

Yakeen NEET 2.0 2026

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Cell - The Unit of Life

DPP: 8

- Q1** Microtubules are the constituents of:
 (A) centrioles, spindle fibres and chromatin.
 (B) centrosome, nucleosome and centrioles.
 (C) cilia, flagella and peroxisomes.
 (D) spindle fibres, centrioles and cilia.
- Q2** Study the statements (1 – 4) given below and select the **correct** option w.r.t. cytoskeleton.
 (1) The cytoskeleton occurs in both prokaryotic and eukaryotic cells
 (2) These are made up of filamentous and tubular proteinaceous structures
 (3) Involved in many functions such as mechanical support and motility
 (4) They are composed of tubulin, actin and flagellin protein
 (A) (1) and (2)
 (B) (2) and (4)
 (C) (2) and (3)
 (D) (1) and (4)
- Q3** Microtubules are made up of
 (A) Actin protein
 (B) Tubulin protein
 (C) Myosin protein
 (D) Polysaccharide
- Q4** The solid linear cytoskeletal elements having a diameter of 5 – 6 nm and made up of a single type of monomer is
 (A) microtubules
 (B) Microfilaments
 (C) Intermediate filaments
 (D) Spindle fibre
- Q5**
- Which of the following is not a function of cytoskeleton?
 (A) To provide shape to cell.
 (B) To provide mechanical support to cell
 (C) To help in motility of cell
 (D) To protect the cell from infection
- Q6** Microtubules are structural components of
 (A) Cilia
 (B) Flagella
 (C) Spindle fibre
 (D) All of the above
- Q7** Which cytoskeletons are present in astral rays?
 (A) Microtubules
 (B) Microfilaments
 (C) Intermediate filaments
 (D) All of the above
- Q8** Which of the following is/are a function of cytoskeleton?
 (A) Mechanical support to cell
 (B) Providing motility to cell
 (C) Maintenance of the shape of the cell
 (D) All of these
- Q9** The core of cilium or flagellum, composed of microtubules and their associated proteins is called
 (A) Blepharoplast (B) Axoneme
 (C) Microfilament (D) Tubulin
- Q10** Nine doublets and two singlets are present in
 (A) Microtubule (B) Spindle fibers
 (C) Centriole (D) Cilium
- Q11**



Which of the following is/are similarity of prokaryotes with Eukaryotes-

- (a) Cell membrane
- (b) Flagella
- (c) Role of ribosome
- (d) plasmid

Mark the correct choice

- (A) a and b
- (B) a, b and c
- (C) All four
- (D) a and c

Q12 Select the mismatch.

- (A) Sap vacuoles - Plant cells
- (B) Centriole - Animal cells
- (C) Diatom - Eukaryotes
- (D) Methanogens - Eukaryotes

Q13 Arrangement of microtubules in a flagellum and a centriole is respectively

- (A) $9 + 2$ and $9 + 1$
- (B) $9 + 1$ and $9 + 0$
- (C) $9 + 0$ and $9 + 2$
- (D) $9 + 2$ and $9 + 0$

Q14 Choose the incorrect pair.

- (A) Cilium or Flagellum - $9 + 2$ arrangement
- (B) Axoneme - Core of cilium or flagellum both
- (C) Basal body - $9 + 0$ arrangement
- (D) Centriole - $9 + 2$ arrangement

Q15 Which of the cell organelle helps in cell division?

- (A) Lysosome
- (B) Peroxisome
- (C) Centrosome
- (D) Endoplasmic reticulum

Q16 Match the following and select the correct answer:

- | | |
|----------------|----------------------------------|
| A. Centriole | I. Infoldings in mitochondria |
| B. Chlorophyll | II. Thylakoids |
| C. Cristae | III. Protein synthesis |
| D. Ribosomes | IV. Basal body cilia or flagella |

(A) A : IV, B : II, C : I, D : III

(B) A : I, B : II, C : IV, D : III

(C) A : I, B : III, C : II, D : IV

(D) A : IV, B : III, C : I, D : II

Q17 Which of the following is NOT a membrane bound organelle?

- (A) Lysosome
- (B) Ribosome
- (C) Chloroplast
- (D) Mitochondria

Q18 Which of the following is NOT true for a eukaryotic cell?

- (A) ER is the important site of formation of glycoproteins and glycolipids
- (B) It has 80S type of ribosome present in the cytoplasm
- (C) Mitochondria contain circular DNA
- (D) Membrane bound organelles are present

Q19 In 70S and 80S ribosomes, 'S' stands for:

- (A) sedimentation coefficient and called Svedberg unit.
- (B) sedimentation rate and called Svedberg unit.
- (C) Svedberg coefficient and called sedimentation unit.
- (D) Svedberg unit and called sedimentation rate.

Q20 Choose the incorrectly matched pair.

- (A) Bacteria - $3-5 \mu\text{m}$
- (B) Svedberg's unit - Direct measure of density and size
- (C) Acrocentric chromosome - Centromere is situated close to the end of the chromosome.
- (D) Lysosome - Hydrolytic activity

Q21 Sedimentation coefficient(s) indirectly is a measure of:

- (A) density.
- (B) size.
- (C) volume.
- (D) both (A) and (B)

Q22 Match List-I with List-II to find out the correct.

List-I

List-II



(A)	Cell envelope	(I)	Three layered structure
(B)	Plasma membrane	(II)	Semi-permeable in nature
(C)	Mesosome	(III)	Present both in prokaryotic and eukaryotic cells
(D)	Ribosomes	(IV)	Infolding of cell membrane

(A) A - I, B-II, C-IV, D-III

(B) A - IV, B-III, C - I, D-II

(C) A-II, B-I, C-III, D-IV

(D) A - II, B-III, C-IV, D-I

Q23 Given below are two statements: one is labelled as Assertion A and the other is labelled as Reason R:

Assertion (A): Ribosomes are the site of protein synthesis.

Reason (R): Several ribosomes may attach to a single rRNA and form a chain called polyribosomes.

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

- (A) Both **Assertion (A)** and **Reason (R)** are true, and **Reason (R)** is a correct explanation of **Assertion (A)**.
- (B) Both **Assertion (A)** and **Reason (R)** are true, and **Reason (R)** is not a correct explanation of **Assertion (A)**.
- (C) **Assertion (A)** is true, and **Reason (R)** is false.
- (D) **Assertion (A)** is false, and **Reason (R)** is true

Q24 Directions: In the given question, two statements are given as Statement-I and Statement-II.

Mark the correct choice as:

Statement-I: Axoneme, has nine triplets of radially arranged peripheral microtubules, and a pair of centrally located microtubules called hub.

Statement-II: Cytoskeleton in a cell are involved in many functions such as mechanical support,

motility, and maintenance of the shape of the cell.

- (A) Both Statement-I and Statement-II are correct
- (B) Both Statement-I and Statement-II are incorrect
- (C) Statement-I is correct and Statement-II is incorrect
- (D) Statement-I is incorrect and Statement-II is correct

Q25 Directions: In the given question, two statements are given as Statement-I and Statement-II.

Mark the correct choice as:

Statement-I: Animal cells contain centriole which give rise to spindle apparatus during cell division.

Statement-II: Centrioles in a centrosome lie perpendicular to each other.

- (A) Both Statement-I and Statement-II are correct
- (B) Both Statement-I and Statement-II are incorrect
- (C) Statement-I is correct and Statement-II is incorrect
- (D) Statement-I is incorrect and Statement-II is correct

Q26 The principal protein found in centrioles is:

- (A) Tubulin (B) Nexin
- (C) Basal body (D) Pilin

Q27 Cilium and flagellum emerge from centriole-like structure called:

- (A) Centrosome
- (B) Kinetochore
- (C) Basal body
- (D) Centromere

Q28 Which of the following is **incorrect**?

- (A) Plant cells have centrioles.
- (B) Plant cells have well-defined cell walls.
- (C) In prokaryotes, there are no membrane-bound organelles.
- (D) No cells are formed de novo from abiotic materials.



Q29 Choose the incorrect match.

- (A) Nucleus — RNA
- (B) Lysosome — Protein synthesis
- (C) Mitochondria — Cellular respiration
- (D) Cytoskeleton — Microtubules

Q30 The nucleus in a eukaryotic cell

- (A) Was first described by Robert Brown

(B) Has chromatin given by Porter

(C) Contain no nucleoli in nucleoplasm

(D) RBCs do not have nucleus and have mitochondria

Q31 The main site of synthesis of ribosomal RNA is:

(A) Nucleolus

(B) Mitochondria

(C) Nuclear lamina

(D) Cytoplasm



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Answer Key

Q1 (D)
Q2 (C)
Q3 (B)
Q4 (B)
Q5 (D)
Q6 (D)
Q7 (A)
Q8 (D)
Q9 (B)
Q10 (D)
Q11 (D)
Q12 (D)
Q13 (D)
Q14 (D)
Q15 (C)
Q16 (A)

Q17 (B)
Q18 (A)
Q19 (A)
Q20 (B)
Q21 (D)
Q22 (A)
Q23 (C)
Q24 (D)
Q25 (A)
Q26 (A)
Q27 (C)
Q28 (A)
Q29 (B)
Q30 (A)
Q31 (A)



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