

PYQSide

NEET CELL: THE UNIT OF LIFE — EUKARYOTIC CELLS: CELL MEMBRANE AND CELL WALL — PYQS

Max. Marks: 52

Questions: 13

Section A (MCQ)

Q.1 Select the correct statements regarding cell membrane in eukaryotic cell.

Choose the correct answer from the options given below:

- A. Membrane of human RBCs has approximately 52% protein.
- B. Major phospholipids are arranged in a bilayer.
- C. Extensions of the plasma membrane into the cell form mesosomes.
- D. Tails towards the inner part of lipids are hydrophobic and thus protected from aqueous medium.
- E. Glycocalyx is present on the outer surface of the plasma membrane. [NEET (UG) 2026]

- (1) C, D and E only (2) B, C and E only
- (3) A, B and D only (4) A, C and E only

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Q.2 Which type of substance would face difficulty to pass through the cell membrane?

[NEET (UG) 2022 (Phase 2)]

- (1) Substance soluble in lipids
- (2) Substance with hydrophobic moiety
- (3) Substance with hydrophilic moiety
- (4) All substances irrespective of hydrophobic and hydrophilic moiety

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Q.3 Select the correct statement from the following regarding cell membrane [AIPMT 2012 (Prelims)]

- (1) Na^+ and K^+ ions move across cell membrane by passive transport
- (2) Lipids are arranged in bilayer with polar heads towards the inner part
- (3) Proteins make up 60 to 70% of the cell membrane
- (4) Fluid mosaic model of cell membrane was proposed by Singer and Nicolson

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Q.4 Algae have cell wall made up of:

[AIPMT 2010 (Prelims)]

- (1) cellulose, galactans and mannans
- (2) hemicellulose, pectins and proteins
- (3) pectins, cellulose and proteins
- (4) cellulose, hemicellulose and pectins

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Q.5 The plasma membrane consists mainly of –

[AIPMT 2010 (Prelims)]

- (1) proteins embedded in a carbohydrate bilayer
- (2) phospholipids embedded in a protein bilayer
- (3) proteins embedded in a phospholipid bilayer
- (4) proteins embedded in a polymer of glucose molecules

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Q.6 Which one of the following structures between two adjacent cells is an effective transport pathway?

[AIPMT 2010 (Prelims)]

- (1) Endoplasmic reticulum
- (2) Plasmodesmata
- (3) Plasmalemma
- (4) Plastoquinones

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Q.7 Middle lamella is composed mainly of :

[AIPMT 2009]

- (1) Calcium pectate (2) Phosphoglycerides
- (3) Muramic acid (4) Hemicellulose

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Q.8 Plasmodesmata are :

[AIPMT 2009]

- (1) Locomotory structures
- (2) Connection between adjacent cells
- (3) Membranes connecting the nucleus with plasmalemma
- (4) Lignified cemented layers between cells

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Q.9 Keeping in view the "fluid mosaic model" for the structure of cell membrane, which one of the following statements is correct with respect to the movement of lipids and proteins from one lipid monolayer to the other (described as flip-flop movement)? [AIPMT 2008]

- (1) Both lipids and proteins can flip-flop
- (2) While lipids can rarely flip-flop proteins cannot
- (3) While proteins can flip-flop, lipids cannot
- (4) neither lipids, nor proteins can flip-flop

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Q.10 Which one of the following is not a constituent of cell membrane? [AIPMT 2007]

- (1) Glycolipids
- (2) Proline
- (3) Phospholipids
- (4) Cholesterol

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Q.11 According to widely accepted "fluid mosaic model" cell membranes are semi-fluid, where lipids and integral proteins can diffuse randomly. In recent years, this model has been modified in several respects. In this regard, which of the following statements is incorrect? [AIPMT 2005]

- (1) Proteins in cell membranes can travel within the lipid bilayer
- (2) Proteins can also undergo flip-flop movements in the lipid bilayer
- (3) Proteins can remain confined within certain domains of the membranes
- (4) Many proteins remain completely embedded within the lipid bilayer

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Q.12 In fluid mosaic model of plasma membrane

[AIPMT 2002]

- (1) Phospholipids form a bimolecular layer in middle part
- (2) Upper layer is non-polar and hydrophilic
- (3) Proteins form a middle layer
- (4) Polar layer is hydrophobic

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Q.13 Element necessary for the middle lamella is

[AIPMT 2001]

- (1) K
- (2) Cu
- (3) Ca
- (4) Zn

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ANSWER KEY

Ques.	1	2	3	4	5	6	7	8	9	10	11
Ans.	3	3	4	1	3	2	1	2	2	2	2
Ques.	12	13									
Ans.	1	3									