

B.Sc. Semester - 2 (CBCS) Examination
March/April – 2024 (As Per Syllabus Year-2018)
BIO-CHEMISTRY (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) Answer the following. (Any one Out of Two) (07)
- (1) Draw and explain structural organization of eukaryotic cell.
 - (2) Plant cell vs Animal cell.
- Que.1(B) Attempt any one. (Out of Two) (04)
- (1) Structure of cytoskeleton elements.
 - (2) Write the overview of virus.
- Que.1(C) Attempt any three. (Out of Five) (03)
- (1) Define: Cell.
 - (2) What is the number of chromosomes in normal human body cell?
 - (3) The cell is not applied for _____. (Virus/ Protozoa)
 - (4) The membrane around the vacuole is known as outer wall. (True/False)
 - (5) Explain: Viroid.
- Que.2(A) Answer the following. (Any one Out of Two) (07)
- (1) Write short note on separation of cell organelles by differential centrifugation.
 - (2) Discuss in detail: Glyoxyzomes and Peroxozomes.
- Que.2(B) Attempt any one. (Out of Two) (04)
- (1) Draw well Labbled diagram of mitochondria.
 - (2) How to differentiate gram positive and gram negative microorganisms?
- Que.2(C) Attempt any three. (Out of Five) (03)
- (1) Define: Cytosol.
 - (2) Explain: Cell wall.
 - (3) Lysosome contain _____ enzyme.
 - (4) Write the main function of ER.
 - (5) During differential Centrifugation ribosomes separated last. (True / False)
- Que.3(A) Answer the following. (Any one Out of Two) (07)
- (1) Detailed note on: Meiosis.
 - (2) Explain: Cell cycle and its control.
- Que.3(B) Attempt any one. (Out of Two) (04)
- (1) Write the basic concept of cell division.
 - (2) Role of spindle fibre during cell division.

- Que.3(C) Attempt any three. (Out of Five) (03)
- (1) Define: Mitosis.
 - (2) _____ cell cycle phase that has the longest duration. (Interphase / Anaphase)
 - (3) Which stain is usually used to colour chromosomes?
 - (4) Which cell division is concerned with cancer?
 - (5) Explain: kinetochores.
- Que.4(A) Answer the following. (Any one Out of Two) (07)
- (1) Detailed note on: Active transport.
 - (2) Ionophores and their application.
- Que.4(B) Attempt any one. (Out of Two) (04)
- (1) Singer and Nicholson model of plasma membrane structure.
 - (2) FRAP Experiment.
- Que.4(C) Attempt any three. (Out of Five) (03)
- (1) Energy transduction is the function of plasma membrane. (True/False)
 - (2) Define: Membrane Transport.
 - (3) Full form of LPS.
 - (4) Explain: Uniport
 - (5) Write any one example of active transport.
- Que.5(A) Answer the following. (Any one Out of Two) (07)
- (1) Discuss: Nitrogen Cycle.
 - (2) Functions of plant hormones which help for plant growth as well as retarding.
- Que.5(B) Attempt any one. (Out of Two) (04)
- (1) Detailed note on: Photosynthesis.
 - (2) Explain: C4 cycle.
- Que.5(C) Attempt any three. (Out of Five) (03)
- (1) Define: Plant Biochemistry.
 - (2) Full name of CAM.
 - (3) Write the two name of plant growth retarding hormones.
 - (4) Write any two name of microorganisms which fix symbiotic nitrogen fixation.
 - (5) Give any two examples of C3 plant.
