

PYQSide

NEET CELL: THE UNIT OF LIFE — ENDOMEMBRANE SYSTEM (ER, GOLGI, LYSOSOMES, VACUOLES) — PYQS

Max. Marks: 124

Questions: 31

Section A (MCQ)

Q.1 Choose the correct statements regarding cell organelles and their inclusions.

Choose the correct answer from the options given below:

- A. The endomembrane system includes Golgi complex, endoplasmic reticulum and mitochondria.
- B. Rough endoplasmic reticulum bears ribosomes on its surface.
- C. Both mitochondria and plastids have circular DNA.
- D. A network of microtubules, microfilaments and intermediate filaments present in the cytoplasm is called cytoskeleton.
- E. Mitochondrion is a single membrane-bound structure.

[NEET (UG) 2026]

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

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Q.2 Smooth endoplasmic reticulum _____.

[RE-NEET (UG) 2026]

- (1) is a site for the synthesis of carbohydrates
- (2) has ribosomes attached to its surface
- (3) is the major site for the synthesis of lipids
- (4) is actively involved in protein synthesis

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Q.3 Match **List-I** with **List-II**. [RE-NEET (UG) 2026]

List-I		List-II	
A.	Cristae	I.	Flat membrane sacs in stroma of chloroplast
B.	Cisternae	II.	Infoldings in mitochondria
C.	Thylakoids	III.	Cell membrane
D.	Phospholipid	IV.	Disc shaped sacs in the Golgi apparatus

- (1) A-IV, B-III, C-I, D-II (2) A-III, B-IV, C-I, D-II
- (3) A-II, B-IV, C-I, D-III (4) A-II, B-IV, C-III, D-I

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Q.4 Endomembrane system includes _____.

[RE-NEET (UG) 2026]

- (1) Golgi complex, chloroplast, peroxisomes and vacuole
- (2) endoplasmic reticulum, Golgi complex, lysosomes and vacuole
- (3) endoplasmic reticulum, chloroplast, peroxisomes and vacuole
- (4) mitochondria, chloroplast, peroxisomes and vacuole

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Q.5 Given below are two statements : one is labelled as **Assertion (A)**, and the other is labelled as **Reason (R)**.

Assertion (A): The primary function of the Golgi apparatus is to package the materials made by the endoplasmic reticulum and deliver them to intracellular targets and outside the cell.

Reason (R): Vesicles containing materials made by the endoplasmic reticulum fuse with the cis face of the Golgi apparatus, and they are modified and released from the trans face of the Golgi apparatus.

In the light of the above statements, choose the correct answer from the options given below :

[NEET (UG) 2025]

- (1) A is true but R is false
- (2) A is false but R is true
- (3) Both A and R are true and R is the correct explanation of A
- (4) Both A and R are true but R is not the correct explanation of A

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Q.6 Given below are two statements :

Statement-I: Concentrically arranged cisternae of Golgi complex are arranged near the nucleus with distinct convex cis or maturing and concave trans or forming face.

Statement-II: A number of proteins are modified in the cisternae of Golgi complex before they are released from cis face.

In the light of the above statements, choose the correct answer from the options given below.

[RE-NEET (UG) 2024]

- (1) Statement-I is true but Statement-II is false.
- (2) Statement-I is false but Statement-II is true.
- (3) Both Statement-I and Statement-II are true
- (4) Both Statement-I and Statement-II are false

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Q.7 Which of the following are NOT considered as the part of endomembrane system?

- A. Mitochondria
- B. Endoplasmic reticulum
- C. Chloroplasts
- D. Golgi complex
- E. Peroxisomes

Choose the most appropriate answer from the options given below:

[NEET (UG) 2023]

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

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Q.8 Which of the following statements with respect to Endoplasmic Reticulum is incorrect?

[NEET (UG) 2022]

- (1) RER has ribosomes attached to ER
- (2) SER is devoid of ribosomes
- (3) Only RER are present in prokaryotes
- (4) SER are the sites for lipid synthesis

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Q.9 If the pH in lysosomes is increased to alkaline, what will be the outcome?

[NEET (UG) 2022 (Phase 2)]

- (1) Lysosomal enzymes will be more active
- (2) Hydrolytic enzymes will function more efficiently
- (3) Hydrolytic enzymes will become inactive
- (4) Lysosomal enzymes will be released into the cytoplasm

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Q.10 The organelles that are included in the endomembrane system are

[NEET (UG) 2021]

- (1) Golgi complex, Endoplasmic reticulum, Mitochondria and Lysosomes
- (2) Endoplasmic reticulum, Mitochondria, Ribosomes and Lysosomes
- (3) Endoplasmic reticulum, Golgi complex, Lysosomes and Vacuoles
- (4) Golgi complex, Mitochondria, Ribosomes and Lysosomes

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Q.11 Which is the important site of formation of glycoproteins and glycolipids in eukaryotic cells?

[NEET (UG) 2020]

- (1) Peroxisomes
- (2) Golgi bodies
- (3) Polysomes
- (4) Endoplasmic reticulum

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Q.12 Which of the following pair of organelles does not contain DNA?

[NEET (UG) 2019]

- (1) Lysosomes and Vacuoles
- (2) Nuclear envelope and Mitochondria
- (3) Mitochondria and Lysosomes
- (4) Chloroplast and Vacuoles

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Q.13 Which of the following statements is **not** correct?

[NEET (UG) 2019]

- (1) Lysosomes are membrane bound structures.
- (2) Lysosomes are formed by the process of packaging in the endoplasmic reticulum.
- (3) Lysosomes have numerous hydrolytic enzymes.
- (4) The hydrolytic enzymes of lysosomes are active under acidic pH.

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Q.14 The Golgi complex participates in

[NEET 2018]

- (1) activation of amino acid
- (2) fatty acid breakdown
- (3) formation of secretory vesicles
- (4) respiration in bacteria

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Q.15 Which of the following events does not occur in rough endoplasmic reticulum?

[NEET 2018]

- (1) Cleavage of signal peptide
- (2) Phospholipid synthesis
- (3) Protein folding
- (4) Protein glycosylation

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Q.16 Water soluble pigments found in plant cell vacuoles are [NEET 2016 (Phase 1)]

- (1) carotenoids
- (2) anthocyanins
- (3) xanthophylls
- (4) chlorophylls.

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Q.17 Which one of the following cell organelles is enclosed by a single membrane?

[NEET 2016 (Phase 1)]

- (1) Mitochondria
- (2) Chloroplasts
- (3) Lysosomes
- (4) Nuclei

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Q.18 A cell organelle containing hydrolytic enzymes is

[NEET 2016 (Phase 2)]

- (1) Ribosome
- (2) Mesosome
- (3) Lysosome
- (4) Microsome

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Q.19 Cellular organelles with membranes are -

[AIPMT 2015]

- (1) endoplasmic reticulum, ribosomes and nuclei
- (2) lysosomes, Golgi apparatus and mitochondria
- (3) nuclei, ribosomes and mitochondria
- (4) chromosomes, ribosomes and endoplasmic reticulum

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Q.20 Select the correct matching in the following pairs :

[AIPMT 2015 (Cancelled)]

- (1) Rough ER – Oxidation of fatty acids
- (2) Smooth ER – Oxidation of phospholipids
- (3) Rough ER – Synthesis of glycogen
- (4) Smooth ER – Synthesis of lipids

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Q.21 The osmotic expansion of a cell kept in water is chiefly regulated by:

[AIPMT 2014]

- (1) Vacuoles
- (2) Plastids
- (3) Mitochondria
- (4) Ribosomes

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Q.22 The Golgi complex plays a major role :

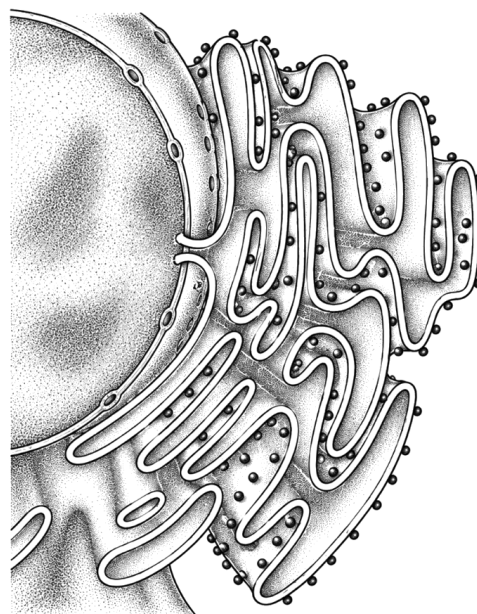
[NEET 2013]

- (1) as energy transferring organelles
- (2) in post translational modification of proteins and glycosidation of lipids
- (3) in trapping the light and transforming it into chemical energy
- (4) in digesting proteins and carbohydrates

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Q.23 Which one of the following organelle in the figure correctly matches with its function ? [NEET 2013]



- (1) Golgi apparatus, formation of glycolipids
- (2) Rough endoplasmic reticulum, formation of glycoproteins
- (3) Rough endoplasmic reticulum, protein synthesis
- (4) Golgi apparatus, protein synthesis

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Q.24 A major site for synthesis of lipids is : [NEET 2013]

- (1) RER
- (2) Nucleoplasm
- (3) SER
- (4) Symplast

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Q.25 Which one of the following is not considered as a part of the endomembrane system ?

[AIPMT 2011 (Mains)]

- (1) Vacuole
- (2) Lysosome
- (3) Golgi complex
- (4) Peroxisome

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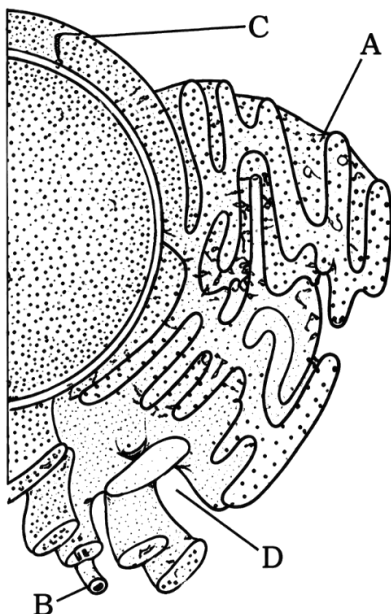
Q.26 Important site for formation of glycoproteins and glycolipids is : [AIPMT 2011 (Prelims)]

- (1) Plastid (2) Lysosome
(3) Golgi apparatus (4) Vacuole

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Q.27 Identify the components labelled A, B, C and D in the diagram below from the list (i) to (viii) given along with –



Components :

- (i) Cristae of mitochondria
(ii) Inner membrane of mitochondria
(iii) Cytoplasm
(iv) Smooth endoplasmic reticulum
(v) Rough endoplasmic reticulum
(vi) Mitochondrial matrix
(vii) Cell vacuole
(viii) Nucleus

The correct components are : [AIPMT 2010 (Mains)]

- (1) (A) → (v), (B) → (iv), (C) → (viii), (D) → (iii)
(2) (A) → (i), (B) → (iv), (C) → (viii), (D) → (vi)
(3) (A) → (v), (B) → (i), (C) → (iii), (D) → (ii)
(4) (A) → (vi), (B) → (v), (C) → (iv), (D) → (vii)

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Q.28 Vacuole in a plant cell:

[AIPMT 2008]

- (1) is membrane-bound and contains storage proteins and lipids
(2) is membrane-bound and contains water and excretory substances
(3) lacks membrane and contains air
(4) lacks membrane and contains water and excretory substances

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Q.29 The main organelle involved in modification and routing of newly synthesized proteins to their destinations is - [AIPMT 2005]

- (1) Mitochondria
(2) Endoplasmic Reticulum
(3) Chloroplast
(4) Lysosome

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Q.30 Lysosome contains: [AIPMT 2000]

- (1) Reductive enzymes (2) Oxidative enzymes
(3) Anabolic enzymes (4) Hydrolytic enzymes

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Q.31 Which cell organelle is concerned with glycosylation of protein? [AIPMT 2000]

- (1) Endoplasmic reticulum
(2) Ribosome
(3) Mitochondria
(4) Peroxisome

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ANSWER KEY

Ques.	1	2	3	4	5	6	7	8	9	10	11
Ans.	4	3	3	2	3	4	1	3	3	3	2
Ques.	12	13	14	15	16	17	18	19	20	21	22
Ans.	1	2	3	2	2	3	3	2	4	1	2
Ques.	23	24	25	26	27	28	29	30	31		
Ans.	3	3	4	3	1	2	2	4	1		