सत्यं विजयानम्

WEST BENGAL STATE UNIVERSITY

B.Sc. Honours 5th Semester Examination, 2022-23

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

(a) What are purines and pyrimidines?
(b) Write down the differences between DNA and RNA.
(c) What is TATA Box?
(d) What is cDNA?
(e) Explain the following statement — "the genetic code is degenerate".
(f) What are Okazaki fragments?
(g) Define sense and antisense strands of DNA in view of transcription.
(h) What is the function of topoisomerase enzyme?
(i) What is nonsense codon?
(j) Distinguish between Southern blot and Western blot techniques.
(k) Which enzyme is used in PCR technique and why?
(l) Write the names of two inhibitors of protein synthesis.

2. Answer any ***three*** questions from the following: 3×3 = 9

(a) Distinguish between Z, B and A DNA.
(b) What is the function of t-RNA and r-RNA?
(c) Distinguish between inducible and repressible system.
(d) Write the differences between prokaryotic and eukaryotic translation.
(e) What do you mean by splicing?
(f) Describe the process of amino acid activation during translation.

3. Answer any ***three*** questions from the following: 5×3 = 15

(a) Prove that DNA replication is a semiconservative.
(b) What do you mean by a codon? Discuss some important properties of a genetic code. 2+3
(c) Describe the structure and function of E coli RNA polymerase.
(d) Discuss in brief about the miRNA mediated gene silencing.
(e) Describe regulation of transcription in respect to lac operon.
(f) Describe the Western Blot technique.

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