



699324
DCZO301

Reg. No.

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

ZOOLOGY

Molecular Biology Bioinstrumentation and Techniques in Biology
(NEP Scheme Freshers and Repeaters)



Paper : III

Time : 2½ Hours

Maximum Marks : 60

Instructions to Candidates:

1. Answer should be written completely in English.
2. Draw **diagrams** wherever necessary.

PART - A

I. Answer the following in ONE word or ONE sentence.

(5×1=5)

1. Name the non coding regions present in DNA.
2. Give an example for inducible operon.
3. What type of lenses are used in electron microscope.
4. Expand HPLC.
5. Mention the function of SDS in SDS - PAGE.

PART - B

II. Answer any FIVE of the following.

(5×3=15)

1. Name the sub units present in prokaryote RNA polymerase.
2. Mention the three termination codons.
3. Write a note on fine structure of gene.
4. What is capping in post transcriptional modification.
5. List any three applications of confocal microscopy.
6. Write the principle of centrifugation.
7. What is southern blotting? Mention any two applications of it.

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PART - C

III. Answer any **FOUR** of the following.

(4×5=20)

1. List any five salient features of genetic code.
2. Explain splicing in post transcriptional modifications.
3. Write a note on phosphorylation and acetylation in post translational modification.
4. Give the principle and applications of TEM.
5. Write the principle of autoradiography and mention its applications.
6. Give the principle and applications of ELISA.

PART - D

IV. Answer any **TWO** of the following.

(2×10=20)

1. Describe transcription in prokaryotes.
 2. Explain tryptophan operon concept of gene regulation.
 3. List any five applications of
 - a) Light microscopy.
 - b) Centrifugation.
 4. Explain the steps involved in polymerase chain reaction and mention its applications.
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