

B.Sc. Semester - 6 (CBCS) Examination
March/April-2023 (NEW COURSE)
BioChemistry, Cytology, Instru. (Core (New))

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) Answer the following question. (Any One) (07)**
1. Give the classification and structure of disaccharide with suitable examples.
 2. Give the classification of compound lipids with suitable examples.
- Q.1(B) Answer the following questions. (Any One) (04)**
1. Write a short note on homopolysaccharide.
 2. Write a Short note on Gluconeogenesis.
- Q.1(C) Answer the following questions. (Any Three) (03)**
1. Give any two examples of the hexose sugar.
 2. Give any two examples of heteropolysaccharide.
 3. Give any two examples of essential fatty acid.
 4. The phenomenon for the formation of glycogen from glucose is known as
 5. Give any two examples of saturated fatty acid.
- Q.2(A) Answer the following question. (Any One) (07)**
1. Describe : protein metabolism in detail.
 2. Give the classification and nomenclature of Enzyme.
- Q.2(B) Answer the following questions. (Any One) (04)**
1. Write a short note on different configuration of tertiary and quaternary structure of proteins.
 2. Write a short note on enzyme inhibitor.
- Q.2(C) Answer the following questions. (Any Three) (03)**
1. Give any two examples of different amino acid.
 2. Give the example of non-polar amino acid.
 3. α -helix and β -sheet are the type of of protein.
 4. The enzyme involved in oxidation-reduction reaction is known as
 5. Blocking of enzyme action by blocking its active site is called as.....
- Q.3(A) Answer the following question. (Any One) (07)**
1. Describe phenomenon of mitosis in detail.
 2. Give the principle, procedure and application of electrophoresis.
- Q.3(B) Answer the following questions. (Any One) (04)**
1. What is cancer? Describe types of cancer.
 2. Write a short note on phenomenon of meiotic division prophase-1 in detail.

- Q.3(C) Answer the following questions. (Any Three) (03)**
1. During which phase of mitosis nuclear membrane and nucleolus reappear?
 2. Chiasmata formation takes place during which stage of meiosis?
 3. are tumors made up principally of connective tissue cells, which are of mesodermal origin.
 4. Biochemically, a protofilament of microtubule is made of a protein called.....
 5. In paper chromatography Rf value is.....
- Q.4(A) Answer the following question. (Any One) (07)**
1. Describe colourblindness and haemophilia as human hereditary trait.
 2. Describe ultrastructure and function of metaphase chromosome.
- Q.4(B) Answer the following questions. (Any One) (04)**
1. Write a short note on amniocentesis.
 2. Write a short note on Radiation as mutagenic agent.
- Q.4(C) Answer the following questions. (Any Three) (03)**
1. The most effective wavelength of ultraviolet for inducing mutation is about.....
 2. Nucleoside + Phosphate =
 3. During structural chromosomal aberration broken segment becomes attached to a nonhomologous chromosome resulting in new linkage relation is known as.....
 4. The smallest unit of gene whose mutation can produce a mutant phenotype is known as.....
 5. Excess development of hair on pinna of ear is..... linked recessive gene.
- Q.5(A) Answer the following question. (Any One) (07)**
1. Describe process of DNA replication in detail.
 2. Describe different phases of PCR technique.
- Q.5(B) Answer the following questions. (Any One) (04)**
1. Write a short note – Transcription
 2. Write a short note- Northern Blotting Technique.
- Q.5(C) Answer the following questions. (Any Three) (03)**
1. What are the application of southern blotting technique?
 2. Which codon is considered as a stop codon?
 3. What are the three main steps of protein synthesis?
 4. List out any three enzymes participated in the process of DNA replication.
 5. Give the full form of the PCR.
