

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

Course Code: 31CT31	Programme: M.Sc.,	CIA: I Test
Date: 24.07.2019	Major: ZOOLOGY	Semester: III
Time: 2Hrs	Year: II	Maximum: 50 Marks
Course Title:	GENETICS	

SECTION – A**ANSWER ALL QUESTIONS (Multiple choice questions): (5 X1= 5 Marks)**

- Integration of viral 'DNA' into host 'DNA' results in a structure named as CO3
 - Viral genome
 - Prophage
 - Virion
 - Prion
- The genetic material of viruses may consist of CO3
 - DNA
 - RNA
 - either DNA or RNA
 - both DNA and RNA
- Virus mediated DNA transfer between bacterial strains occurs during CO3
 - Transduction
 - Transcription
 - Transformation
 - Transfection
- The resemblance of offspring to their parents is CO1
 - Resemblance
 - Variation
 - Heredity
 - Homology
- The partial expression of both genes in an allomorphic pair is called CO1
 - Codominance
 - Non – disjunction
 - Incomplete dominance
 - Epistasis

SECTION – B**ANSWER ANY FIVE QUESTIONS (Very short answer): (5 X 2 =10 Marks)**

- Discriminate transduction and transfection. CO3
- Define the term prophage. CO3
- How does the complete transduction differ from abortive transduction? CO3
- Comment on chromosomal mapping. CO1
- What is recon? CO1
- Write short note on lethal genes. CO1
- What are restriction enzymes? CO1

SECTION – C**ANSWER ANY THREE QUESTIONS (Short answer): (3 X 5 = 15 Marks)**

- Focus light on the genome of phage λ with a neat diagram. CO3
- Describe the genomic organization of the phage M13 with a pictorial representation. CO3
- Give a brief account on classical gene concept. CO1
- What are restriction mapping? Mention its importance. CO1
- Write a brief account on Mendel's monohybrid experiments. Give its significance. CO1

SECTION – D**ANSWER ANY ONE QUESTION (Long Answer): (2 X10=20 Marks)**

- Discuss lytic and lysogenic life cycles of T4 phage with illustrative figures. CO3
- Elucidate the mechanism of generalised and specialized transduction with labelled sketches, and point out the difference between these two. CO3
- Write an essay on fine structure of gene. CO1

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Course Code: 31CT32	Programme: M.SC.,	CIA: I Test
Date: 25.07.2019	Major: ZOOLOGY	Semester: III
Time: 2Hrs	Year: II	Maximum: 50 Marks
Course Title:	PHYSIOLOGY	

SECTION – A Multiple choice questions**Answer All Questions:****5X1=5 Marks**

- The molecular weight of carbonic anhydrase is (CO1)
 - 5000
 - 10000
 - 20000
 - 30000
- The primitive insects and spiders can live permanently above (CO1)
 - 3000m
 - 4000m
 - 5000m
 - 6000m
- The thorax of the diving mammal is very flexible because of the presence of numerous (CO1)
 - Adipose tissue
 - Rigid thorax
 - Floating ribs
 - All
- Which type of blood vessels carries blood away from the heart? (CO5)
 - Veins
 - Arteries
 - Capillaries
 - All
- Vessel which takes blood from heart to lungs, is known as (CO5)
 - Renal artery
 - Pulmonary artery
 - Renal vein
 - Pulmonary vein

SECTION – B Very short answer**Answer any Five Questions:****5X2=10 Marks**

- Differentiate between poikilotherms and homeotherms. (CO1)
- Distinguish between diffusion lungs and ventilation lungs. (CO1)
- Define the terms: Acclimation and acclimatization. (CO1)
- State the Haldane effect. (CO1)
- Distinguish between open and closed circulatory system. (CO5)
- Comment on Sphygmomanometer. (CO5)
- How the neurogenic heart is differing from myogenic heart? (CO5)

SECTION – C Short answer**Answer any Three Questions****3X6=18 Marks**

- Give a brief account on branchial respiration. (CO1)
- Comment on pacemakers of ventilation. (CO1)
- Briefly discuss the functions of respiratory pigments. (CO1)
- Write a short note on Auricular systole, Ventricular systole and Diastole. (CO5)
- Give a brief account on blood pressures and its measurement. (CO5)

SECTION - D Long Answer**Answer any Two Questions:****2x10 = 20 Marks**

- “Oxygen as a limiting factors” - Discuss. (CO1)
- Explain the mechanism of transport of gases. (CO1)
- Write an essay on circulation of blood. (CO5)

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Course Code: 31CT33	Programme: M.SC.,	CIA: I Test
Date: 26.07.2019	Major: ZOOLOGY	Semester: III
Time: 2Hrs	Year: II	Maximum: 50 Marks
Course Title:	PRINCIPLES OF BIOTECHNOLOGY	

SECTION – A**MULTIPLE CHOICE QUESTIONS****Answer All Questions:****5X1=5 Marks**

- The enzymes that cleave nucleotide at a time from an end of a poly nucleotide chain is-CO2
a. Endo nucleases b. Restriction enzymes c. Exo nucleases d. Restriction endo nucleases
- The purpose of restriction modification methylation is mainly to facilitate ---CO2
a. entry of plasmid b. Restrict entry of plasmid c. the attachment of plasmid d. To kill the plasmid
- The enzyme that is more active in alkaline pH, which removes 5' phosphate group from DNA, RNA, Protein and alkaloids is ---CO2
a. Polynucleotide kinase b. DNA Ligase c. Alkaline Phosphatase d. Restriction endo and exo nucleases ---CO2
- During restriction mapping of DNA the fragments of DNA are uptimed through the action of ---CO4
a. clearing enzyme I b. clearing enzyme II c. both a and b d. by Electrophoresis
- The techniques that determines, in which tissue or under which physiological conditions of a gene is expressed to produce a protein ---CO4
a. Eastern blotting b. Northern blotting c. Southern blotting d. dot-slot blot

SECTION – B**VERY SHORT ANSWER****Answer any Five Questions:****5X2=10 Marks**

- Define the basic nature of exonuclease. ---CO2
- Write short notes on basic character of endonucleases. ---CO2
- Comment on types DNA ligases. ---CO2
- What is restriction modification system? ---CO2
- Comment on DNA chip. ---CO4
- What is *Taq* polymerase? ---CO4
- What are the advantages of using proteins and nucleic acid in determining phylogenies? ---CO4

SECTION – C**SHORT ANSWER****Answer any Three Questions****3X5=15 Marks**

- Describe the operation of restriction modification system. ---CO2
- What are the advantages and disadvantages of Bal31 Exo-nucleases. ---CO2
- How DNA types are analyzed using microarray. ---CO4
- Give a brief account on RFLP and its significance. ---CO4
- Describe the working principle and applications of PCR. ---CO4

SECTION - D**LONG ANSWER****Answer any Two Questions:****2x10=20 Marks**

- Give a detailed account on various ribo-nucleases and their applications. CO2
- Write a detailed account on various blotting techniques and their Biological importance. CO4
- Differentiate Sanger method and Maxim-Gilbert methods of DNA sequencing. CO4

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DEPARTMENT OF ZOOLOGY

Course Code: 31NE31	Programme: M.Sc., / M.COM	CIA: I Test
Date: 27.07.2019	Major: CHEMISTRY / M.COM	Semester: III
Time: 2Hrs	Year: II	Maximum: 50 Marks
Course Title:	ECONOMIC ZOOLOGY	

SECTION – A

Answer All Questions:

5X1=5 Marks

1. Earthworm belongs to the class
a. archiooligochaeta b. neooligochaeta c. acanthobdellida d. rhynchobdellida
(CO1)
2. The preferred species for composting of urban waste is
a. Pheretima elongata b. Eudrillus rubellus c. Eisenia fetida d. Lumbricus rubellus
(CO1)
3. The temperature required for making good quality casting is
a. 15-20°C b. 25-30°C c. 5-10°C d. 0-5°C
(CO1)
4. Pisciculture' is culture of
a. earth worm b. Prawns c. Fishes d. silkworm
(CO4)
5. The important food fish is
a. Rohu b. Catla c. Wallago d. Clarius
(CO4)

SECTION – B Very short answer

Answer any Five Questions:

5X2=10 Marks

6. Mention the scope of vermitechnology (CO1)
7. Define hermaphrodite (CO1)
8. List out the characteristics of vermicasts (CO1)
9. Write the scope of fish culture (CO4)
10. Define monoculture (CO4)
11. Comment on Integrated fish farming (CO4)
12. What is hypophysation? (CO4)

SECTION – C Short answer

Answer any Three Questions

3X5=15 Marks

13. Write about the basic requirements of vermitechnology (CO1)
14. Describe the biology of *Eisenia fetida* (CO1)
15. Explain the Windrow method of vermitechnology (CO1)
16. Discuss the characteristics of culturable species (CO4)
17. Enumerate the salient features of *Catla* (CO4)

SECTION - D Long Answer

Answer any Two Questions:

2x10 = 20 Marks

18. Define Vermiwash. Describe the method of preparation, composition and applications of vermiwash (CO1)
19. Discuss the role of vermitechnology in organic farming (CO1)
20. Explain induced spawning technique in fishes (CO4)
