



BIOLOGY

BOOKS - NEET PREVIOUS YEAR (YEARWISE + CHAPTERWISE)

CELL : THE UNIT OF LIFE

Question

1. Which of the following components provides sticky character to the bacterial cell

A. Cell wall

B. Nuclear membrane

C. Plasma membrane

D. Glycocalyx

Answer: D



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2. Which of the following cell organelles is responsible for extracting energy from carbohydrates to form ATP?

A. Lysosome

B. Ribosome

C. Chloroplast

D. Mitochondrion

Answer: D



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3. Water soluble pigments found in plant cell vacuoles are

A. chlorophylls

B. carotenoids

C. anthocyanins

D. xanthophylls

Answer: C



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4. Which one of the following cell organelles is enclosed by a single membrane

A. Chloroplasts

B. Lysosomes

C. Nuclei

D. Mitochondria

Answer: B



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5. Mitochondria and chloroplast are

(a) Semi-autonomous organelles

(b) Formed by division of pre-existing

organelles and they contain DNA but lack protein synthesizing machinery

Which one of the following options is correct

A. II is true , but I is false

B. I is true , but II is false

C. Both I and II are false

D. Both I and II are true

Answer: B



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6. Microtubules are the constituents of

- A. spindle fibres , centrioles and cilia
- B. centrioles , spindle fibres and chromatin
- C. centrosome , nucleosome and centrioles
- D. cilia , flagella and peroxisomes

Answer: A



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7. A cell organelle containing hydrolytic enzymes is

A. lysosome

B. microsome

C. ribosome

D. mesosome

Answer: A



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8. Select the wrong statement .

A. Bacterial cell wall is made up of peptidoglycan

B. Pill and fimbriae are mainly involved in motility of bacterial cells

C. Cyanobacteria lack flagellated cells

D. Mycoplasma is a wall-less microorganism

Answer: B



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9. Select the mismatch

- A. Gas vacuoles - Green bacteria cells
- B. Large central vacuoles - Animal cells
- C. Protists - Eukaryotes
- D. Methanogens - Prokaryotes

Answer: B



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10. Which of the following structures is not found in a prokaryotic cell?

- A. Nuclear envelope
- B. Ribosome
- C. Mesosome
- D. Plasma membrane

Answer: A



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11. Match the columns and identify the correct option .



A.

A	B	C	D
4	3	1	2

B.

A	B	C	D
3	4	1	2

C.

A	B	C	D
3	1	4	2

D.

A	B	C	D
3	4	2	1

Answer: B



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12. Balbiani rings are sites of

- A. lipid synthesis
- B. nucleotide synthesis
- C. polysaccharide synthesis
- D. RNA and protein synthesis

Answer: D



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13. Which one of the following are not membrane-bound?

A. Vacuoles

B. Ribosomes

C. Lysosomes

D. Mesosomes

Answer: B



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14. A protoplasts is a cell

A. without plasma membrane

B. without nucleus

C. undergoing division

D. without cell wall

Answer: D



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15. Cellular organelles with membranes are

A. nuclei, ribosomes and mitochondria

B. chromosome , ribosomes and
endoplasmic reticulum

C. endoplasmic reticulum , ribosomes and
nuclei

D. lysosomes , Golgi apparatus and
mitochondria

Answer: D



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16. The solid linear cytoskeletal elements having a diameter of 6 nm and made up of a single type of monomer are known as

- A. microtubules
- B. microfilaments
- C. intermediate filaments
- D. lamins

Answer: B



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17. Osmotic expansion of a cell kept in water is chiefly regulated by

A. mitochondria

B. vacuoles

C. plastids

D. ribosomes

Answer: B



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18. Match the following and select the correct answer.



A.

A	B	C	D
4	2	1	3

B.

A	B	C	D
1	2	4	3

C.

A	B	C	D
1	3	2	4

D.

A	B	C	D
4	3	1	2

Answer: A



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19. Which one of the following organelles in the figure correctly matches with its function ?



A. Rough endoplasmic reticulum ,
formation of glycoproteins

B. Golgi apparatus , protein synthesis

C. Golgi apparatus , formation of
glycolipids

D. Rough endoplasmic reticulum , protein
synthesis

Answer: D



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20. A major site for synthesis of lipids is

A. RER

B. SER

C. symplast

D. nucleoplasm

Answer: B



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21. The Golgi complex plays a major role

- A. in trapping the light and transforming it into chemical energy
- B. in digestion proteins and carbohydrates
- C. as energy transferring organelles
- D. in post translational modification of proteins and glycosidation of lipids

Answer: D



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22. Ribosomal RNA is synthesised in

A. lysosomes

B. nucleolus

C. nucleoplasm

D. ribosomes

Answer: B



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23. What is true about ribosomes?

- A. The prokaryotic ribosomes are 80S ,
where S stands for sedimentation
coefficient
- B. These are composed of ribonucleic acid
and proteins
- C. These are found only in eukaryotic cells

D. These are self-splicing introns of some RNAs

Answer: B



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24. Select of correct statement from the following regarding cell membrane

" " Or

Who proposed "fluid mosaic model" for plasma membrane

- A. Na^+ and K^+ ions move across cell membrane by passive transport
- B. Proteins make up 60 to 70% of the cell membrane
- C. Lipids are arranged in a bilayer with polar heads towards the inner part
- D. Fluid mosaic model of cell membrane was proposed by Singer and Nicolson

Answer: D



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25. Which one of the following organisms is not an example of eukaryotic cells

A. *Escherichia coli*

B. *Euglena viridis*

C. *Amoeba proteus*

D. *Paramecium caudatum*

Answer: A



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26. Important site for formation of glycoproteins and glycolipids is

A. Golgi apparatus

B. plastid

C. Lysosomes

D. vacuole

Answer: A



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27. Which one of the following also acts as a catalyst in a bacterial cell ?

A. sn RNA

B. hn RNA

C. 23S r RNA

D. 5S r RNA

Answer: C



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28. Peptide synthesis inside a cell takes place in

A. mitochondria

B. chromoplast

C. ribosomes

D. chloroplast

Answer: C



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29. Which one of the following has its own DNA?

A. mitochondria

B. Dictyosome

C. Lysosome

D. Peroxisome

Answer: A



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30. The main arena of various types of activities of a cell is

" " Or

Proteins required for functioning of nucleus are formed in

A. plasma membrane

B. mitochondrion

C. cytoplasm

D. nucleus

Answer: C



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

" " Or

Cytoplasm of one cell is connected with other through

A. Plasmodesmata

B. Plastoquinones

C. Endoplasmic reticulum

D. Plasmalemma

Answer: A



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32. The plasma membrane consists mainly of

A. phospholipids embedded in a protein bilayer

B. proteins embedded in a phospholipid bilayer

C. proteins embedded in a polymer of glucose

D. proteins embedded in a carbohydrate bilayer

Answer: B



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33. Cytoskeleton is made up of

A. calcium carbonate granules

B. callose deposits

C. cellulosic microfibrils

D. proteinaceous filaments

Answer: D



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34. There is no DNA in

A. an enucleated ovum

B. mature RBCs

C. a mature spermatozoan

D. hair root

Answer: A



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35. Middle lamella is mainly composed of

A. hemicellulose

B. muramic acid

C. calcium pectate

D. phosphoglycerides

Answer: C



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36. Plasmodesmata are

- A. lignified cemented layers between cells
- B. locomotory structure
- C. membranes connecting the nucleus with
plasmalemma

D. connections between adjacent cells

Answer: D



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37. 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 mono layer to the other (described as flip flop movement)

A. Both lipids and proteins can flip-flop

B. While lipids can rarely flip-flop , proteins cannot

C. While proteins can flip-flop , lipids cannot

D. Neither lipids , nor proteins can flip-flop

Answer: B



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38. The two sub-units of ribosome remain united at a critical ion level of

A. copper

B. manganese

C. magnesium

D. calcium

Answer: C



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39. Vacuole in a plant cell

- A. is membrane-bound and contains storage proteins and lipids
- B. is membrane-bound and contains water and excretory substances
- C. lacks membrane and contains air
- D. lacks membrane and contains water and excretory substances

Answer: B



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40. In germinating seeds fatty acids are degraded exclusively in the

- A. proplastids
- B. glyoxysomes
- C. peroxisomes
- D. Mitochondria

Answer: B



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41. Select the wrong statement from the following

A. Both chloroplasts and mitochondria contain an inner and an outer membrane

B. Both chloroplasts and mitochondria have an internal compartment , the thylakoid space bounded by the thylakoid membrane

C. Both chloroplasts and mitochondria contain DNA

D. The chloroplasts are generally much larger than mitochondria

Answer: B



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42. Which of the following statements regarding mitochondrial membrane is not correct

A. The enzymes of the electron transfer chain are embedded in the outer membrane

B. The inner membrane is highly convoluted forming a series of infoldings

C. The outer membrane resembles a sieve

D. The outer membrane is permeable to all kinds of molecules

Answer: A



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43. A major breakthrough in the study 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. electrons beam can pass through thick materials , whereas light microscopy

required thin sections

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

D. the resolution power of the electron microscope is much higher than that of the light microscope

Answer: D



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44. Organelle involved in modification and routing of newly synthesised proteins to their destination is

A. chloroplast

B. mitochondria

C. lysosome

D. endoplasmic reticulum

Answer: D



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45. 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

A. Proteins in cell membranes can travel with in the lipid bilayer

B. Proteins can also undergo flip-flop

movements in the lipid bilayer

C. Proteins can remain confined with in

certain domains of the membrane

D. Many proteins remain completely

embedded within the lipid bilayer

Answer: B



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46. Protein synthesis in an animal cell occurs

A. only on the ribosomes present in cytosol

B. only on ribosomes attached to the
nuclear envelope and endoplasmic
reticulum

C. on ribosomes present in the nucleolus
as well as in cytoplasm

D. on ribosomes present in cytoplasm as
well as in mitochondria

Answer: D



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47. In chloroplasts the chlorophyll is located in

A. grana

B. pyrenoid

C. stroma

D. Both (a) and (c)

Answer: A



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48. Extra nuclear inheritance is a consequence of presence of genes in

A. Blue

B. Green

C. Yellow

D. Red

Answer: A



49. Extra nuclear inheritance is a consequence of presence of genes in

A. mitochondria and chloroplasts

B. endoplasmic reticulum and
mitochondria

C. ribosomes and chloroplast

D. lysosomes and ribosomes

Answer: A



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50. In chloroplasts, chlorophyll is present in the

A. outer membrane

B. inner membrane

C. thylakoids

D. stroma

Answer: C



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51. Flagella of prokaryotic and eukaryotic cells differ in

- A. type of movement and placement in cell
- B. location in cell and mode of functioning
- C. microtubular organisation and type of movement
- D. microtubular organisation and function

Answer: C



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52. Ribosomes are produced in

A. nucleolus

B. cytoplasm

C. mitochondria

D. Golgi body

Answer: A



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53. In fluid mosaic model of plasma membrane

,

- A. upper layer is non-polar and hydrophilic
- B. upper layer is polar and hydrophobic
- C. phospholipids form a bimolecular layer
in middle part
- D. proteins form a middle layer

Answer: C



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54. Microtubules are absent in

A. mitochondria

B. centriole

C. flagella

D. spindle fibres

Answer: A



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55. Lysosomes are reservoirs of

- A. RNA and protein
- B. fats
- C. secretory glycoproteins
- D. hydrolytic enzymes

Answer: D



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56. The cell organelle involved in the glycosylation of proteins is

A. ribosome

B. peroxisome

C. endoplasmic reticulum

D. Mitochondria

Answer: C



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57. The proteins are synthesised at

A. ribosomes

B. mitochondria

C. centrosomes

D. Golgi body

Answer: A



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58. Which of the following organ has single membrane ?

A. Nucleus

B. Cell wall

C. Mitochondria

D. Spherosomes

Answer: D



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59. Some of the enzymes, which are associated in converting fats into carbohydrates, are present in

" " Or

Site of gluconeogenesis is

A. liposomes

B. Golgi bodies

C. microsomes

D. glyoxysomes

Answer: D





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60. DNA is mainly found in

A. nucleus

B. cytoplasm

C. Both (a) and (b)

D. nucleolus

Answer: A



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61. 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

Answer: B



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62. Microtubule is involved in the

A. cell division

B. membrane architecture

C. muscle contraction

D. DNA recognition

Answer: A



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63. Centromere is a part of:

A. ribosomes

B. chromosome

C. mitochondria

D. endoplasmic reticulum

Answer: B



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64. *ATP* formation in chloroplast and mitochondrion is explained by

- A. Relay Pump Theory of Godlewski
- B. Cholodny-Went's Model
- C. Chemiosmotic Theory
- D. Munch's Mass Flow Hypothesis

Answer: C



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65. Protein synthesis in an animal cell, takes place

A. only in cytoplasm

B. in the nucleolus as well as in the cytoplasm

C. in the cytoplasm as well as in mitochondria

D. only on ribosomes attached to nucleus

Answer: C



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66. Genes located on mitochondrial DNA bring about

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

Answer: A



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67. Lysosomes have a high content of

A. hydrolytic enzymes

B. lipoproteins

C. polyribosomes

D. DNA ligases

Answer: A



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68. Rough endoplasmic reticulum is associated with

A. fat synthesis

B. lipid synthesis

C. protein synthesis

D. steroid synthesis

Answer: C



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69. Prokaryotic flagella possess

A. unit membrane enclosed fibre

- B. protein membrane enclosed fibre
- C. 9+ 2' membrane enclosed structure
- D. helically arranged protein molecule

Answer: D



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70. Desmosomes are concerned with

- A. cytolysis
- B. cell division

C. cell adherence

D. cellular excretion

Answer: C



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71. Inner membrane convolutions of a mitochondria are known as

A. lamellae

B. thylakoids

C. grana

D. cristae

Answer: D



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72. Mitochondrial cristae are sites of

A. breakdown of macromolecules

B. protein synthesis

C. phosphorylation of flavoproteins

D. oxidation-reduction reactions

Answer: D



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73. Organelle having flattened membrane bound cisternae and lying near the nucleus is

A. Golgi apparatus

B. mitochondrion

C. centriole

D. nucleolus

Answer: A



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74. Cell organelles having acid hydrolases /digestive enzymes are

A. peroxisomes

B. Lysosomes

C. ribosomes

D. mesosomes

Answer: B



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75. Organelle/organoid involved in genetic engineering is

A. plasmid

B. mitochondrion

C. Golgi apparatus

D. lomasome

Answer: A



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76. In plant cells, peroxisomes are associated with

A. photorespiration

B. phototropism

C. photoperiodism

D. photosynthesis

Answer: A



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77. Membranous bag with hydrolytic enzymes which is used for controlling intracellular digestion of macromolecules is

A. endoplasmic reticulum

B. nucleosome

C. lysosome

D. phagosome

Answer: C



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78. Which is correct about cell theory in view of current status of our knowledge about cell structure ?

A. it needs modification due to discovery of subcellular structures like chloroplasts and mitochondria

B. Modified cell theory means that all living beings are composed of cells capable of reproducing

C. Cell theory does not hold good because all living beings do not have cellular organisation (e.g. viruses)

D. Cell theory means that all living objects consist of cells whether or not capable of reproducing

Answer: C



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79. 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 centre of cell

Answer: B



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80. Golgi apparatus is absent in

A. higher plants

B. yeast

C. bacteria and blue-green algae

D. None of the above

Answer: C



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81. Cell recognition and adhesion are facilitated by components of plasma membrane. These components are generally

A. proteins

B. lipids

C. Both (a) and (b)

D. glycoproteins and glycolipids

Answer: D



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82. Genophore// bacterial genome or nucleoid
is made of

A. histones and non-histones

B. RNA and histones

C. a single double stranded DNA

D. a single stranded DNA

Answer: C



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83. Binding of specific protein on regulatory DNA sequence can be studied by means of

- A. ultra centrifugation
- B. electron microscope
- C. light microscope
- D. X-rays crystallography

Answer: D



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84. Angstrom (\AA) is equal to

- A. $0.01\mu m$

B. $0.001\mu m$

C. $0.0001\mu m$

D. $0.00001\mu m$

Answer: C



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85. All plastids have similar structure because they can

A. store starch , lipids and protiens

B. get transformed from one type to another

C. perform same function

D. be present together

Answer: B



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86. Oxysomes or $F_0 - F_1$ particles occur on

A. thylakoids

B. mitochondrial surface

C. inner mitochondrial membrane

D. chloroplast surface

Answer: C



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87. An outer covering membrane is absent over

A. nucleolus

B. lysosome

C. mitochondrion

D. plastids

Answer: A



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88. Ribosomes are the centre for

A. respiration

B. photosynthesis

C. protein synthesis

D. fat synthesis

Answer: C



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89. Which one is apparato reticolare interno ?

A. Golgi apparatus

B. Endoplasmic reticulum

C. Microfilaments

D. Microtubules

Answer: A



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90. Experiments on *Acetabularia* by Hammerling proved the role of

A. cytoplasm in controlling differentiation

B. nucleus in heredity

C. chromosomes in heredity

D. nucleocytoplasmic ratio

Answer: B



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91. Addition of new cell wall particles amongst the existing ones is

A. deposition

B. apposition

C. intussusception

D. aggregation

Answer: B



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92. Resolution power is the ability to

A. distinguish two trees

B. distinguish two close objects

C. distinguish amongst organelles

D. magnify image

Answer: B



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93. Cell wall shows

- A. complete permeability
- B. semi-permeability
- C. differential permeability
- D. impermeability

Answer: A



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94. Fluid mosaic model of cell membrane was put forward by

- A. Danielli and Davson
- B. Singer and Nicolson
- C. Garner and Allard
- D. Watson and Crick

Answer: B



95. Ribosomes were discovered under E.M. by

A. Golgi

B. Porter

C. de Robertis

D. Palade

Answer: D



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96. Magnification of compound microscope is not connected with

- A. numerical aperture
- B. focal length of objective
- C. focal length of eye piece
- D. tube length

Answer: A



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97. Electron microscope has a high resolution power . This is due to

- A. electromagnetic lenses
- B. very low wavelength of electron beam
- C. low wavelength of light source used
- D. high numerical aperture of glass lenses used

Answer: B



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98. Hammerling's experiments of *Acetabularia* involved exchanging

A. cytoplasm

B. nucleus

C. rhizoid and stalk

D. gametes

Answer: B



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99. Plasma membrane is made of

- A. proteins and carbohydrates
- B. proteins and lipids
- C. proteins , lipids and carbohydrates
- D. proteins , some nucleic acid and lipids

Answer: C



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100. Polyribosomes are aggregation of

A. ribosomes and rRNA

B. only rRNA

C. peroxisomes

D. several ribosomes held together by
string of mRNA

Answer: D



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101. Organelles can be separated from cell homogenate through

- A. chromatography
- B. X-rays diffraction
- C. differential centrifugation
- D. auto -radiography

Answer: C



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102. Nucleoproteins are synthesised in

A. nucleoplasm

B. nuclear envelope

C. nucleolus

D. cytoplasm

Answer: D



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103. Acetabularia used in Hammerling's nucleocytoplasmic experiments is

- A. unicellular fungus
- B. multicellular fungus
- C. unicellular uninucleate green alga
- D. unicellular multinucleate green alga

Answer: C



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104. According to fluid mosaic model, plasma membrane is composed of

- A. phospholipids and oligosaccharides
- B. phospholipids and hemicellulose
- C. phospholipids and integral proteins
- D. phospholipids , extrinsic proteins and
intrinsic proteins

Answer: D



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