647510 **BSCbioCC5030** **Seat No :_____**

B.Sc. Semester - 5 (Remedial) (*CBCS*) Examination
March/April-2023(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.

Q. 1 (A) Answer the following questions. (Any one out of two) **07**

1. Give the classification of protein with suitable examples.
2. Give the classification of carbohydrates with suitable examples.

Q. 1 (B) Answer the following questions. (Any one out of two) **04**

1. Write a short note : importance of minerals
2. Write a short note: glycolysis

Q. 1 (C) Answer the following questions. (Any three out of five) **03**

1. Gluconeogenesis occurs in the .....and.....
2. Name the major storage form of carbohydrates in animals.....
3. Name the vitamin which causes scurvy.
4. What is the nature of an enzyme?
5. Embden – Meyerhof pathway is also known as.....

Q. 2 (A) Answer the following questions. (Any one out of two) **07**

1. What is cancer? Describe types of cancer in detail.
2. Describe phenomenon of prophase I of meiosis in detail.

Q. 2 (B) Answer the following questions. (Any one out of two) **04**

1. Describe phenomenon of mitosis in detail.
2. Give the structure and function of microtubules .

Q. 2 (C) Answer the following questions. (Any three out of five) **03**

1. Colchicine is added to arrest cell division at.....stage.
2. Give any one function of microtubules.
3. Which type of cell division occurs in the germ cells during the process of gametogenesis?
4. During which stage of prophase I of meiosis we can see chismata?
5. .....are tumours made up principally of epithelial cells of ectodermal or endodermal origin.

Q. 3 (A) Answer the following questions. (Any one out of two) **07**

1. Describe principle, method and application of paper chromatography.
2. Describe principle, method and application of gel electrophoresis.

Q. 3 (B) Answer the following questions. (Any one out of two) **04**

1. Write a short note: vectors
2. Give the application of DNA recombinant technology.

Q. 3 (C) Answer the following questions. (Any three out of five) **03**

1. Circular DNA used for cloning is called.....
2. Bacterial plasmid, cosmids, bacteriophage are the example of .....
3. Gold particles are used in the.....method.
4. Which type of papers are used in the paper chromatography?
5. Which locating agent of amino acid is used in process of paper chromatography?

Q. 4 (A) Answer the following questions. (Any one out of two) **07**

1. Describe molecular structure of gene in detail.
2. Describe chemical as mutagenic agents.

Q. 4 (B) Answer the following questions. (Any one out of two) **04**

1. Write a short note on haemophilia.
2. Describe duplication in mutation.

Q. 4 (C) Answer the following questions. (Any three out of five) **03**

1. Pentose sugar + nitrogenous base=.....
2. In structure of DNA helix, one strand has phosphodiester linkage in 3' – 5' direction, while other strand has phosphodiester linkage in just.....direction.
3. The smallest distance within which recombination can occur is termed as.....
4. Excess development of hair on pinna of ear is the best example of .....linked inheritance.
5. Alpha and beta rays are .....radiations.

Q. 5 (A) Answer the following questions. (Any one out of two) **07**

1. Describe transcription in detail.
2. Describe DNA replication in detail.

Q. 5 (B) Answer the following questions. (Any one out of two) **04**

1. Write a short note : mode of DNA replication.
2. Write a short note: Translation

Q. 5 (C) Answer the following questions. (Any three out of five) **03**

1. Name the protein, which is responsible for the formation of RNA primer?
2. What is the function of sigma factor in transcription?
3. What is the function of Rho factor in transcription?
4. Conversion of messages carried by mRNA into amino acid sequences is called.....
5. Name the sequence of RNA, which is recognized by a small subunit of the ribosome.

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