No. of Printed Pages : **2**

21BSC3C3ZOL

B.Sc. III Semester Degree Examination, April/May - 2024

ZOOLOGY

2.3 : Molecular Biology Bioinstrumentation and Techniques in Biology (NEP)

Time : 2 Hours | Maximum Marks : 60

Note : *(i) Answer **all** the questions.*

(ii) Draw diagrams wherever necessary.

SECTION - A

Answer the following sub-questions. **10x1=10**

1. (a) What is Cistron ?

(b) Define Genetic Code.

(c) State Gene Expression.

(d) What is Phosphorylation ?

(e) Define Phase Contrast Microscope.

(f) Expand TLC and TEM.

(g) State Lambert's Law.

(h) What do you mean by Spectrophotometry ?

(i) Define DNA fingerprinting.

(j) What is DNA sequencing ?

SECTION - B

Answer **any four** of the following questions. **4x5=20**

2. Explain the process of Prokaryotic Transcription.

3. Write a note on process of Gene Silencing.

4. What is Centrifugation ? Write its principle and types.

5. Briefly explain Radio-tracer Technique.

6. Write a brief note on ELISA.

7. With diagram explain Confocal Microscope.

P.T.O.

SECTION - C

Answer **any three** of the following questions. **3x10=30**

8. Describe in detail Prokaryotic and Eukaryotic RNA Polymerases.

9. Describe Post-translational modifications like purpose, advantage and significance of :

(a) Glycosylation
(b) Methylation
(c) Acetylation

10. Define chromatography. Describe its principle and applications of TLC, HPLC and GC.

11. Explain :

(a) Colorimetry
(b) Spectrophotometry

12. Describe Southern Blotting and Western Blotting processes.

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