

B.Sc. Semester - 2 (CBCS) Examination**March/April- 2018****BIOCHEMISTRY****(CORE)****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) Write the correct answer for the questions. (04)
1. Write the use of microscope in cell biology.
 2. Define anatomy.
 3. Write the contribution of any one scientist in cell biology.
 4. Write the definition of Nucleoplasm.
- Que-1 (B) Write the Answer in Brief. (Any 1 out of 2) (02)
1. Write the characteristics of prokaryotic cell.
 2. Classify cytoskeleton.
- Que-1 (C) Write the Answer in detail. (Any 1 out of 2) (03)
1. Write briefly about Mycoplasma.
 2. Write a note on *E. coli*: A well studied prokaryotic organism.
- Que-1 (D) Write the Short note in detail. (Any 1 out of 2). (05)
1. Write the differences between prokaryotic and eukaryotic cells.
 2. Explain the different levels of organization in cell biology.
- Que-2 (A) Write the correct answer for the questions. (04)
1. Define the term: Organelle
 2. Which intracellular organelle is responsible for photosynthesis in plants?
 3. Which type of ribosomes is found in *E.coli*?
 4. Which organelle is also called as power house of the cell?
- Que-2 (B) Write the Answer in Brief. (Any 1 out of 2) (02)
1. Write briefly about centrosome.
 2. Give note about the nucleolus and describe how it is important for cell?
- Que-2 (C) Write the Answer in detail. (Any 1 out of 2) (03)
1. Describe the functions of endoplasmic reticulum.
 2. Briefly explain glyoxysome.
- Que-2 (D) Write the Short note in detail. (Any 1 out of 2). (05)
1. Explain structure and functions of mitochondria with suitable labelled diagram.
 2. Write a detail note on chloroplast.
- Que-3 (A) Write the correct answer for the questions. (04)
1. Give importance of meiosis.
 2. Give names of different types of spindle fibres.
 3. What is the difference in telophase of plant cell and animal cell?
 4. Give full form of MPF

- Que-3 (B) Write the Answer in Brief. (Any 1 out of 2) (02)
1. What is cell cycle? Draw the diagram.
 2. Write the function of centomere in cell division.
- Que-3 (C) Write the Answer in detail. (Any 1 out of 2) (03)
1. Define and give important characteristics of Embryonic stem cell.
 2. Give major differences between meiosis-I and meiosis-II
- Que-3 (D) Write the Short note. (Any 1 out of 2). (05)
1. Write an essay on different regulator molecules responsible in cell cycle checkpoint.
 2. Explain process of Mitosis in detail.
- Que-4 (A) Write the correct answer for the questions. (04)
1. Write the components present in the plasma membrane.
 2. Which molecules can cross the plasma membrane by simple diffusion?
 3. Which factors affect the fluidity of cell membrane?
 4. What do you understand by the term cotransport.
- Que-4 (B) Write the Answer in Brief. (Any 1 out of 2) (02)
1. Write the functions of plasma membrane.
 2. Write note on simple diffusion.
- Que-4 (C) Write the Answer in detail. (Any 1 out of 2) (03)
1. Explain facilitated diffusion with example.
 2. Write the difference between antiport and symport.
- Que-4 (D) Write the Short note in detail. (Any 1 out of 2). (05)
1. Write a detail note on active transport
 2. Explain fluid mosaic model with labelled diagram.
- Que-5 (A) Write the correct answer for the questions. (04)
1. Define Chemiosmosis.
 2. What is photorespiration?
 3. Give the names of plant growth regulator.
 4. What is symbiosis? Give example.
- Que-5 (B) Write the Answer in Brief. (Any 1 out of 2) (02)
1. Draw the diagram of CAM pathway.
 2. Write short note on non cyclic electron transfer.
- Que-5 (C) Write the Answer in detail. (Any 1 out of 2) (03)
1. Give the three ways of nitrogen fixation.
 2. Give note on photosynthetic apparatus with diagram.
- Que-5 (D) Write the Short note in detail. (Any 1 out of 2). (05)
1. Give brief note on Plant growth regulators.
 2. Explain the process of root nodule formation.
