



DBL-003-1015019

Seat No. _____

B. Sc. (Sem. V) (CBCS) Examination

June - 2022

Zoology : Z-503

*(Biochemistry, Cytology, Instrumental Biology, Genetic,
Fundamental Process)*

(New Course)

Faculty Code : 003

Subject Code : 1015019

Time : $2\frac{1}{2}$ Hours]

[Total Marks : 70

- Instructions :**
- (1) Illustrate your answer with neat and labelled diagram.
 - (2) Figure to the right side indicates full marks of the questions.
 - (3) Write any 5 questions out of 10 (Each question carries equal marks – 14)

- 1 (a) Give answer to the following questions : 4
 - (1) Define Oxidoreductases enzyme.
 - (2) Write an example of hexose sugar.
 - (3) Riboflavin is also known as _____ vitamin.
 - (4) Write name of sulfur containing amino acid.
- (b) Give answer in short : 2

Give a brief note on positively charged amino acid.
- (c) Write answer in detail : 3

Describe glycolysis.
- (d) Write a note on : 5

Urea cycle.
- 2 (a) Give answer to the following questions : 4
 - (1) Vitamin C is known as _____ acid.
 - (2) Define active site.
 - (3) Write only name of bonds contributes to tertiary structure of proteins.
 - (4) What is homopolysaccharides ?

- (b) Give answer in short : 2
Write an importance of Vitamin D and Vitamin K.
- (c) Write answer in detail : 3
Write an importance of minerals (any three)
- (d) Write a note on : 5
Factors affecting enzyme activity.
- 3 (a) Give answer to the following questions : 4
(1) Write a function of Intermediate filament.
(2) Define Cancer.
(3) During cell cycle DNA is synthesized in _____ phase.
(4) What is seen the arrangement of microtubules in eukaryotic flagella ?
- (b) Give answer in short : 2
Give an account on significance of mitosis.
- (c) Give answer in detail : 3
Describe characteristics of cancerous cells.
- (d) Write a note on : 5
Structure and function of microfilament.
- 4 (a) Give answer to the following questions : 4
(1) Write only name sub-phrases of interphase.
(2) Micro tubules are made up of _____ and _____.
(3) Which material is used to view diakinesis ?
(4) What is angiogenesis ?
- (b) Give answer in short : 2
Write a note on types of cancer.
- (c) Give answer in detail : 3
Discuss only types of intermediate filament.
- (d) Write a note on : 5
Mitotic phase of cell cycle.
- 5 (a) Give answer to the following question : 4
(1) Chromatography is use for _____.
(2) BAC can accept DNA insects of around _____ kb.
(3) Define host cell.
(4) Write a full name of SDS.

- (b) Give answer in short : 2
Restriction endonucleases.
- (c) Give answer in detail : 3
Explain Agarose gel electrophoresis.
- (d) Write a note on : 5
The procedure of paper chromatography.
- 6** (a) Give answer to the following questions : 4
 (1) Write the formula for Rf value.
 (2) _____ stains are used for detect protein in electrophoresis.
 (3) Write a full name of YAC.
 (4) The Restriction enzymes are also known as _____.
- (b) Give answer in short : 2
Discuss method for gene transfer.
- (c) Write answer in detail : 3
Plasmid
- (d) Write a note on : 5
Give a detail account on SDS-PAGE electrophoresis.
- 7** (a) Give answer to the following questions : 4
 (1) Define Mutton.
 (2) What is promoter gene ?
 (3) In pedigree analysis, this symbol is used for _____.
 (4) Write an application of amniocentesis.
- (b) Give answer in short : 2
Intron and Exons.
- (c) Write answer in detail : 3
Describe chemical mutagens.
- (d) Write a note on : 5
Duplication and inversion – mutation.
- 8** (a) Give answer to the following questions : 4
 (1) Give example of radiation mutagens.
 (2) Which disorder occurs due to deletion ?
 (3) What is base analogs ?
 (4) In 1908, first purpose one-gene-one-product hypothesis.

- (b) Give answer in short : 2
Concept of gene
- (c) Write answer in detail : 3
Explain Haemophilia
- (d) Write a note on : 5
Amniocentesis
- 9** (a) Give answer to the following questions : 4
(1) Define leading stand.
(2) What is genetic code ?
(3) What is stop codon ?
(4) Write the importance of 5' capping.
- (b) Give answer in short : 2
Brief note on replication fork.
- (c) Write answer in detail : 3
Describe termination of transcription.
- (d) Write a note on : 5
Translation process in eukaryotic.
- 10** (a) Give answer to the following questions : 4
(1) What is Poly-A tail ?
(2) Write a function of DNA polymerase alpha.
(3) The genetic code AUG is also called _____
(4) RNA polymerase I is responsible of synthesis of _____.
- (b) Give answer in short : 2
Brief note on Initiation of transcription.
- (c) Write answer in detail : 3
Describe DNA topoisomerases.
- (d) Write a note on : 5
The mechanisms of DNA replication.
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