RAVI MATHS TUITION CENTRE , WHATSAPP - 8056206308

Time : 60 Mins **8 CELL UNIT OF LIFE 1** **Marks : 240**

1. Which of the following is not a function of cytoskeleton in a cell?
   a) Intracellular transport b) Maintenance of cell shape and structure c) Support of the organelles
   d) Cell motility
2. Stroma in the chloroplasts of higher plant contains:
   a) Light-dependent reaction enzymes b) Ribosomes c) Chlorophyll
   d) Light- independent reaction enzymes
3. Ribosomes were discovered by _____ .
   a) Golgi b) Porter c) De Robertis d) Palade
4. Name of Schleiden and Schwann are associated with _____ .
   a) Protoplasm as the physical basis of life b) Cell theory c) Theory of cell lineage
   d) Nucleus functions as control center of cell
5. Cell recognition and adhesion are facilitated by components of plasma membrane. These components are generally
   a) protein molecules alone b) lipids alone c) both lipids and proteins d) glycolipids and glycoproteins
6. Microtubule is involved in the _____ .
   a) Cell division b) Membrane architecture c) Muscle contraction d) DNA recognition
7. According to the modern concept, cell membrane is
   a) solid b) quasifluid c) fluid d) solidified sheath
8. A cell, which is very active in the synthesis and secretion of proteins, would be expected to have:
   a) equal amount of RER and SER b) more SER than RER c) more RER than SER
   d) more Golgi bodies and no ER
9. Amyloplasts, elaioplasts and aleuroplasts belong to ___ category of plastids.
   a) chloroplasts b) chromoplasts c) leucoplasts d) all of these
10. The most abundant iipid in the cell membrane is
    a) cutin b) glycolipid c) steroid d) phosphoglycerides
11. Assertion: Peripheral proteins are partially or totally buried in the membrane.
    Reason: Integral proteins lie on the surface of membrane
    a) If both assertion and reason are true and reason is the correct explanation of assertion.
    b) If both assertion and reason are true but reason is not the correct explanation of assertion.
    c) If assertion is true but reason is false d) If both assertion and reason are false.
12. Major site for synthesis of lipids is:
    a) Symplast b) SER c) RER d) Nucleoplasm
13. According to most recent studies, each chromosome consists of
    a) single double helical DNA which is highly coiled and folded
    b) variable number of DNA helices, depending upon the length of chromosome

c) many small DNA helices, which are joined by peptide linkages
d) small DNA helices, wrapped around each other like a rope.

14. The proteins are synthesised at _____ .
    a) Ribosomes b) Mitochondria c) Centrosomes d) Golgi bodies
15. Many ribosomes may associate with a single mRNA to form multiple copies of a polypeptide simultaneously. Such strings of ribosomes are termed as _____ .
    a) Plastidome b) Polyhedral bodies c) Polysome d) Nucleosome
16. Mechanical support, enzyme circulation, protein synthesis and detoxification of drugs are the functions of
    a) dictyosomes b) chloroplast c) ribosomes d) ER.
17. Choosethe incorrect statement regarding cell membrane.
    a) Generally smaller molecules pass easily and readily than large molecules.
    b) Water soluble substance pass through it less readily than lipid soluble substances.
    c) In addition to phospholipid membrane it also contains cholesterol. d) None of these
18. Chromatophores take part in :
    a) Respiration b) Photosynthesis c) Growth d) Movement
19. Angstrom (A^o) is equal to _____ .
    a) 0.01 mm b) 0.001 mm c) 0.0001 mm d) 0.00001 mm
20. Who gave the lamellar or sandwich model of cell membrane?
    a) Singer and Nicolson b) Danielli and Davson c) J. Robertson d) None of these
21. Match column I with column II and select the correct option from the codes given below.

	ColumnI		ColumnII
A	Mitochondria	(i)	Without membrane
B	Lysosomes	(ii)	Single membrane
C	Ribosomes	(iii)	Double membrane
D	Nucleus		

a)

A	B	C	D
(i)	(ii)	(iii)	(iii)

b)

A	B	C	D
(ii)	(i)	(i)	(ii)

c)

A	B	C	D
(iii)	(ii)	(i)	(ii)

d)

A	B	C	D
(ii)	(iii)	(i)	(iii)

22. Polyribosomes are aggregation of:
    a) ribosomes and rRNA b) peroxisomes c) several ribosomes held together by a string of mRNA
    d) rRNA
23. Nuclear mebrane is absent in _____ .
    a) Penicillium b) Agaricus c) Volvox d) Nostoc
24. Select the correct statement from the following regarding cell membrane
    a) Lipids are arranged in a bilayer with polar heads towards the inner part
    b) Fluid mosaic model of cell membrane was proposed by Singer and Nicolson
    c) Na+ And K+ Ions move across cell membrane by passive transport
    d) Proteins make up 60 to 70% of the cell membrane
25. Which of the following cell organelles are named after the name of its discoverer?
    a) ER b) DNA c) Golgi bodies d) Mitochondria
26. A scientist isolated the plasma membranes from some animal cells and put them in a solution of chemicals that stabilised the membranes. When she added a small amount of a salt solution, she discovered that although the membranes seemed intact, the amount of protein in the stabilising solution had increased. These new proteins in the stabilising solution were probably
    a) peripheral proteins b) integral proteins c) lipid-anchored proteins d) trimeric G proteins

27. Which of the following is not true for a eukaryotic cell?
    a) Cell wall is made up of peptidoglycans. b) It has 80S type of ribosome present in the cytoplasm
    c) Mitochondria contain circular DNA d) Membrane bound organelles are present
28. The latest model of cell membrane is the
    a) Unit membrane model b) Fluid mosaic model c) Danielli and Davson's model d) Robertson's model.
29. Assertion: Rudolf Virchow modified the hypothesis of cell theory given by Schleiden and Schwann.
    Reason: Cell theory says that all cells arise from pre-existing cells.
    a) If both assertion and reason are true and reason is the correct explanation of assertion
    b) If both assertion and reason are true but reason is not the correct explanation of assertion.
    c) If assertion is true but reason is false d) If both assertion and reason are false.
30. Extranuclear inheritance is due to the presence of genes In
    a) mitochondria and chloroplasts b) nucleus and mitochondria c) nucleus and chloroplasts
    d) endoplasmic reticulum and mitochondria
31. Which of the following statements is incorrect for centrioles?
    a) Both the centrioles in a centrosome lie perpendicular to each other
    b) Central proteinaceous hub is missing in a centriole
    c) Each centriole has an organisation like that of a cartwheel
    d) Centrosome usually contains 2 cylindrical centrioles.
32. Cell membrane is selective permeable. This means that it:
    a) allows all materials to pass through b) allows only water to pass through
    c) allows only certain materials to pass through d) allows only ions to pass through.
33. The Golgi complex plays a major role _____ .
    a) In digesting proteins and carbohydrates. b) As eneigy transferring organelles.
    c) In post translational modification of proteins and glycosidation of lipids.
    d) In trapping the light and transforming it into chemical energy.
34. The function of glyoxysome is
    a) protein metabolism b) carbohydrate metabolism c) fat metabolism d) protein synthesis
35. Which of the following statements regarding mitochondria is incorrect?
    a) Enzymes of electron transport are embedded in outer membrane.
    b) Inner membrane is convoluted with infoldings.
    c) Mitochondrial matrix contains single circular DNA molecule and ribosomes.
    d) Outer membrane is permeable to monomers of carbohydrates, fats and proteins.
36. Assertion : The content of inner compartment of mitochondria is called matrix.
    Reason : The outer membrane forms a number of infoldings called cristae
    a) If both assertion and reason are true and reason is the correct explanation of assertion.
    b) If both assertion and reason are true but reason is not the correct explanation of assertion.
    c) If assertion is true but reason is false. d) If both assertion and reason are false.
37. Select the mismatch:
    a) Gas vacuoles - Green bacteria b) Large central vacuoles - Animal cells c) Protists - Eukaryotes
    d) Methanogens - Prokaryotes
38. Integral cell membrane proteins
    a) are partially embedded in lipid layers b) are completely embedded in lipid layers
    c) show lateral but not vertical movements within bilayer of lipid d) all of these.
39. Who proposed a modification in the cell theory?
    a) Schleiden and Schwann b) Rudolf Virchow c) Robert Hooke d) Marcello Malpighi

40. A major break through in the studies of cells came with the development of electron microscope. This is because _____ .

a)
The resolving power of the electron microscope is 200-350 nm as compared to 0.1-0.2 for the light microscope.

b) Electron beam can pass through thick materials, whereas light microscopy requires thin sections.

c)
The electron microscope is more powerful than the light microscope as it uses a beam of electrons which has wavelength much longer than that of photons.

d) The resolution power of the electron microscope in much higher than that of the light microscope.

41. 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 + O.

42. Some of the enzymes which are associated in converting fats into carbohydrates, are present in _____ .
a) Liposomes b) Golgi bodies c) Microsomes d) Glyoxysomes

43. Assertion: Cells vary greatly in their shape
Reason: The shape of cell does not depend on the function they perform.
a) If both assertion and reason are true and reason is the correct explanation of assertion

b) If both assertion and reason are true but reason is not the correct explanation of assertion.

c) If assertion is true but reason is false d) If both assertion and reason are false.

44. The main arena of various types of activities of a cell is:
a) Plasma membrane b) Mitochondrian c) Cytoplasm d) Nucleus

45. Cell recognition and adhesion occur due to biochemicals of cell membranes named _____ .
a) Proteins b) Lipids c) Both (a) and (b) d) Glycoproteins and glycolipids

46. The chromosomes in which centromere is situated close to one and are:
a) Sub-metacentric b) Metacentric c) Acrocentric d) Telocentric

47. Select the correct matching in the following pairs:
a) Smooth ER - Synthesis of lipids b) Rough ER - Synthesis of glycogen
c) Rough ER - Oxidation of fatty acids d) Smooth ER-Oxidation of phospholipids

48. The solid linear cytoskeletal elements having a diameter of 6nm and made up of a single type of monomer are known as:
a) Microfilaments b) Intermediate filaments c) Lamins d) Microtubules

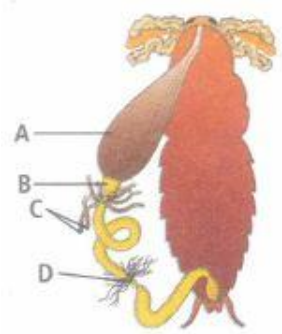
49. Mitotic spindle is mainly composed of which protein?
a) Actin b) Myosin c) Tubulin d) Myoglobin

50. Genes located on mitochondrial DNA _____ .
a) Generally show maternal inheritance b) Are always inherited from the male parent
c) Show biparental inheritance like the nuclear genes d) Are not inherited

51. The important site for the formation of glycoproteins and glycolipids is :
a) Vacuoles b) Plastids c) Lysosome d) Golgi apparatus

52. The osmotic expansion of a cell kept in water is chiefly regulated by:
a) Mitochondria b) Vacuoles c) Plastids d) Ribosomes

53. The given figure shows alimentary canal of cockroach. Identify the parts labelled as A to D and select the correct option.



a)

A	B	C	D
Gizzard	Crop	Hepaticcaeca	Malpighiantubules

b)

A	B	C	D
Crop	Gizzard	Hepaticcaecae	Malpighiantubules

c)

A	B	C	D
Crop	Gizzar	Malpighian tubules	Hepaticcaecae

d)

A	B	C	D
Gizzar	Crop	Malpighiantubule	Hepaticcaeca

54. Which of the given statements are correct?
(i) Bacillus subtilis is a Gram (+Ve) bacteria
(ii) Escherichia coli is a Gram (-ve) bacteria.
(iii) Washing of the Gram's stain in Gram (-ve) bacteria is due to high lipid content of the cell wall, which gets dissolved in organic solvents like acetone.
a) (i) and (ii) b) (ii) and (iii) c) (i) and (iii) d) (i), (ii) and (iii)

55. Which one of the following is not an inclusion body found in prokaryotes?
a) Polysome b) Phosphate granule c) Cyanophycean granule d) Glycogen granule

56. Which organelle is not a part of the endomembrane system?
a) ER b) Golgi complex c) Lysosomes d) Mitochondria

57. The eukaryotic genome differs from the prokaryotic genome because _____ .
a) DNA is complexed with histones in prokaryotes b) Repetitive sequences are present in eukaryotes
c) Genes in the former cases are organised into operons
d) DNA is circular and single stranded in prokaryotes

58. Cytoskeleton is made up of:
a) Callose deposits b) Cellulosic microfibrils c) Proteinaceous filaments d) Calcium carbonate granules

59. Ribosomes of the cytoplasm, chloroplast and mitochondrion are respectively
a) 80S, 80S and 70S b) 80S, 70S and 70S c) 70S in all d) 80S in all

60. The movement of cilia and flagella is due to the presence of
a) radial spokes b) central sheath c) singlet microtubules d) dyneins.