

**B.Sc. Semester - 6 (CBCS) Examination**  
**March/April-2026 (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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| Que.1(A) | Answer the following question (any one out of two)                                                                                                                                                                                                                                                                        | (07) |
|          | <ol style="list-style-type: none"><li>1. Give definition, general formula and classification of disaccharides with suitable examples.</li><li>2. Explain structure and classification of lipids.</li></ol>                                                                                                                |      |
| Que.1(B) | Answer the following question (any one out of two).                                                                                                                                                                                                                                                                       | (04) |
|          | <ol style="list-style-type: none"><li>1. Explain: Glycolysis.</li><li>2. Write short note on heteropolysachharides.</li></ol>                                                                                                                                                                                             |      |
| Que.1(C) | Answer the following question (any three out of five)                                                                                                                                                                                                                                                                     | (03) |
|          | <ol style="list-style-type: none"><li>1. Give examples of hexose sugars.</li><li>2. Sucrose is made up of which two monosaccharaides?</li><li>3. Give examples of homopolysachharides with its biological importance.</li><li>4. What is fatty acid metabolism?</li><li>5. Define: Gluconeogenesis.</li></ol>             |      |
| Que.2(A) | Answer the following question (any one out of two)                                                                                                                                                                                                                                                                        | (07) |
|          | <ol style="list-style-type: none"><li>1. Explain classification of protein.</li><li>2. What is enzyme? Describe factors affecting enzyme activities.</li></ol>                                                                                                                                                            |      |
| Que.2(B) | Answer the following question (any one out of two).                                                                                                                                                                                                                                                                       | (04) |
|          | <ol style="list-style-type: none"><li>1. Explain secondary and Tertiary Protein.</li><li>2. Explain Urea cycle.</li></ol>                                                                                                                                                                                                 |      |
| Que.2(C) | Answer the following question (any three out of five)                                                                                                                                                                                                                                                                     | (03) |
|          | <ol style="list-style-type: none"><li>1. Write any two biological significance of protein.</li><li>2. Write general formula of amino acids.</li><li>3. Where does the urea cycle occur in body?</li><li>4. Give examples of globular and fibrillar proteins.</li><li>5. What are inhibitors in enzyme activity?</li></ol> |      |
| Que.3(A) | Answer the following question (any one out of two)                                                                                                                                                                                                                                                                        | (07) |
|          | <ol style="list-style-type: none"><li>1. Explain Meiosis in detail.</li><li>2. Explain: Paper Chromatography.</li></ol>                                                                                                                                                                                                   |      |
| Que.3(B) | Answer the following question (any one out of two).                                                                                                                                                                                                                                                                       | (04) |
|          | <ol style="list-style-type: none"><li>1. Explain microfilaments.</li><li>2. Write characteristics of cancerous cell.</li></ol>                                                                                                                                                                                            |      |
| Que.3(C) | Answer the following question (any three out of five)                                                                                                                                                                                                                                                                     | (03) |
|          | <ol style="list-style-type: none"><li>1. Define Interphase.</li><li>2. Give biological significance of mitosis.</li><li>3. Write an application of electrophoresis.</li><li>4. Give any two differences between meiosis and mitosis.</li><li>5. Write function of microtubules and microfilament.</li></ol>               |      |
| Que.4(A) | Answer the following question (any one out of two)                                                                                                                                                                                                                                                                        | (07) |
|          | <ol style="list-style-type: none"><li>1. Write note on structural chromosomal aberrations.</li><li>2. Explain various types of DNA.</li></ol>                                                                                                                                                                             |      |

- Que.4(B) Answer the following question (any one out of two). (04)
1. Write note on: Haemophilia.
  2. Explain types of RNA.
- Que.4(C) Answer the following question (any three out of five) (03)
1. What is amniocentesis?
  2. Define: Nucleosome.
  3. What is pedigree analysis?
  4. Colour-blindness is an example of \_\_\_\_\_ trait.
  5. Give difference between Heterochromatin and Euchromatin.
- Que.5(A) Answer the following question (any one out of two) (07)
1. Explain process of DNA Replication.
  2. Explain northern blotting technique.
- Que.5(B) Answer the following question (any one out of two). (04)
1. Explain translation process in protein synthesis.
  2. Write short note on polymerase chain reaction (PCR).
- Que.5(C) Answer the following question (any three out of five) (03)
1. Define transcription.
  2. What are the main enzymes involved in DNA replication in eukaryotes?
  3. What happens during the initiation phase of translation process?
  4. What are the applications of southern blotting technique?
  5. What is the role of DNA ligase in DNA replication?

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