)**

Answer any **FIVE** Questions: (5 X 2 = 10 Marks)

- Define cell cycle.      CO4
- Comment on lampbrush chromosomes.      CO4
- Write any two significance of mitosis.      CO4
- Discriminate the smooth ER or rough ER.      CO2
- Mention the source of origin of Golgi complex.      CO2
- State Chargaff's rule.      CO5
- Contrast DNA and RNA.      CO5

**SECTION – C (Understanding)**

Answer any **THREE** Questions: (3 X 6= 18 Marks)

- Narrate the architecture of plasmamebrane with reference to fluid – mosaic model.      CO2
- Critically comment on lysosome and its types.      CO2
- Describe the structure of polytene chromosomes.      CO4
- Discuss the properties of cancer cells.      CO4
- Describe the fine structure of DNA.      CO5

**SECTION – D (Applying)**

Answer any **ONE** Question: (1X 12= 12 Marks)

- Elaborate the stages of first meiotic cell division.      CO4
- Explain the mechanism of DNA replication.      CO5





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**DEPARTMENT OF ZOOLOGY**

<b>Course Code:</b>	09CT32	<b>Programme:</b>	B.Sc.,	<b>CIA:</b>	II
<b>Date:</b>	23.11.2021	<b>Major:</b>	Zoology	<b>Semester:</b>	III
<b>Duration:</b>	2 Hours	<b>Year:</b>	2021	<b>Max.Marks:</b>	50
<b>Course Title:</b>	<b>GENETICS</b>				

**SECTION – A (Remembering)**

Answer **ALL** the Questions:

**(10 X 1 = 10 Marks)**

- Who proposed three genes are involved in the production of Rh antigen? **CO2**  
a. Wiener                      b. Fisher                      c. Mendel                      d. None
- The universal blood donors for the ABO system are type: **CO2**  
a. AB                      b. A                      c. B                      d. O
- The symptoms of erythroblastosis foetalis is **CO2**  
a. jaundice                      b. anaemia                      c. colour blindness                      d. haemophilia
- Who coined the term linkage? **CO3**  
a. Correns                      b. Mendel                      c. Morgan                      d. de Vries
- Crossing over is more frequent in **CO3**  
a) males                      b) females                      c) both                      d) None of these
- The science of improvement of existing human race is called **CO5**  
a. Euthenics                      b. Eugenics                      c. Negative eugenics                      d. Polygenesis
- The accumulation of phenylalanine in the blood is called **CO5**  
a. Hyperaemia                      b. Phenylketonuria                      c. Polyuria                      d. Polydipsia
- Down's syndrome is a **CO5**  
a. 22-trisomy                      b. 25-trisomy                      c. 32-trisomy                      d. 21-trisomy
- Fraternal twins is also called **CO5**  
a. Twins                      b. Siamese twins                      c. Dizygotic twins                      d. Identical twins
- Albinism is recessive gene represented by **CO5**  
a. AA                      b. a                      c. aa                      d. bb

**SECTION – B (Remembering)**

Answer any **FIVE** Questions:

**(5 X 2 = 10 Marks)**

- What is genetic counseling? **CO5**
- Compare the negative and positive eugenics **CO5**
- Define acromelanism **CO2**
- What is coupling? **CO3**
- Define the extra chromosomal inheritance **CO5**
- Comment on albinism **CO5**
- Define pedigree analysis **CO5**

**SECTION – C (Understanding)**

Answer any **THREE** Questions:

**(3 X 6= 18 Marks)**

- With reference to polygenic inheritance, discuss the inheritance of coat colour in rabbit **CO2**
- Write a short account on Erythroblastosis fetalis **CO2**
- Discuss the aim and purpose of genetic counseling **CO5**
- Describe klinefelter's syndrome (22AA+XXY) and Turner's syndrome (22AA<sub>+X</sub>) **CO5**
- Explain the term twins and its types **CO5**

**SECTION – D (Applying)**

Answer any **ONE** Question:

**(1X 12= 12 Marks)**

- Describe the genetics of ABO blood group **CO2**
- Write an essay on extra chromosomal inheritance of shell coiling in *Limnaea* **CO5**





**VIVEKANANDA COLLEGE, TIRUVEDAKAM WEST - 625234**  
**DEPARTMENT OF ZOOLOGY**

<b>Course Code:</b>	09SB31	<b>Programme:</b>	B.Sc.	<b>CIA:</b>	II
<b>Date:</b>	18.11.2021	<b>Major:</b>	Zoology	<b>Semester:</b>	III
<b>Duration:</b>	1 Hour	<b>Year:</b>	II	<b>Maximum:</b>	25
<b>Course Title:</b>	<b>PUBLIC HEALTH AND HYGIENE</b>				

**SECTION – A (Remembering)**

Answer **ALL** the Questions: (5X 1 = 5 Marks)

- 1 Physical hazards is a CO4  
a. Noise                      b. Light                      c. Vibration                      d. All of these
- 2 The hypertension of blood pressure is CO4  
a. 120\80 mm Hg      b. 110\70 mm Hg      c. 130\80 mm Hg      d. 125\80 mm Hg
- 3 \_\_\_\_\_ is a central nervous stimulant CO5  
a. Cocaine                      b. Cannabis                      c. barbiturates                      d. Heroin
- 4 \_\_\_\_ is the providing of O<sub>2</sub> to casualties who suffer from conditions resulting in hypoxia CO5  
a. Mental health first aid      b. Oxygen first aid      c. Marine first aid      d. CO<sub>2</sub>first aid
- 5 National Tuberculosis Institute is located in CO5  
a. Chennai                      b. Bangalore                      c. Mumbai                      d. Delhi

**SECTION – B (Remembering)**

Answer any **TWO** Questions: (2 X 2 = 4 Marks)

- 6 What is alcoholism? CO4
- 7 Define: Mental health CO4
- 8 What is first aid? CO5
- 9 Comment on dressing. CO5

**SECTION – C (Understanding)**

Answer any **ONE** Question: (1X 6= 6 Marks)

- 10 Narrate the obesity. CO4
- 11 Highlight the role NGOs in public health education. CO5

**SECTION – D (Applying)**

Answer any **ONE** Question: (1X 10= 10 Marks)

- 12 Explain the different types of occupational health hazards. CO4
- 13 Present the functions of WHO. CO5





**VIVEKANANDA COLLEGE, TIRUVEDAKAM WEST - 625234**  
**DEPARTMENT OF ZOOLOGY**

<b>Course Code:</b>	09AT01	<b>Programme:</b>	B.Sc.	<b>CIA:</b>	II
<b>Date:</b>	24.11.2021	<b>Major:</b>	Botany/ Chemistry	<b>Semester:</b>	III
<b>Duration:</b>	2 Hours	<b>Year:</b>	II	<b>Max.Marks:</b>	50
<b>Course Title:</b>	<b>ANIMAL ORGANISATION</b>				

**SECTION – A (Remembering)**

Answer **ALL** the Questions:

**(10 X 1 = 10 Marks)**

- 1 Which area of the brain is not part of the cerebral cortex? **CO4**  
a) Frontal lobe      b) Cerebellum      c) Parietal lobe      d) Temporal lobe
- 2 Human brain is mainly divided into \_\_\_\_\_ **CO4**  
a) two parts      b) three parts      c) four parts      d) five parts
- 3 What part of the brain stem regulates the heartbeat? **CO4**  
a) Pons      b) Medulla      c) Hypothalamus      d) Thalamus
- 4 Earthworm moves with the help of \_\_\_\_\_ and \_\_\_\_\_. **CO3**  
a) Muscles and Setae      b) Basal cells      c) longitudinal muscle      d) Circular muscles
- 5 The sol-gel theory of amoeba was proposed by **CO3**  
a) Dellinger      b) Jennings      c) Berthold      d) Hyman
- 6 Which of the following is hearing organ of human ear? **CO4**  
a) Corti      b) Mallieus      c) Incus      d) Stapes
- 7 The rod cells of retina contain **CO4**  
a) Rhodopsin      b) Iodopsin      c) melanin      d) chromatophores
- 8 In the excretory system of earthworm nephrostomes are the part of **CO5**  
a) Meganephridia      b) micronephridia      c) Pharyngeal nephridia      d) none of these
- 9 Sertoli cells are found in **CO5**  
a) testis of rabbit      b) testis of cockroach      c) testis of frog      d) liver of mammals
- 10 The Acidity of sperms is neutralized by **CO5**  
a) Testis      b) Epididymis      c) Vas deferens      d) Prostate gland

**SECTION – B (Remembering)**

Answer any **FIVE** Questions:

**(5 X 2 = 10 Marks)**

- 11 Give a short note on Lobopodia. **CO3**
- 12 State the sol-gel theory of amoeboid locomotion. Give its significance. **CO3**
- 13 Write any two functions of longitudinal muscle in earthworm. **CO3**
- 14 What is eye spot? **CO4**
- 15 Comment on Ommatidium. **CO4**
- 16 Define ear ossicles. **CO4**
- 17 Give a short note on nephridia. **CO5**

**SECTION – C (Understanding)**

Answer any **THREE** Questions:

**(3 X 6= 18 Marks)**

- 18 Mention the few functions of right systemic aorta in Calotes. **CO3**
- 19 State the surface-tension theory of amoeboid locomotion. Mention its importance. **CO3**
- 20 Describe the nervous system of earthworm. **CO4**
- 21 Sketch and comment on the structure of human eye. **CO4**
- 22 Give an account on the excretory system of frog with labelled diagram. **CO5**

**SECTION – D (Applying)**

Answer any **ONE** Question:

**(1X 12= 12 Marks)**

- 23 Describe in detail the structure and functions of nervous system in frog. **CO4**
- 24 Write an essay on human ear with a labelled sketch. **CO4**





**VIVEKANANDA COLLEGE, TIRUVEDAKAM WEST - 625234**  
**DEPARTMENT OF ZOOLOGY**

<b>Course Code:</b>	09CT51	<b>Programme:</b>	B.Sc.,	<b>CIA:</b>	II
<b>Date:</b>	20.11.2021	<b>Course:</b>	Zoology	<b>Semester:</b>	V
<b>Duration:</b>	2 Hours	<b>Year:</b>	III	<b>Maximum:</b>	50
<b>Course Title:</b>	<b>BIOCHEMISTRY AND BIOPHYSICS</b>				

**SECTION – A (Remembering)**

Answer **ALL** the Questions:

(10 X 1 = 10 Marks)

- 1 Which of the following is called “milk sugar”? CO1  
a. Maltose                      b. Lactose                      c. Sucrose                      d. Glucoheptulose
- 2 A protein molecule is linked to one another by CO1  
a. Peptide linkage              b. Hydrogen bond              c. Covalent bond              d. Van der Waal’s forces
- 3 The term pH was introduced by CO1  
a. Carl Neuberg                      b. Soren Sorenson                      c. Good et al.,                      d. Bloor
- 4 An example for non reducing disaccharide is CO3  
a. Maltose                      b. Lactose                      c. Sucrose                      d. Glucose
- 5 Who discovered EMP pathway? CO3  
a. Embden, Meyerhof and Parnas              b. Emerson, Hoffman and Peterson  
c. Embden, Meyerhof and Picher              d. Krebs and Henseleit
- 6 Among the following \_\_\_\_ is considered as ‘Universal currency of free energy’? CO3  
a. NADH                      b. ADP                      c. ATP                      d. FAT
- 7 Oxidations are catalysed by CO4  
a. Transferases                      b. Hydrases                      c. Lyases                      d. Oxidase
- 8 Brownian movement was first observed by CO5  
a. Tyndall                      b. Robert Brown                      c. De Robertis                      d. Schwann
- 9 The instrument is used to measure the electrical activity of the brain is CO5  
a. EEG                      b. ECG                      c. EMG                      d. Sphygmomanometer
- 10 Which of the following is not a physical role of ATP? CO5  
a. Bioluminescence              b. Maintenance synthesis              c. Muscle contraction              d. Bioelectricity

**SECTION – B (Remembering)**

Answer any **FIVE** Questions:

(5 X 2 = 10 Marks)

- 11 What are electrolytes? CO1
- 12 Distinguish between acids and bases. CO1
- 13 Define pH. CO1
- 14 Comment on mutarotation. CO1
- 15 What is Emulsification? CO1
- 16 What is gluconeogenesis? CO3
- 17 What is glycogenesis? CO3

**SECTION – C (Understanding)**

Answer any **THREE** Questions:

(3 X 6= 18 Marks)

- 18 Explain the properties of protein. CO1
- 19 Write a short note on ornithine cycle. CO3
- 20 What is biological oxidation? CO4
- 21 Define colloids. Describe the general properties of colloids. CO5
- 22 Comment on Donnan-membrane equilibrium. CO5

**SECTION – D (Applying)**

Answer any **ONE** Question:

(1X 12= 12 Marks)

- 23 Discuss in detail about beta oxidation of fatty acids. CO3
- 24 State and explain the Laws of thermodynamics and add a note their applications. CO5







**VIVEKANANDA COLLEGE, TIRUVEDAKAM WEST - 625234**  
**DEPARTMENT OF ZOOLOGY**

<b>Course Code:</b>	09CT52	<b>Programme:</b>	B.Sc	<b>CIA:</b>	II
<b>Date:</b>	22.11.2021	<b>Major:</b>	Zoology	<b>Semester:</b>	V
<b>Duration:</b>	2 Hours	<b>Year:</b>	III	<b>Max.Marks:</b>	50
<b>Course Title:</b>	<b>BIOTECHNOLOGY</b>				

**SECTION – A (Remembering)**

Answer **ALL** the Questions: **(10 X 1 = 10 Marks)**

- 1 The following is acts as store house for various genes of an organism **CO2**  
a) DNA                      b) RNA                      c) cDNA                      d) Both b & C
- 2 Sangers method of DNA sequencing is also known as **CO2**  
a) Dideoxy method   b) Klenow methods   c) Both a, b                      d) Transformation method
- 3 Genomic library can be prepared by **CO2**  
a) PCR technique   b) shotgun experiment   c) colony hybridization   d) All of these
- 4 A recombinant DNA molecule is produced by **CO3**  
a) Joining of two DNA fragments   b) Joining of more fragments of DNA  
c) Both a and b                      d) Joining of DNA fragments of different sources
- 5 Reverse transcriptase PCR uses **CO3**  
a) mRNA as a template to form cDNA                      b) RNA as template to form DNA  
c) DNA as template to form ssDNA                      d) All the above
- 6 The technique used to identify a gene product is **CO3**  
a) Western blotting   b) Plaque blotting   c) Dot blotting                      d) Southern blotting
- 7 41. DNA profiling is applied in comparison of different animal species is **CO3**  
a) Phylogenetic blot   b) Animal profiling   c) Zoo blot                      d) Animal blot
- 8 To produce penicillin, main fermentable source in culture is **CO5**  
a) glucose                      b) lactose                      c) sulphate                      d) sugars
- 9 Insulin and glucagon are produced in the **CO5**  
a) hypothalamus                      b) anterior pituitary                      c) liver                      d) pancreas
- 10 Environmental biotechnology involves **CO5**  
a) the use of microbes to clean up the environment                      b) bioremediation  
c) the study of benefits and hazards associated with GMMs                      d) all of these

**SECTION – B (Remembering)**

Answer any **FIVE** Questions: **(5 X 2 = 10 Marks)**

- 11 Mention the significance of genomic library. **CO2**
- 12 What you meant by DNA sequencing? **CO2**
- 13 Comment on RAPD. **CO3**
- 14 Define the term cell culture **CO3**
- 15 What you meant by organ culture? **CO3**
- 16 What are the functions of human peptide hormone? **CO5**
- 17 Define bioremediation and bioleaching. **CO5**

**SECTION – C (Understanding)**

Answer any **THREE** Questions: **(3 X 6= 18 Marks)**

- 18 Write a short note on the steps and process involved in prokaryotic gene cloning. **CO2**
- 19 Give a brief account on construction of cDNA library. **CO2**
- 20 Discuss briefly methods and principles are involved in Southern blotting. **CO3**
- 21 Describe the production of monoclonal antibodies and their applications. **CO4**
- 22 Discuss the role of bio-fertilizers in environmental degradation. **CO5**

**SECTION – D (Applying)**

Answer any **ONE** Question: **(1X 12= 12 Marks)**

- 23 Write a detailed account on transfer methods of rDNA into a host cell **CO2**
- 24 Explain the process of gene therapy. Mention its significance with example. **CO5**





**VIVEKANANDA COLLEGE, TIRUVEDAKAM WEST - 625234**  
**DEPARTMENT OF ZOOLOGY**

<b>Course Code:</b>	09CT53	<b>Programme:</b>	B.Sc.,	<b>CIA:</b>	II
<b>Date:</b>	23.11.2021	<b>Major:</b>	Zoology	<b>Semester:</b>	V
<b>Duration:</b>	2 Hours	<b>Year:</b>	III	<b>Max.Marks:</b>	50
<b>Course Title:</b>	<b>MICROBIOLOGY AND IMMUNOLOGY</b>				

**SECTION – A (Remembering)**

Answer **ALL** the Questions:

**(10 X 1 = 10 Marks)**

- 1 Coliform bacteria is found in  
a) Faecal materials of human and animals b) Soils c) Plants d) All the above CO2
- 2 In a plate count method, the colonies are counted by a  
a) Quebec colony counter b) Nephelometer c) Colorimeter d) Spectrophotometer CO2
- 3 Human immunodeficiency virus (HIV) binds specifically to which immune cell marker?  
a) CD8 b) MHC c) CDC d) CD4 CO3
- 4 Name the clinical term of whooping cough.  
a) Diphtheria b) Pertussis c) AIDS d) Tuberculosis CO3
- 5 Which of the following bacteria causes Typhoid?  
a) Clostridium tetani b) Salmonella typhi c) Vibrio cholera d) Asacris CO3
- 6 Which of the following techniques is not used for screening hybridoma clones?  
a) RIA b) ELISA c) Indirect Haemagglutination d) Precipitation test CO5
- 7 Immune surveillance is concerned with  
a) Cytotoxic T cells b) T regular cells c) Natural killer cells d) Memory cells CO5
- 8 Humoral immunity is mediated by  
a) B Cells b) Macrophages c) T cells d) All the above CO5
- 9 What is the role of complement system?  
a) Cytolysis b) Opsonisation c) Anaphylotoxin d) all the above CO5
- 10 Alternate pathway of complementary system involves  
a) Non-specific defense b) Innate immunity c) both a and b d) Adoptive immunity CO5

**SECTION – B (Remembering)**

Answer any **FIVE** Questions:

**(5 X 2 = 10 Marks)**

- 11 What do you mean by MPN? CO2
- 12 Define: Ring worm CO3
- 13 Enlist the symptoms of TB. CO3
- 14 What is mycotoxicosis? CO3
- 15 Comment on graft rejection. CO5
- 16 List out the types of Immuno techniques. CO5
- 17 Expand VDRL test and give its applications. CO5

**SECTION – C (Understanding)**

Answer any **THREE** Questions:

**(3 X 6 = 18 Marks)**

- 18 Give a brief account on the physiology of nitrogen fixation. CO2
- 19 Comment on leprosy. CO3
- 20 Elaborate the etiology, clinical symptoms and treatment of AIDS. CO3
- 21 Give an account on immune response. CO5
- 22 Expand and describe the ELISA test. CO5


**SECTION – D (Applying)**

Answer any **ONE** Question:

**(1X 12 = 12 Marks)**

- 23 Explain the transmission, diagnosis, clinical symptoms and preventive measures of cholera. CO3
- 24 Critically comment on the principle and applications of immunoelectrophoresis. CO5



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	<b>DEPARTMENT OF ZOOLOGY</b>					
	<b>Course Code:</b>	09EP51	<b>Programme:</b>	B.Sc.,	<b>CIA:</b>	II
	<b>Date:</b>	24.11.2021	<b>Major:</b>	Zoology	<b>Semester:</b>	III
	<b>Duration:</b>	2 Hours	<b>Year:</b>	III	<b>Max.Marks:</b>	50
<b>Course Title:</b>	<b>BIostatistics, Computer Applications &amp; Bioinformatics</b>					

### SECTION – A (Remembering)

Answer **ALL** the Questions:

(10 X 1 = 10 Marks)

- 1 Find out range: 2,3,4,5,11,8 CO2  
a. 7                                      b. 8                                      c. 9                                      d. 10
- 2 Quartile deviation is CO2  
a. easy to understand and calculate    b. unaffected by extreme items    c. quite satisfactory    d. All
- 3 Chi-square test has developed by CO3  
a. W.S. Gossett                      b. Karl Pearson                      c. A.R. Fisher                      d. Pascal
- 4 The test to be applied when the numbers of observations are less than 30 is said to be CO3  
a. Z-test                      b. t-test                      c. F-test                      d. Chi-square test
- 5 In a throw of coin what is the probability of getting head. CO3  
a. 1                      b. 2                      c. ½                      d. 0
- 6 The common ancestor of all taxa in a phylogenetic tree is CO5  
a. Clade                      b. Root                      c. Branch                      d. Monophyletic
- 7 The Swiss – Prot server is maintained by CO5  
a. NCBI                      b. EMBL                      c. DDBJ                      d. IISc
- 8 The tool “Translate” is found in the expasy proteomic tools in CO5  
a. Secondary structure analysis                      b. Primary structure analysis                      c. Tertiary structure analysis                      d. DNA to protein
- 9 The disease databases that can be viewed through CO5  
a. PDB                      b. TrEMBL                      c. OMIM and OMIA                      d. Prosite
- 10 The number of sections seen in the BLAST search page leaving the blast button is CO5  
a. 4                      b. 3                      c. 2                      d. 5

### SECTION – B (Remembering)

Answer any **FIVE** Questions:

(5 X 2 = 10 Marks)

- 11 What is measures of dispersion? CO2
- 12 Define inter quartile deviation CO2
- 13 Comment on coefficient of variation CO3
- 14 Mention any two common usage of multiple sequence alignment CO4
- 15 Differentiate rooted and unrooted tree CO5
- 16 What do you mean by monophyletic origin in phylotree CO5
- 17 Mention the two methods of phylogenetic tree construction CO5

### SECTION – C (Understanding)

Answer any **THREE** Questions:

(3 X 6= 18 Marks)

- 18 Enumerate the merits and demerits of mean deviation CO2
- 19 Discuss types and theorems of Probability CO3
- 20 In a dihybrid experiment in F<sub>2</sub> generation the following plants appear yellow round 920, yellow wrinkled 280, green round 320 and green wrinkled 80. With the help of  $\chi^2$  test, verify that 9:3:3:1 ratio is followed. (Tabulated  $\chi^2$  value for df=3 at 5% level is 7.81) CO3
- 21 Describe the methods of multiple sequence alignment CO5
- 22 Enumerate the differences between cladogram, dendrogram and phylogram CO5

### SECTION – D (Applying)

Answer any **ONE** Question:

(1X 12= 12 Marks)

- 23 Find out standard deviation for the following data which shows the weight of fishes in grams CO2

Weight of fishes	0-10	10-20	20-30	30-40	40-50
No. of fishes	4	3	9	6	5

- 24 Give an account on the parts of a phylogenetic tree and the importance of phylogenetic tree CO5





**VIVEKANANDA COLLEGE, TIRUVEDAKAM WEST - 625234**  
**DEPARTMENT OF ZOOLOGY**

<b>Course Code:</b>	09SB51	<b>Programme:</b>	B.Sc	<b>CIA:</b>	II
<b>Date:</b>	18.11.2021	<b>Major:</b>	Zoology	<b>Semester:</b>	V
<b>Duration:</b>	1 Hour	<b>Year:</b>	III	<b>Max.Marks:</b>	25
<b>Course Title:</b>	<b>SERICULTURE</b>				

**SECTION – A**

Answer **ALL** the Questions:

**(5 X 1 = 5 Marks)**

- 1 Which part of silk gland draws out silk in the form of fine filament? CO3  
a) Spinneret      b) Prothoracic gland      c) Scent glands      d) Lyonnet gland
- 2 Raksha Rekha is a replant for CO3  
a) Ant      b) Uzi fly      c) House fly      d) Rat
- 3 Root rot disease is caused by CO2  
a) Bacteria      b) Protozoa      c) Fungi      d) Virus
- 4 Pebrine is a ..... disease. CO3  
a) Bacterial      b) Protozoan      c) Fungal      d) Viral
- 5 The unwinding of silk thread from the cocoon is called CO4  
a) Silk reeling      b) Pruning      c) Mulching      d) Irrigation

**SECTION – B**

Answer any **TWO** Questions:

**(2 X 2 = 4 Marks)**

- 6 Give any two methods physical disinfection. CO3
- 7 List out the types of mountages. CO3
- 8 Comment on stifling. CO4
- 9 Enlist the types of defective cocoons. CO4

**SECTION – C**

Answer any **ONE** Question:

**(1 X 6= 6 Marks)**

- 10 Give a note on common pest of silkworm. CO4
- 11 Sketch and comment on structure of silk gland in silkworm. CO5

**SECTION – D**

Answer any **ONE** Question:

**(1 X 10= 10 Marks)**

- 12 Write an essay on rearing appliances used in sericulture. CO5
- 13 Describe the physical characteristics of cocoons. CO4

