



RAN - 1803001101030002



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B. Sc. (Biotechnology) (Sem. - I) Examination

March - 2023

BT - 02 : Cell Biology

સૂચના : / Instructions

(1)

નીચે દર્શાવેલ નિશાનીવાળી વિગતો ઉત્તરવહી પર અવશ્ય લખવી.
Fill up strictly the details of signs on your answer book

Name of the Examination:

B. Sc. (Biotechnology) (Sem. - I)

Name of the Subject :

BT - 02 : Cell Biology

Subject Code No.: **1803001101030002**

Seat No.:

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Student's Signature

(2) All questions are compulsory.

***O.M.R. Sheet ભરવા અંગેની અગત્યની સૂચનાઓ આપેલ
O.M.R. Sheetની પાછળ છાપેલ છે.***

***Important instructions to fillup O.M.R. Sheet
are given on back side of the provided O.M.R. Sheet.***

- Q. 17.** Which of the following has to be valid for a protein to be an integral membrane protein?
- Hydrophilic
 - Hydrophobic
 - Amphipathic
 - Completely covered with phospholipids
- Q. 18.** Which of the following conditions is not related, according to the fluid mosaic model?
- Lipid enable the lateral movements of proteins in the membrane.
 - Fluid nature of membrane helps in secretion.
 - Lipid can show flip flop movement from one layer of membrane to other.
 - The fluidity of membrane is mainly due to oligosaccharides.
- Q. 19.** Glycolipids are often found where in the plasma membrane?
- It varies according to the cell types.
 - Inner leaflet of the plasma membrane.
 - The outer leaflet of the plasma membrane.
 - Evenly distributed in both outer and inner leaves of plasma membrane.
- Q. 20.** In the plasma membrane
- Carbohydrate faces outwards, towards extracellular space.
 - Carbohydrate directed to all sides in the membrane randomly.
 - Carbohydrate always faces to the lumen of cells.
 - Carbohydrate always faces inward to the nonpolar portion of the membrane.
- Q. 21.** Which substance have difficulty in crossing the cell membrane?
- | | |
|----------|----------|
| A. Water | B. Sugar |
| C. Ions | D. Gases |
- Q. 22.** More than 90% of the carbohydrate covalently linked to Protein to form?
- | | |
|-----------------|-----------------|
| A. Glycolipid | B. Glycoprotein |
| C. Phospholipid | D. Lipid |
- Q. 23.** The carbohydrate content of plasma membrane in eukaryotes is?
- | | |
|---------------------|---------------------|
| A. 2-10% by weight | B. 20-25% by weight |
| C. 30-35% by weight | D. 60-70% by weight |
- Q. 24.** Plasmodesmata are
- | | |
|-------------------------|-----------------------------|
| A. Cell wall connection | B. pore in cell wall |
| C. Pore in PM | D. Protoplasmic connections |

- Q. 33.** Which of the following techniques doesn't require a carrier or pathway for the transportation of substances?
 A. Secondary active transport B. Facilitated diffusion
 C. Simple diffusion D. Primary active transport
- Q. 34.** What kind of movement takes place when Na/K pump is employed?
 A. Na ions moves out of the cell and K⁺ move in
 B. K⁺ ion moves out of cell and Na ion move in
 C. Both Na and K⁺ ions move inside the cell
 D. Both Na and K⁺ move out of the cell
- Q. 35.** Which technique allows water molecules to flow more easily?
 A. Simple diffusion B. Facilitated diffusion
 C. Osmosis D. Primary active transport
- Q. 36.** When are transporters referred to be antiporters?
 A. When 2 substances move in same direction
 B. When 2 move in same direction and 1 in opposite
 C. When 3 move in same direction
 D. When 2 substances move in opposite direction
- Q. 37.** During saltatory conduction, a nerve impulse jumps from one _____ to another.
 A. Synapse B. Axon
 C. Node of Ranvier D. Myelin sheath
- Q. 38.** The division of cytoplasm is known as
 A. Mitosis B. Synapsis
 C. Cytokinesis D. Karyokinesis
- Q. 39.** DNA replication occurs in which stage of cell cycle?
 A. G₁ phase B. S phase
 C. G₂ phase D. M phase
- Q. 40.** In which phase of cell cycle chromosome arrange themselves along the equator of cell?
 A. Prophase B. Metaphase
 C. Anaphase D. Telophase
- Q. 41.** In which sub- phase of prophase, chiasmata formation appears?
 A. Leptotene. B. Zygotene
 C. Pachytene D. Diplotene

- Q. 42.** Synapsis is pairing of?
A. Analogous chromosome B. Homologous chromosome
C. Non-homologous chromosome D. Acentric chromosome
- Q. 43.** Which of the following chemical is used to suppress the cell division?
A. Colchicine B. Ethyidium bromide
C. Auxin D. Uv rays
- Q. 44.** Crossing over takes place in
A. Zygotene B. Pachytene
C. Diplotene D. Diakinesis
- Q. 45.** Nuclear envelope reappears at
A. Prophase B. Metaphase
C. Anaphase D. Telophase
- Q. 46.** Active mitosis can be observed in
A. Base of Nails B. Apex of hairs
C. Dermis of Skin D. Glans
- Q. 47.** In Anaphase 1, each chromosome is composed of
A. One chromatid B. Two chromatid
C. Four chromatid D. Many chromatid
- Q. 48.** In which stage of cell cycle, nucleus becomes bigger?
A. G1 B. S
C. G2 D. M
- Q. 49.** The word meiosis means
A. Addition B. Reduction
C. Mutation D. Physical change
- Q. 50.** Cyclin means
A. The concentration of regulatory protein rises and falls
B. Take part in cell division without affecting the activity
C. The concentration of this regulatory protein suddenly increases
D. Activate during breakdown of necessary proteins
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SPACE FOR ROUGH WORK