

B.Sc. Semester - 5 (CBCS) Examination**Oct/Nov. - 2021(Old Course)****BIOCHEMI., CYTOLOGY, INSTRU., BIOLOGY (CORE)****Time: 2:30 Hours****Marks: 70****Instructions:**

1. All questions are compulsory.
2. Figures to the right indicate marks.

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- Q.1(A) ANSWERS THE FOLLOWING QUESTIONS. (ANY ONE OUT OF TWO) (07)
1. Give the different structures of protein.
 2. Give the classification and structure of carbohydrates with suitable examples.
- Q.1(B) ANSWERS THE FOLLOWING QUESTIONS. (ANY ONE OUT OF TWO) (04)
1. Write a short note on Importance of minerals.
 2. Write a Short note on Glycolysis.
- Q.1(C) ANSWERS THE FOLLOWING QUESTIONS. (ANY THREE OUT OF FIVE) (03)
1. The first amino group entering into urea cycle is.....
 2. is the chemical name of vitamin E.
 3. List out the fat-soluble vitamins.
 4. Those enzymes which bring about oxidation – reduction reaction between two substrates are called.....
 5. A tripeptide has amino acid and peptide bonds.
- Q.2(A) ANSWERS THE FOLLOWING QUESTIONS. (ANY ONE OUT OF TWO) (07)
1. What is cancer? Give the types of cancer in detail.
 2. Describe phenomenon of mitosis in details.
- Q.2(B) ANSWERS THE FOLLOWING QUESTIONS. (ANY ONE OUT OF TWO) (04)
1. Write a short note on Microfilaments.
 2. Write a short note on prophase I of meiosis.
- Q.2(C) ANSWERS THE FOLLOWING QUESTIONS. (ANY THREE OUT OF FIVE) (03)
1. Chiasmata formation takes place during.....
 2. Neoplastic growth of leucocytes are cancer known as
 3. Which chemical arrest the cell cycle at metaphase stage?
 4. Give the functions of intermediate filaments.
 5. Which type of cancer majorly seen in human?
- Q.3(A) ANSWERS THE FOLLOWING QUESTIONS. (ANY ONE OUT OF TWO) (07)
1. Describe technique - Gel electrophoresis.
 2. Describe recombinant DNA technology in detail.
- Q.3(B) ANSWERS THE FOLLOWING QUESTIONS. (ANY ONE OUT OF TWO) (04)
1. Write a short note on vector.
 2. Describe principle, method and application of paper chromatography.

- Q.3(C) ANSWERS THE FOLLOWING QUESTIONS. (ANY THREE OUT OF FIVE) (03)
- 1.....is the best example of DNA recombinant technology.
 - 2.....technique separates charged particles using electric field?
 3. In paper chromatography R_f value =.....
 4. pBR322 which is frequently used as a vector for cloning gene in E.Coli is which type of plasmid?
 5. In recombinant DNA technology is used to cut pieces of DNA and joins these segments to form recombinant DNA.
- Q.4(A) ANSWERS THE FOLLOWING QUESTIONS. (ANY ONE OUT OF TWO) (07)
1. Describe molecular structure of gene.
 2. Describe colourblindness with suitable example.
- Q.4(B) ANSWERS THE FOLLOWING QUESTIONS. (ANY ONE OUT OF TWO) (04)
1. Write a short note on Radiation as mutagenic agent.
 2. Write a short note on amniocentesis.
- Q.4(C) ANSWERS THE FOLLOWING QUESTIONS. (ANY THREE OUT OF FIVE) (03)
1. Removing of amniotic fluid, culturing and screening are the processing step for.....
 2. Transfer of a part of a chromosome or a set of gene to a non- homologous one, is called.....
 3. Pentose sugar + nitrogen base + phosphate =
 4. When colourblind female marries with normal male, what will be the ratio of male and female in F1?
 5. A smallest unit of gene mutation is.....
- Q.5(A) ANSWERS THE FOLLOWING QUESTIONS. (ANY ONE OUT OF TWO) (07)
1. Describe different phases of Translation.
 2. Describe DNA replication with suitable diagram.
- Q.5(B) ANSWERS THE FOLLOWING QUESTIONS. (ANY ONE OUT OF TWO) (04)
1. Write a short note – Transcription
 2. Write a short note- Enzymes of DNA replication
- Q.5 (C) ANSWERS THE FOLLOWING QUESTIONS. (ANY THREE OUT OF FIVE) (03)
1. Transcription occurs inand Translation in.....
 2. The enzyme used to join the okazaki fragment of DNA is
 3. List out the stop codon.
 4. DNA unwinding is done by
 5. What is the size of the prokaryotic ribosome?
