



WEST BENGAL STATE UNIVERSITY
B.Sc. Honours 5th Semester Examination, 2023-24

ZOOACOR11T-ZOOLOGY (CC11)

Time Allotted: 2 Hours

Full Marks: 40

The figures in the margin indicate full marks.

Candidates should answer in their own words and adhere to the word limit as practicable.

1. Answer any **eight** questions from the following:

2×8 = 16

- What is B DNA?
- What do you mean by "Gene Silencing"?
- What is polysome?
- What is Pribnow box?
- Write the role of allolactose in Lac Operon.
- Explain the statement — "The Genetic Code is Degenerate".
- Define sense and antisense strands of DNA in view of Transcription.
- Define Chargaff's rule.
- What is RNA editing?
- What do you mean by the term 'Replicon'?
- What is Kozak's rule?
- Distinguish between leading and lagging strand in respect of DNA replication.

2. Answer any **three** questions from the following:

3×3 = 9

- What is Wobble base? What is split gene?
- Write a short note on Genomic Imprinting.
- State the significance of photoreactivation in DNA repair.
- Write the structure and function of *E. coli* RNA polymerase.
- What do you mean by Lac Operon? Briefly describe its structure.

1½ + 1½

1+2

3. Answer any **three** questions from the following:

5×3 = 15

- What are the different steps in cDNA synthesis?
- Describe Sanger's Dideoxy method to determine the nucleotide sequence of a DNA molecule.
- Describe the Rho-Dependent and Rho-Independent termination of transcription.
- What is SOS repair? Discuss the main events that occur during the initiation phase of prokaryotic translation.
- What is Attenuation? Why does attenuation process works in *E. coli* but not in humans? Mention the name and function of the enzymes and proteins required for prokaryotic DNA replication.

2+3

1+1+3

—x—