



Reg. No. : .....

Name : .....

VI Semester B.Sc. Degree (CBCSS – OBE – Regular) Examination, April 2022  
(2019 Admission)  
CORE COURSE IN ZOOLOGY  
6B10 ZLG : Molecular Biology and Bioinformatics

Time : 3 Hours

Max. Marks : 40

- I. Essay Questions (Each question carries 8 marks). Answer any two : (2×8=16)
  - 1) Describe the regulation of transcription in eukaryotes.
  - 2) Give an account on the types of DNA repair mechanisms.
  - 3) Describe different DNA databases.
  - 4) Explain the modern concept of genes.
- II. Short Essay Questions (Each question carries 4 marks). Answer any two : (2×4=8)
  - 5) Discuss nucleosome structure and packaging of DNA into higher order structures.
  - 6) What are the applications of bioinformatics ?
  - 7) Give an account on PCR.
- III. Short Answer Questions (Each question carries 2 marks). Answer any six : (6×2=12)
  - 8) What is Wobble hypothesis?
  - 9) What are metabolic databases ? Give an example.
  - 10) What is central dogma of molecular biology ?
  - 11) List any 4 features of genetic code.
  - 12) What is SDS PAGE ?
  - 13) What is CRISPR gene editing?
  - 14) What are split genes ?
  - 15) What is BLAST ?

P.T.O.



- IV. Multiple Choice Questions (Each question carries 0.5 mark). Answer all questions : (8×0.5=4)
  - 16) The histone associated with linker DNA is
    - a) H3                      b) H2A                      c) H1                      d) H4
  - 17) PCR technique was discovered by
    - a) Sanger                      b) Frederick
    - c) Messelhsen and Stahl                      d) Kary Mullis
  - 18) The inducer in Lac operon is
    - a) Lactose                      b) Sucrose                      c) Lactic acid                      d) Arabinose
  - 19) An example for protein database is
    - a) EMBL                      b) Swiss Prot                      c) KEGG                      d) Genbank
  - 20) Which of the following is not a STOP codon ?
    - a) UGA                      b) UAA                      c) UAG                      d) AUG
  - 21) Enzyme known as molecular glue is
    - a) Endonuclease                      b) DNA ligase                      c) Exonuclease                      d) Helicase
  - 22) Nitrogen base not present in DNA is
    - a) Guanine                      b) Adenine                      c) Thymine                      d) Uracil
  - 23) Most abundant RNA in the cell is
    - a) tRNA                      b) mRNA                      c) rRNA                      d) SnRNA