

B.Sc. Semester - 5 (CBCS) Examination
December - 2020 (Old Course)
BIOCHEMI., CYTOLOGY, INSTRU., BIOLOGY(CORE)

Time: 1:30 Hours**Marks: 42****Instructions:**

1. Figures to the right indicate marks.
 2. There are five questions in the question paper.
 3. Answer any three of the following questions.
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- Q.1(A) Answers the following questions. (any one out of two) (07)
1. Describe the different structure of protein and give the biological importance of it.
 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. Describe four common types of enzymes inhibition.
 2. Write a Short note on Gluconeogenesis.
- Q.1(C) Answers the following questions. (any three out of five) (03)
1. The first amino group entering in to urea cycle is _____
 2. Which part of the amino acid gives it uniqueness?
 3. Which enzyme for gluconeogenesis is not present in muscle and adipose tissue?
 4. How many high – energy phosphates are generated in converting 1 molecule of glucose to pyruvate?
 5. Calcium absorption is increased by _____
- Q.2(A) Answer the following questions. (any one out of two) (07)
1. Describe phenomenon of mitosis in detail.
 2. What is cancer? Give the types of cancer and any four characteristic of cancerous cells.
- Q.2(B) Answers the following questions. (any one out of two) (04)
1. Write the function of microtubules.
 2. Write a short note on prophase I of meiosis.
- Q.2(C) Answers the following questions. (any three out of five) (03)
1. Chromosome movement during cell division is regulated by _____
 2. Neoplastic growth of leucocytes are cancer known as _____
 3. _____ is added to arrest cell division at metaphase stage.
 4. List out the phases of prophase I in meiosis.
 5. Chiasmata formation takes place during _____
- Q.3(A) Answers the following questions. (any one out of two) (07)
1. Describe technique – Gel electrophoresis.
 2. Describe principle, method and application of paper chromatography.

- Q.3(B) Answers the following questions. (any one out of two) (04)
1. Write a short note on “vector”.
 2. Write a short note on restriction enzymes.
- Q.3(C) Answers the following questions. (any three out of five) (03)
1. In recombinant DNA technology, is used to cut pieces of DNA and _____ joins these segments to form recombinant DNA.
 2. Give the full name of SDS – PAGE.
 3. For cloning a DNA fragment larger than 100 kb, which vector system would be suitable?
 4. In paper chromatography R_f value=_____
 5. pBR322 which is frequently used as a vector for cloning gene in E. Coli is which type of plasmid?
- Q.4(A) Answers the following questions. (any one out of two) (07)
1. Describe radiation, temperature and chemicals as mutagenic agents.
 2. Describe molecular structure of gene.
- Q.4(B) Answers the following questions. (any one out of two) (04)
1. Give a general account of chromosomal mutation.
 2. Describe colourblindness with suitable example.
- Q.4(C) Answers the following questions. (any three out of five) (03)
1. When two genetical units exhibit cis – trans phenomenon, they are considered to belong the same functional unit is called _____
 2. Lack of chlorophyll pigment which is necessary for discriminate green colour, this defect is known as _____
 3. Pentose sugar + nitrogen base = _____
 4. Removing of amniotic fluid, culturing and screening are the processing step for _____
 5. The shifting or transfer of a part of a chromosome or a set of genes to a non – homologous one, is called _____
- Q.5(A) Answers the following questions. (any one out of two) (07)
1. Describe different phases of Transcription.
 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 on termination phase of Translation.
 2. Give the Name function of enzymes involved in DNA replication process.
- Q.5 (C) Answers the following questions. (any three out of five) (03)
1. _____ Proteins prevents the DNA helix from rewinding.
 2. Transcription occurs in _____ and Translation in _____
 3. Function of ligase.
 4. In translation, movement of the ribosome in 5’----3’ direction by the length of codon, this step requires the presence of an elongation factor_____
 5. Define – Leading strand.
