

## “UTSAAH” Test Series

*“Intelligence plus character-that is the goal of true education.”*

**-Martin Luther King Jr.**

### Subject –Biology XI | NEET | CUET

#### Topic Covered:-

#### Chapter 8:- Cytology- The Cell Unit of Life

- The cytoplasmic connections from cell to cell are known as
  - middle lamella
  - plasmodesmata**
  - cell membrane system
  - endoplasmic reticulum
- Middle lamella is made up of \_\_\_\_\_.
  - calcium sulphide
  - calcium pectate**
  - calcium carbonate
  - calcium chloride
- The function of ribosomes is
  - metabolism
  - lipid synthesis
  - protein synthesis**
  - photosynthesis
- Cell secretion is done by-
  - Plastids
  - ER
  - Golgi apparatus**
  - Nucleolus
- Which of the following cellular structures are common to both prokaryotes and eukaryotes?
  - Ribosomes**
  - Nucleoli
  - Chloroplasts
  - Mitochondria
- The plasma membrane consists principally of
  - proteins embedded in a carbohydrate bilayer
  - phospholipids embedded in a protein bilayer
  - proteins embedded in a phospholipid bilayer**
  - proteins embedded in a nucleic acid bilayer
- All of the following characterize microtubules EXCEPT:
  - They are made of the protein tubulin.
  - They are involved in providing motility.
  - They are organized by basal bodies or centrioles.
  - They develop from the plasma membrane.**
- Lysosomes are
  - involved in the production of fats
  - involved in the production of proteins
  - involved in the production of polysaccharides
  - involved in the degradation of cellular substances**
- Mitochondria
  - are found only in animal cells
  - produce energy (ATP) with the aid of sunlight
  - are often more numerous near areas of major cellular activity**
  - originate from centrioles
- Plant and animal cells differ mostly in that
  - only animal cells have mitochondria.
  - only animal cells have flagella and cilia with a “9 + 2” microtubule arrangement.
  - only plant cells have plasma membranes with cholesterol.
  - only plant cells have cell walls.**

11. A smooth endoplasmic reticulum exhibits all of the following activities EXCEPT:  
**(a) assembling amino acids to make proteins**  
 (b) manufacturing lipids  
 (c) manufacturing hormones  
 (d) breaking down toxins
12. All of the following are known to be components of cell walls EXCEPT:  
**(a) Actin**  
 (b) Chitin  
 (c) Polysaccharides  
 (d) Cellulose
13. \_\_\_\_\_ increases the surface area for mitochondrial activity.  
 (a) Inner membrane  
 (b) Inter membrane space  
 (c) Matrix  
**(d) Cristae**
14. Which is called Suicidal Bag?  
 (a) Centrosome  
**(b) Lysosome**  
 (c) Mesosome  
 (d) Chromosome
15. 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)?  
 (a) Neither lipids, nor proteins can flip-flop  
 (b) Both lipids and proteins can flip-flop  
**(c) While lipids can rarely flip-flop, proteins can not**  
 (d) While proteins can flip-flop, lipids can not
16. A nucleosome is a portion of the chromonema containing \_\_\_\_\_.  
**(a) both DNA and histones**  
 (b) only histones  
 (c) both DNA and RNA  
 (d) only DNA
17. The main site for synthesis of lipids is  
 (a) vacuoles  
 (b) RER  
**(c) SER**  
 (d) Golgi body
18. The longest cell in human body is  
 (a) red blood cells  
 (b) white blood cells  
 (c) columnar epithelial cells  
**(d) nerve cells**
19. Which of the following does not have cell wall?  
**(a) Mycoplasma**  
 (b) Bacteria  
 (c) PPLO  
 (d) Blue green algae
20. Match the columns.  
 1. Cytoskeleton – A. hair-like outgrowth  
 2. Flagella – B. proximal region of centriole  
 3. Hub – C. bristle-like structures  
 4. Fimbriae – D. filamentous protein structure  
**(a) 1-D, 2-A, 3-B, 4-C**  
 (b) 1-D, 2-C, 3-B, 4-A  
 (c) 1-B, 2-D, 3-A, 4-C  
 (d) 1-D, 2-A, 3-C, 4-B
21. Plasma membrane is  
 (a) impermeable  
**(b) semi-permeable**  
 (c) completely permeable  
 (d) differentially permeable
22. Which is one of the main energy transformers of cells?  
 (a) Lysosome  
 (b) Vacuole  
**(c) Mitochondrion**  
 (d) Golgi apparatus
23. Which of the following contains its own DNA and ribosomes?  
 (a) lysosome  
 (b) vacuole  
**(c) mitochondrion**  
 (d) Golgi apparatus
24. Organelles other than the nucleus that contain DNA include  
 (a) ribosomes  
 (b) mitochondria  
 (c) chloroplasts  
**(d) 2 and 3 only**

25. The mitochondrion, like the nucleus, has two or more membrane layers. How is the innermost of these layers different from that of the nucleus?
- (a) The inner mitochondrial membrane is highly folded.**
- (b) The two membranes are biochemically very different.
- (c) The space between the two layers of the nuclear membrane is larger.
- (d) The inner membrane of the mitochondrion is separated out into thylakoids
26. Why isn't the mitochondrion classified as part of the endomembrane system?
- (a) It only has two membrane layers.
- (b) Its structure is not derived from the ER.**
- (c) It has too many vesicles.
- (d) It is not involved in protein synthesis.
27. Cells can be described as having a cytoskeleton of internal structures that contribute to the shape, organization, and movement of the cell. Which of the following are part of the cytoskeleton?
- (a) the nuclear envelope**
- (b) mitochondria
- (c) microfilaments
- (d) lysosomes
28. Which of the following contain the 9 + 2 arrangement of microtubule
- (a) cilia
- (b) centrioles
- (c) flagella
- (d) 1 and 3 only**
29. Cells require which of the following to form cilia or flagella?
- (a) centrosomes
- (b) ribosomes
- (c) actin
- (d) 1 and 2 only**
30. Centrosome is found in-
- (a) Cytoplasm**
- (b) Nucleus
- (c) Chromosomes
- (d) Nucleolus
31. The term Cell was given by-
- (a) Leeuwenhoek
- (b) Robert hooke**
- (c) Flemming
- (d) Robert Brown
32. Bacterial flagella is made up of
- (a) tubulin
- (b) flagellin**
- (c) chitin
- (d) None of these
33. Plasmolysis occurs due to-
- (a) Absorption
- (b) Endosmosis
- (c) Osmosis
- (d) Exosmosis**
34. Who proposed that the membrane is a mosaic of protein molecules bobbing in a fluid bilayer of phospholipids?
- (a) H. Davson and J. Danielli
- (b) I. Langmuir
- (c) C. Overton
- (d) S. Singer and G. Nicolson**
35. In the years since the proposal of the fluid mosaic model of the cell membrane, which of the following observations has been added to the model?
- (a) The membrane is only fluid across a very narrow temperature range.
- (b) Proteins rarely move, even though they possibly can do so.
- (c) Unsaturated lipids are excluded from the membranes.
- (d) The concentration of protein molecules is now known to be much higher.**
36. The movement of potassium into an animal cell requires
- (a) low cellular concentrations of sodium.
- (b) high cellular concentrations of potassium.
- (c) an energy source such as ATP or a proton gradient.**
- (d) a cotransport protein.

37. Why are lipids and proteins free to move laterally in membranes?
- The interior of the membrane is filled with liquid water.
  - There are no covalent bonds between lipid and protein in the membrane.
  - Hydrophilic portions of the lipids are in the interior of the membrane.**
  - There are only weak hydrophobic interactions in the interior of the membrane.
38. According to the fluid mosaic model of membrane structure, proteins of the membrane are mostly –
- spread in a continuous layer over the inner and outer surfaces of the membrane.
  - confined to the hydrophobic core of the membrane.
  - embedded in a lipid bilayer.**
  - randomly oriented in the membrane, with no fixed inside-outside polarity.
39. Which of the following processes includes all others?
- Osmosis
  - diffusion of a solute across a membrane
  - facilitated diffusion
  - passive transport**
40. All of the following serve an important role in determining or maintaining the structure of plant cells. Which of the following are distinct from the others in their composition?
- microtubules
  - microfilaments**
  - plant cell walls
  - intermediate filaments
41. Which structure is common to plant and animal cells?
- chloroplast
  - wall made of cellulose
  - central vacuole
  - mitochondrion**
42. Which of the following relationships between cell structures and their respective functions is correct?
- cell wall: support, protection
  - chloroplasts: chief sites of cellular respiration**
  - chromosomes: cytoskeleton of the nucleus
  - ribosomes: secretion
43. Which one of these is not a eukaryote?
- Euglena*
  - Anabena**
  - Spirogyra*
  - Agaricus*
44. Different cells have different sizes. Arrange the following cells in an ascending order of their size. Choose the correct option among the followings
- Mycoplasma
  - Ostrich eggs
  - Human RBC
  - Bacteria
- Options:
- i, iv, iii & ii**
  - i, ii, iii & iv
  - ii, i, iii & iv
  - iii, ii, i &
45. Which of the following statements is true for a secretory cell?
- Golgi apparatus is absent
  - Rough Endoplasmic Reticulum (RER) is easily observed in the cell**
  - Only Smooth Endoplasmic Reticulum (SER) is present
  - Secretory granules are formed in nucleus.