6 Cell : the unit of life

Cell Structure and Function

1. In living organisms detailed description that brings out their knowledge of diversity is about

Pg-125, easy

A) Their form
B) Their appearance
C) Both
D) None

2. What brought out the unit of diversity the cellular organisation of all life form:

Pg-125, easy

A) Theory of evolution
B) Species theory
C) Cell theory
D) Darwinian theory

3. What is not true about physico-chemical approach:-

Pg-125, easy

A) Established by analysis of living tissue for element and compounds.
B) Explains what type of organic compounds is present in living organism.
C) Explains the abnormal process that occur during any diseased condition.
D) This approach is known as forward biology.

Cell :- The Unit Of Life

4. Unicellular organism are capable of
A) Independent existence
B) Performing the essential functions of life.
C) Both
D) Does not ensure independent living

Pg-125, easy

5. Living cell was firstly seen and described by:-
A) Robert Hooke
B) Anton von Leeuwenhoek
C) Robert Koch
D) Robert Brown

Pg-125, easy

Paragraph – 8.2

Cell Theory

6. Cell theory was proposed by:-
A) Matthias Schleiden and Theodore Schwann
B) Schleiden; Schwann and Virchow.
C) Rudolf Virchow
D) Sutton and Boveri

Pg-126, easy

7. All the plants are composed of different kinds of cells which forms the tissue of the plant, this statement was given by:-

Pg-125, easy

A) A German botanist ; Rudolf Virchow .
B) A British zoologist ; Matthias Schleiden
C) A British zoologist ; Theodore Schwann
D) A German botanist; Matthias Schleiden

8. Who studied the different types of animal cells to propose cell theory:-
A) A British zoologist; Matthias Schleiden
B) A German botanist; Theodore Schwann.
C) A physicist; Rudolf Virchow.
D) A British zoologist; Theodore Schwann.

Pg-126, easy

9. A thin outer layer studied by Theodore Schwann nowadays known as:-
A) Plasma membrane
B) Cell wall
C) Glycocalyx
D) Middle lamella

Pg-126, easy

10. Based on studies of Matthias Schleiden; what is the unique character of plant cell?
A) Cell wall B) Middle lamella
C) Glycocalyx D) None of these

Pg-126, easy

11. The hypothesis that the bodies of animals and plant are composed of cells and their products was proposed by:-

Pg-126, easy

A) Schleiden and Schwann
B) Rudolf Virchow
C) Schwann only
D) Virchow and Schleiden

12. Scientist who gave the final shape to cell theory?

Pg-126, easy

A) Schleiden
B) Schwann
C) Virchow
D) Schleiden & Schwann

13. Which of the following is related to cell theory :-

Pg-126, medium

i) All living organisms are composed of cells and product of cells.
ii) Proposed by Schleiden and Schwann.
iii) Modified by Rudolf Virchow
iv) All cells arise from pre – existing cell.
v) "Omnis cellula – e – cellula"

A) Only one of the above
B) Only two of the above
C) Only four of the above
D) All five

Paragraph – 8.3

An Overview of Cell

14. What is the delimiting boundary around a human cheek cell?

Pg-126, easy

A) Cell membrane B) Protoplasm
C) Protoplast D) Cell wall

15. What is the Semi – fluid matrix inside the cell?

Pg-126, easy

A) Cell membrane B) Protoplast
C) Cytoplasm D) Nucleus

16. How many of the following statements are not true:-

Pg-126, medium

i) All cells have membrane bound nuclei and nucleolus.
ii) Nucleus contains the chromosome
iii) DNA is the Genetic material.
iv) Cytoplasm is the main arena of cellular activities in plant and animal cells.

A) Only (ii), (iii), & (iv)
B) Only (ii) & (iv)
C) Only (i) & (iii)
D) Only (i)

17. Besides the nucleus; the _____cell have other membrane bound distinct structures.

A) Eukaryotic B) Prokaryotic
C) Both (a) and (b) D) None of these

Pg-126, easy

18. What is the non – membranous organelle present in both Eukaryotic as well as Prokaryotic cell

Pg-126, easy

A) Endoplasmic reticulum
B) Protein
C) Mitochondria
D) Ribosomes of 80s' type

19. Animal cells have another non – membrane bound cellular organelle known as:-

Pg-126, easy

A) Microbodies B) Nucleus
C) Lysosome D) Centrosome

20. Which of the following is not incorrect?

Pg-127, medium

A) Mycoplasma is the smallest cell -> 0.3 µm in width.
B) Bacteria could be 3 µm to 5 µm in length
C) Human RBCs are about 7.0mm in diameter.
D) Cell's shape is independent of their work they perform.

Paragraph – 8.4

Prokaryotic Cell

21. The prokaryotic cells are represented by:-

Pg-127, easy

A) Bacteria
B) BGA
C) Mycoplasma & PPLO
D) All of these

22. All prokaryotic cell have this cellular boundary surrounding the cell – membrane except in mycoplasma

Pg-127, easy

A) Glycocalyx B) Protoplast
C) Cell wall D) Cytoplasm

23. Which of the following is related to prokaryotic cell:-

Pg-127, easy

A) Have no well defined nucleus
B) Have basically naked genomic material.
C) An addition to genomic DNA; the extra – genomic DNA is also present known as plasmid.
D) All of the above

24. Which of the following confirms certain unique phenotypic characters to some bacteria

Pg-127, easy

A) Chromosomal material
B) Extra chromosomal material
C) Mitochondrial DNA
D) Genetic material present in chloroplast

25. A special form of cell membrane ; which is the characteristic of prokaryotes is:-

Pg-128, easy

A) Plasmid B) Cell wall
C) Cell membrane D) Mesosomes.

26. Which of the following is membrane less bodies other than Ribosomes.

Pg-128, easy

A) Cell wall B) Inclusion
C) Mesosomes D) Chromatophores

27. Which of the following is the essential infolding's of cell membrane

Pg-128, easy

A) Inclusion B) Mesosome
C) Chromatophores D) Plasmid

Paragraph – 8.4.1

Cell Envelope and it's modification

28. What is the sequence of cell envelope in most of the prokaryotic cell (Outer to Inner)

Pg-128, easy

A) Glycocalyx ->cell membrane -> cell wall.
B) Cell membrane -> cell wall -> Glycocalyx
C) Cell wall -> Glycocalyx -> cell membrane
D) Glycocalyx ->cell wall -> cell membrane.

29. The prokaryotic cell have a single protective unit made up of

Pg-128, easy

A) Glycocalyx + cellulosic cell wall + cell membrane
B) Peptidoglycan cell wall + cell membrane + Glycocalyx
C) Chitinous cell wall + cell membrane + Glycocalyx
D) Silicous cell wall + Glycocalyx + cell membrane

30. How many of the following statements are correct:-

Pg-128, easy

i) Glycocalyx is outermost layer.
ii) All three layer have same function.
iii) Bacteria can be classified on the basis of differences in the cell envelope.
iv) Bacteria can be classified on the basis of response to the staining procedure

A) Only one B) Only two
C) Only three D) All four

31. The bacteria that take up gram stain are

Pg-128, easy

A) Gram positive type.
B) Gram negative type.
C) Both type
D) Neither gram positive nor gram negative.

32. The bacteria that do not take up gram stain are

Pg-128, easy

A) Gram positive type.
B) Gram negative type.
C) Either gram positive or gram negative
D) Neither gram positive nor gram negative

33. Which of the following in a bacterial envelope is a loose sheath of slimy layer

Pg-128, easy

A) Glycocalyx B) Cell wall
C) Cell membrane D) None of the above

34. Glycocalyx could be a thick and tough layer and known as:-

Pg-128, easy

A) Slimy layer B) Cyst
C) Capsule
D) None of the above

35. Which of the following determines the shape of a bacteria cell:-

Pg-128, easy

A) Glycocalyx B) Capsule
C) Cell membrane D) Cell Wall

36. How many of the following in not incorrect regarding a cell membrane in prokaryotes

Pg-128, medium

i) Selectively permeable in nature
ii) Structurally similar to eukaryotic cell membrane
iii) Interacts with outer world.
iv) Innermost layer of cell envelope
v) Living layer.

A) Only (ii), (iii) & (iv)
B) Only (i), (ii), (iii), (iv) & (v)
C) Only (i), (iii), (iv) & (v)
D) Only (i), (iv) & (v)

37. How many of the following is the membranous extensions into the cell of bacteria:-

Pg-128, easy

Mesosomes, Tubules, Vesicles, Lamellae, Chromatophores, Inclusions

A) 6 B) 3
C) 5 D) 4

38. How many functions from the following, the mesosomes can perform

Pg-129, easy

i) DNA replication
ii) Respiration
iii) DNA distribution to daughter cells
iv) Secretion
v) Increases surface area
vi) Contains enzymatic content.

A) Only four
B) Only Three
C) All six
D) Only five

39. In cyanobacteria, there are some another membranous extensions except mesosomes are:

Pg-129, easy

A) Inclusion B) Fat globules
C) Chromatophores D) All of the above

40. What are structures related to Bacterial flagellum:-

Pg-129, easy

A) Basal body & filament
B) Basal body, Hook & filament.
C) Hook & filament
D) Filament only.

41. Longest portion of flagellum is:-

Pg-129, easy

A) Basal body
B) Hook
C) Filament
D) None of the above

42. Which of the following structure helps in motility in bacterial cell:-

Pg-129, easy

A) Cell membrane B) Pili
C) Fimbriae D) Flagella

43. Which of the following is not a surface structure :-

Pg-129, easy

A) Fimbriae B) Pili
C) Flagella D) Inclusion

44. Which of the following is small bristle like fibres sprouting out of the cell:-

Pg-129, easy

A) Pili B) Cilia
C) Flagella D) Fimbriae

45. Which of the following is elongated tubular proteinaecious structure:-

Pg-129, easy

A) Pili B) Inclusion
C) Mesosome D) Fimbriae

46. Which of the following help the bacteria attach to rocks in streams:-

Pg-129, easy

A) Inclusion B) Mesosome
C) Fimbriae D) Pili

Paragraph – 8.4.2

Ribosomes and Inclusion Bodies

47. Ribosomes are associated with the structures in a bacterial cell:-

Pg-129, easy

A) t – RNA strand B) Golgi body
C) Cell membrane D) E.R

48. Ribosomes in the bacterial cell are

Pg-129,

A) 20nm to 30 nm in size.
B) Made up of two subunits(Larger 60s' & smaller 40s')
C) Made up of two subunits(Larger 50s' & smaller 30s')
D) Associated with E.R and cell membrane

49. A polysome is:-

Pg-129, easy

A) Several mRNA bound to a single Ribosome.
B) Several subunits of ribosomes attached to each other.
C) Several ribosomes attached to a single strand of mRNA
D) Several mRNA attached to each other.

50. Which of the following structure translate the mRNA into proteins: in a bacterial cell:-

Pg-129, easy

A) Inclusions of cytoplasm
B) Ribosomes of E.R
C) Ribosomes of Polysome.
D) Polysomes of Ribosome.

51. Inclusion bodies in a prokaryotic cell are:-

Pg-129, easy

A) Reserve material containing structure
B) Cell membrane infoldings
C) Membrane bound structure
D) All of the above

52. What are example of inclusion bodies:-

Pg-129, easy

i) Mesosome
ii) Chromatophores
iii) Gas vacuole
iv) Phosphate granules
v) Cyanophycean granules
vi) Glycogen granules
A) Only (ii), (iii) & (iv)
B) Only (iii), (iv) & (v)
C) Only (iii), (iv), (v) & (vi)
D) Only (iv), (v) & (vi)

53. Inclusion bodies can be found in

Pg-129, easy

A) All type of cells
B) All eukaryotic cell
C) BGA & green photosynthetic bacteria
D) Prokaryotic cell.

Paragraph – 8.5

Eukaryotic cell

54. All of the above except are eukaryotic except:-

Pg-129, easy

A) Protista B) Plants
C) Monera D) Animals

55. How many of the following statements are true regarding Eukaryotic cell.

Pg-129, easy

i) Cytoplasm has extensive compartmentalization
ii) Presence of membrane bound organelle
iii) Organised nucleus
iv) A variety of complex locomotory and cytoskeletal structures.
v) Genetic material is organised into chromosomes
A) 2 B) 3
C) 4 D) 5

56. **Statement – I:-** Plant cells differs from animals cells.
Statement – ii:- The former one posses cell walls, plastids & a large vacuole which is absent in latter one.

Pg-129, easy

A) Both statements are correct.
B) Both statement are incorrect.
C) Statement – I is correct but statement – II is incorrect.
D) Statement – I is incorrect but statement – II is correct.

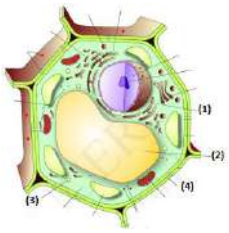
57. Centrioles are present in

Pg-129, easy

A) Animal cells
B) Plant cells
C) Both animal and plant cells.
D) All other than plant cells.

58. Which of the following correctly explain the diagram.

Pg-130, medium



A) 1 -> Nuclear membrane 2 -> vacuole 3 -> peroxisome 4 -> cell wall
B) 1 -> Microvilli 2 -> cell wall 3 -> cytoplasm 4 -> Plasma membrane
C) 1 -> Vacuole 2 -> cytoplasm 3 -> Microvilli 4 -> cell wall
D) None of the above

Paragraph – 8.5.1

Cell Membrane

59. The detailed structure of the membrane was studied:-

Pg-131, easy

A) Only after the advent of the electron microscope in 1950s.
B) Enabled to deduce the possible structure of plasma membrane
C) Both
D) None

60. Which of the following cell's study enabled the scientists to deduce the possible structure of Plasma membrane?

Pg-131, easy

A) RBC B) Cork cell
C) WBCs D) Bacterial Cell

61. Cell membrane is mainly composed of

Pg-131, easy

A) Lipids and Proteins
B) Proteins & Cholesterols
C) Lipids & Carbohydrates
D) Carbohydrates & Proteins

62. What is the correct arrangement of Lipid molecules in the cell membrane

Pg-131, easy

A) Polar head -> Outside, non – polar tails -> Inner side.
B) Non – polar head -> Outside Polar tail -> Inner side
C) Polar tail -> Outside non – polar head -> Inner side
D) Polar tail -> inner side non – polar head -> outer side

63. What ensures that the non – polar tail is protected from aqueous environment?

Pg-131, easy

A) Polar head -> Outside non – polar tails -> Inner side.
B) Non – polar head -> Outside Polar tail -> Inner side
C) Polar tail -> Outside non – polar head -> Inner side
D) Polar tail -> inner side non – polar head -> outer side

64. The constituents of cell membrane are:-

Pg-131

i) Phospholipid ii) Carbohydrate
iii) Proteins iv) Cholesterol
v) Phosphoproteins
A) Only (i), (ii) & (iv)
B) Only (ii), (iv) & (v)
C) Only (ii), (iii), (iv) & (v)
D) Only (i), (ii), (iii) & (iv)

65. Which of the following study revealed that cell membrane also contains proteins & carbohydrate:-

Pg-131, easy

A) Electron microscopic study.
B) Phase – Contrast microscopic study.
C) Biochemical investigation study
D) Cobalt – chloride paper test study.

66. Which of the following statement is incorrect:-

Pg-131, easy

A) The tail is hydrophobic of saturated hydrocarbons.
B) The tail is hydrophilic of saturated hydrocarbons.
C) The tail is hydrophobic of unsaturated hydrocarbons.
D) The tail is hydrophilic of unsaturated hydrocarbons

67. Which of the following statement is incorrect:-

Pg-131, easy

A) The ratio of proteins and lipids varies considerably in different cells.
B) In erythrocytes; it has approximately 52% proteins and 40% lipids.
C) On the basis of ease of extraction membrane proteins are of extrinsic and intrinsic type.
D) None of the above

68. The improved model of the structure of cell membrane was proposed by:-

Pg-132, easy

A) Messelson & Stahl
B) Schleiden & Schwann
C) Anton von Leeuwenhoek
D) Singer and Nichloson

69. The quasi–fluid nature of lipid enables:-

Pg-132, easy

A) Flip–flop movement of proteins within the lipid bilayer.

B) Lateral movement of proteins within the lipid bilayer.
C) Flip–flop movement of lipid crossing the protein bilayer.
D) lateral movement of lipid crossing the protein bilayer.

70. One of the most important function of the plasma membrane is:-
Pg-132, easy
A) Transport of molecules across it.
B) Flip – flop movement.
C) Secretion
D) Cell enlargement.

71. What ability explains the fluidity of cell membrane:-
Pg-132, easy
A) Quasi – fluid nature of cell membrane.
B) Lateral movement of proteins.
C) Cell growth, formation of intercellular junctions; secretion; endocytosis; cell division
D) All of the above.

72. The plasma membrane is:-
Pg-132, easy
A) Semi – permeable in nature
B) Impervious in nature
C) Impermeable in nature
D) Selectively permeable in nature.

73. How many of the following functions the cell membrane can perform:-
Active transport; Osmosis; Passive transport.
Pg-132, easy
A) Only one B) Only two
C) All D) None

74. Na^+ - K^+ pump transports molecules
Pg-132, easy
A) By passive transport
B) By active transport
C) By utilisation of ATP
D) Both B & C

Paragraph – 8.5.2

Cell Wall

75. The outer covering of fungi and plants is:-
Pg-132, easy
A) Glycocalyx B) Cell wall
C) Cell membrane D) All

76. What is the function of cell wall:-
Pg-132, easy
A) Gives shape to the cell
B) Protects the cell
C) Cell – to – cell interaction
D) All of the above

77. What are chemical composition of algal cell wall
Cellulose, Galactans, Mannans, Calcium carbonate, Chitin
Pg-132, easy
A) Only two of them
B) Only three of them
C) Only four of them
D) All five of them

78. Cell wall of plants consists of:-
Pg-132, easy
A) Cellulose & Pectin's only
B) Cellulose, hemicellulose & Pectin's only
C) Cellulose, hemicellulose, Pectin & Proteins.
D) Hemicellulose & Proteins only.

79. Which of the following is capable of growth
Pg-132, easy
A) Primary cell wall
B) Secondary cell wall
C) Tertiary cell wall
D) All of them

80. Secondary cell wall is formed
Pg-132, easy
A) Outside the primary cell wall.
B) Inside the cell membrane
C) Inside the plasmodesmata.
D) Inside the primary cell wall.

81. Which of the following in plant acts as glue between neighbouring plant cells:-
Pg-132, easy
A) Ca – Pectate
B) Mg – Pectate
C) Ca & Mg – Pectate
D) None of the above

82. Which of the following is traversed by plasmodesmata:-
Pg-132, easy
A) Cell wall & cell membrane
B) Cell membrane & Glycocalyx
C) Cell membrane, cell wall, Glycocalyx & Middle lamella.
D) Cell wall & middle lamella.

Paragraph – 8.5.3

Endomembrane System

83. What are the constituent of Endomembrane system:-

Pg-133, easy

A) Endoplasmic reticulum
B) Golgi body & E.R.
C) E.R; Golgi body; Lysosome & Vacuole.
D) E.R, Golgi body & Lysosome.

84. Why Mitochondria, Chloroplast & Peroxisome are not the part of Endo – system:-

Pg-133, easy

A) They are autonomous organelles.
B) They are semi – autonomous organelles.
C) They are not coordinated with Endomembrane system.
D) They have their own genetic material.

85. Which of the following is the network of tiny-tubular structure scattered in cytoplasm:-

Pg-133, easy

A) E.R B) Golgi body
C) Lysosome D) Vacuole

86. Which of the following structure divides the intercellular space into two compartments:-

Pg-133, easy

A) E.R
B) Golgi body
C) Lysosome
D) None of the above

87. The extra luminal & luminal compartment represents:-

Pg-133, easy

A) Cytoplasm & inside ER
B) Inside ER & cytoplasm
C) Outside ER & cytoplasm
D) Cytoplasm & outside ER

88. The ER having Ribosomes attached to its outer surface is known as

Pg-133, easy

A) RER B) SER
C) Both D) None

89. RER is frequently observed in cells, actively involved in:-

Pg-133, easy

A) Protein Synthesis
B) Lipid synthesis
C) DNA synthesis
D) Glucose synthesis

90. Which of the following is continuous with the outer membrane of nucleus:-

Pg-133, easy

A) R.E.R B) S.E.R
C) Golgi body D) Lysosome

91. Steroidal hormones are synthesised by:-

Pg-133, easy

A) R.E.R B) Lysosome
C) S.E.R D) Ribosome

92. Golgi body was firstly observed by

Pg-133, easy

A) Camillo Golgi in 1898
B) Camillo Golgi in 1897
C) Camillo Golgi in 1895
D) Camillo Golgi in 1993.

93. Golgi body is

Pg-133, easy

i) Reticular structure.
ii) Densely stained structure
iii) Made up of cisternae, Tubule & Vesicle
iv) Concentric cisternae
A) Only (i) & (iii)
B) Only (ii), (iii) & (iv)
C) All of the above
D) Only (iii) & (iv)

94. What is the diameter of cisternae of Golgi body:-

Pg-133, easy

A) 0.5μm to 1.0μm
B) 0.1 μm to 2.0 μm
C) 0.2 μm to 2.5 μm
D) 0.3 μm to 2.0 μm

95. The convex – face of cisternae of Golgi body is also known as:-

Pg-134

i) Cis – face ii) Forming face
iii) Trans – face iv) Maturing face
A) (i) & (ii) B) (ii) & (iii)
C) (iv) & (iii) D) (i) & (iv)

96. Which of the following statement is correct:-

Pg-134, easy

A) Cis & Trans faces are same but inter connected.

B) Cis & Trans faces different & not inter connected
C) Cisternae is 0.1 to 2.0 μm in diameter.
D) None of the above

97. Golgi body principally performs the functions of:-

Pg-134, easy

A) Secretion
B) Packaging of materials.
C) Both
D) None

98. Materials to be packed in the _____Fuses with the _____face:-

Pg-134, easy

A) Cis – face and Trans – face
B) Trans – face and cis – face
C) E.R and cis – face
D) E.R and trans – face

99. A number of proteins synthesized by ribosomes on the _____(i)_____ are modified in the ____(ii)____of the ____(iii)____

Pg-134, easy

A) (i) ER (ii) Golgi body (iii) cisternae
B) (i)Golgi body (ii) cisternae (iii)ER
C) (i) cisternae (ii) RE (iii) Golgi body
D) (i) ER (ii) cisternae (iii) Golgi body

100. The vesicular structure formed by the process of packing in Golgi apparatus is:-

Pg-134, easy

A) Vacuole B) ER
C) Lysosome D) All

101. The isolated lysosomal vesicle have been found to be very rich in

Pg-134, easy

i) Lipases
ii) Proteases
iii) Carbohydrases

A) Only i) & ii) B) Only ii) & iii)
C) Only i) & iii) D) All

102. Enzymes present in lysosomes are accumulatively known as:-

Pg-134, easy

A) Acid proteases B) Lipases
C) Acid hydrolases D) Carbohydrases

103. The membrane bound space in cytoplasm is known as:-

Pg-135, easy

A) ER B) Golgi body
C) Lysosome D) Vacuole

104. Vacuole contains hydrolases; lipases; proteases; water; sap; excretory products & material not useful for the cell

Pg-135, easy

A) Only four of the above
B) Only three of the above
C) Only five of the above
D) All of them.

105. The membrane of vacuole is

Pg-134, easy

A) Single membrane B) Tonoplast
C) Both D) none

106. In a plant cell vacuole can occupy up to _____% space of cell

Pg-134, easy

A) 70 B) 80
C) 90 D) 50

107. In plant tonoplast facilitates the transport of a number of ___(i)___; ____(ii)_____ the concentration gradient.

Pg-134, easy

A) (i) Solutes (ii) Along
B) (i) ions (ii) Along
C) (i) ions (ii) against
D) (i) solutes (ii) against

108. How many of the following statements are not wrong:-

i) Concentration of same ions inside the vacuole is significantly higher.
ii) In amoeba contractile vacuole helps in osmoregulation & excretion.
iii) In Protistans, food vacuoles are formed by engulfing the food particle.

Pg-134, medium

A) Only two B) Only one
C) All three D) None

Paragraph – 8.5.4

Mitochondria

109. Which of the following statement is correct about mitochondria:-

Pg-134, medium

A) Easily visible under the microscope; without stain.
B) Number of mitochondria per cell is invariable
C) Number of mitochondria depends on the physiological activity of cell.

D) All of the above.

110. How many of the following statement is correct regarding mitochondria :-

Pg-134, medium

i) A sausage – shaped str.
ii) Diameter is 0.2 – 1.0 µm
iii) Avg. Diameter is 0.5 µm
iv) Length is 1.0 – 4.1 µm

A) One B) Two
C) Three D) Four

111. Each mitochondria is ___X_____ membrane bound structure; dividing its lumen into ____Y___ distinct compartment

Pg-135, easy

A) X→ single Y→one
B) X →double Y→one
C) X→single Y→two
D) X → double Y→two

112. Matrix of mitochondria is:-

Pg-135, easy

A) Filled with a dense homogenous substance.
B) Outer aqueous compartment
C) Space present between Inner and Outer membrane of Mitochondria
D) Present within the outer membrane of mitochondria

113. The outer membrane of mitochondria forms the ____ limiting boundary of the organelle, while the inner membrane forms a number of_____

Pg-135, easy

A) Discontinuous ; infoldings
B) Infoldings; Cristae
C) Continuous ; Cristae
D) Cistae ; Infoldings

114. Which of the following increase the surface area:-

Pg-135, easy

A) Matrix B) Inner membrane
C) Outer membrane D) Cristae

115. How many of the following statements are correct:-

Pg-135, easy

i) Only outer membrane has enzyme for ETS
ii) Only inner membrane has enzymes.
iii) Outer membrane is devoid of enzymes.
iv) Mitochondria matrix has enzyme of kerb's cycle.
v) Mitochondria is the site of aerobic respiration
vi) Matrix also possess SS – DNA molecule & few RNA molecules.

A) Only two B) Only four
C) Only five D) Only three

116. The matrix of mitochondria possess:-

Pg-135, easy

Single circular DNA molecules;
A few RNA molecules; 70s' ribosomes;
Components required for the synthesis of proteins.

A) Only two of them
B) Only three of them
C) All of them
D) None of them

117. Mitochondria divides by:-

Pg-135, easy

A) Endomitosis B) Meiosis
C) Budding D) Fission

Paragraph – 8.5.5

Plastids

118. Plastids are found in:-

Pg-135, easy

A) Only plants cells
B) Only Euglenoids
C) Both Plants and Euglenoids
D) Plants; Euglenoids & Cyanobacteria.

119. Classification of plastids are based on-

Pg-135, easy

A) Chromatophores B) Mesosomes
C) Inclusions D) Pigments

120. Which of the following is responsible for trapping of light energy

Pg-135, easy

A) Chlorophyll like a, b, c etc.
B) Carotenoids
C) Chlorophylls & carotenoids
D) Chromosomes

121. Carotenoids is group of

Pg-135, easy

A) Chlorophyll pigments
B) Chlorophylls & carotene
C) Carotenes and xanthophyll's

D) Carotenes ; xanthophyll's & other pigments.

122. Leucoplast is :-

Pg-135, easy

A) Unmodified plastids
B) Contains stored nutrients
C) Imparts colour to the plant cell
D) Imparts colour to the cyanobacteria

123. What are types of chloroplast:-

Pg-135, easy

i) Chromoplast ii) Leucoplast
iii) Amyloplast iv) Aleuroplast
v) Elaioplast
A) Three of the above
B) Four of the above
C) Five of the above
D) None of the above

124. Elaioplast contains

Pg-135, easy

A) Proteins and fats
B) Fats and starch
C) Fats and oils
D) Fats ; Protein and oils.

125. Aleuroplast contains

Pg-136, easy

A) Proteins and fats
B) Fats and oils
C) Proteins & starch
D) Protein only

126. Majority of chloroplast of the green plants are found in :-

Pg-136, easy

A) Mesophyll cells of roots
B) Mesophyll cells of stems
C) Mesophyll cells of leaves
D) Mesophyll cells of flowers.

127. Mesophyll cells are:-

Pg-136, easy

A) Lens – shaped; Oval; Spherical only
B) Oval &spherical only
C) Discoidal & ribbon – shaped
D) None of them

128. What is dimension of chloroplast :-

Pg-136, easy

A) Length 2 – 4 μm & width 5 – 10 μm
B) Length 1 – 2 μm & width 2 – 4 μm
C) Length 5 – 10 μm & width 2 – 4 μm
D) Length 2 – 4 μm & width 1 – 2 μm

129. Number of chloroplast per cell may vary from_____ per cell of chlamydomonas to _____ per cell in mesophylls.

Pg-136, easy

A) 20 – 40; 1 – 5
B) 1 ; 20 – 40
C) 10 – 20; 20 – 40
D) 5; 10 – 20

130. Common features of mitochondria & chloroplasts are :-

Pg-136, easy

A) Number of membrane & type of DNA molecules only
B) Number of membrane; Ribosomes type and DNA molecule type
C) Types of thylakoid & genetic material.
D) Types of thylakoid, genetic material and permeability of membrane.

131. What are types of thylakoid inside the chloroplast:-

Pg-136, easy

A) Intergranal thylakoid and stroma lamellae
B) Granum thylakoid only
C) Stroma thylakoid only
D) None of the above

132. Flat membranous tubules connecting the thylakoids in chloroplast is known as:-

Pg-136, easy

A) Granal thylakoid
B) Grama
C) Stroma thylakoid / lamellae
D) All of the above

133. The membrane of chloroplast encloses a space known as:-

Pg-136, easy

A) Matrix B) Cytoplasm
C) Lumen D) All of them

134. The stroma of chloroplast contains:-

Pg-136, easy

(i) Enzyme for carbohydrate & proteins synthesis.
(ii) Small single stranded DNA molecule.
(iii) Ribosomes of 70's type.
A) Only one the above
B) Only two of the above
C) Only three of the above
D) None of the above

135. Chlorophyll pigments are present in the:-

Pg-136, easy

A) Matrix B) Stroma
C) Membrane D) Thylakoid

136. The ribosomes of chloroplast are:-

Pg-136, easy

A) Same as Eukaryotic cell
B) 70's type with single subunit
C) 70's type with two subunits
D) All of the above

Paragraph – 8.5.6

Ribosomes

137. Which of the following statements are true regarding ribosomes :-

Pg-136, easy

i) Granular structure
ii) First observed as dense particles by George Palade in 1953
iii) Composed of m – RNA & proteins.
iv) Surrounded by a single unit membrane

A) Two of them B) Three of them
C) All of them D) Only one of them

138. What are the types of Ribosomes in a Prokaryotic and Eukaryotic cell.

Pg-136, easy

A) 70s' and 80s' B) 80s' and 70s'
C) 70s' and 70s' D) 80s' and 80s'

139. How many subunits are presents in a ribosome

Pg-136, easy

A) Two; one large and one smaller subunits
B) Three; two large and one smaller subunits
C) Only one subunits
D) Three; one large and two smaller subunits.

140. Subunits 50s' and 30s' are found in

Pg-136, easy

A) 60s' type B) 70s' type
C) 80s' type D) 90s' type

141. What is sedimentation co-efficient

Pg-136, easy

A) Svedberg unit
B) Measurement of density
C) Measurement of size
D) All of these

142. What type of ribosome are found in Eukaryotic cell

Pg-136, easy

A) 70s' type only
B) 80s' type only
C) Both 70s' and 80s' type
D) 70s' ; 80s' & 60s' type

Paragraph – 8.5.7

Cytoskeleton

143. Cytoskeleton refers to the :-

Pg-136, easy

A) Cilia and flagella only
B) Network of filamentous proteinaecious structure
C) Microtubules only
D) Both (A) & (C)

144. Microtubules; microfilaments & intermediate filaments are constituents of:-

Pg-136, easy

A) Ribosomes B) Central sheath
C) Cytoskeleton D) Cytolamellae

145. Cytoskeleton in a cell is involved in functions like

Pg-136, easy

A) Mechanical supports
B) Motility
C) Maintenance of the shape of cell
D) All of the above

Paragraph – 8.5.8

Cilia and Flagella

146. Which of the following statements in untrue:-

Pg-137, easy

A) Cilia and flagella are hair like outgrowth
B) Cilia are small and works like oars.
C) Flagella are longer and responsible for cell movement.
D) None of them

147. Statement – (I): both eukaryotic and prokaryotic cells contains flagella.
Statement – (II): eukaryotic flagella are structurally different from prokaryotic flagella.

Pg-137, easy

A) Both statements are correct
B) Both statements are not correct
C) Statement – (I) is correct but statement – (II) is wrong
D) Statement – (I) is wrong but statement – (II) is correct

148. The core of cilia and flagella is known as
Pg-137, easy
A) Central sheath
B) Central microtubule
C) Axoneme
D) Bridge

149. The microtubules in the cilia and flagella:-
Pg-137, easy
A) Runs parallel to each other.
B) Forms the axoneme and outer membrane
C) Both (A) & (B)
D) Arranged centrally only

150. What is arrangement of microtubules in the cilium and flagellum
Pg-137, easy
A) 9 – peripheral & 3 – central
B) Two – peripheral & 9 – central
C) 9 – peripheral & two central
D) All peripheral

151. The central sheath is:-
Pg-137, easy
A) Connected to inter doublet bridges
B) Encloses peripheral doublets
C) Connected to peripheral microtubules
D) All of the above

152. Which of the following statement regarding cilia and flagella are not correct:-
Pg-137, easy
A) Peripheral doublets are inter connected by linker
B) Linker are also known as inter doublet bridge
C) Both emerges out from a centriole like structure
D) Linker are also known as basal body

Paragraph 8.5.9

Centrosome and centrioles

153. Centrosome and centrioles can be found in:-
Pg-137, easy
A) Animal cells only
B) Plant cells only
C) Both animal & plant cells
D) In plant & Bacterial cells

154. Centrioles in the centrosome are:-
Pg-137, easy
A) Parallely arranged to each other
B) Perpendicularly arranged to each other
C) Arranged like a cart wheel
D) Made up of triplets of centrally arranged microtubules

155. The basal body of centriole has micro tubular arrangement of:-
Pg-137, easy
A) 9 + 0 B) 9 + 2
C) 9 + 3 D) 3 + 9

156. The central part of the proximal region of the centriole is:-
Pg-137, easy
A) Known as radial spoke
B) Known as a central hub
C) Connected to the peripheral doublets
D) All of the above

157. The structure that give rise to the spindle fibers during cell division in animal cell is:-
Pg-137, easy
A) Cilia B) Flagella
C) Both D) Centriole

Paragraph 8.5.10

Nucleus

158. i) Nucleus as an organelle was first described by Robert brown
ii) Stained by the basic dyes, the material is known as chromatin by Robert brown
iii) Double membrane bound structure
How many of the above statement are not true about the nucleus & its material:-
Pg 138, easy
A) Only one B) Only two
C) Only three D) Only four

159. The nucleus has highly extended and elaborate nucleoprotein fibers known as:-
Pg 138, easy
A) Nucleoli B) Chromosome
C) Chromatin D) Nuclear matrix

160. The contents of an inter phase nucleus are:-

Pg 137, easy

Nucleoli ; chromatin ; nuclear matrix; two membranes

A) Only two of the above
B) Only three of the above
C) Only four of the above
D) Only of the above

161. What forms the barrier between the cytoplasmic content and nuclear matrix:-

Pg 137, easy

A) The outer membrane only
B) The inner membrane only
C) The perinuclear space
D) All of the above

162. i) The outer membrane of nucleus is continuous with rest of the cellular organelles

Pg 138, easy

ii) The inner membrane is continuous with E.R

iii) Their are interruption known as pores present in outer membrane of nucleus

iv) Pores are formed by the fusion of both of the membranes.

How many of the above statements are incorrect:-

A) 2 B) 1
C) 3 D) 4

163. The nuclear pores facilitates :-

Pg 138, easy

A) Movement of RNA & protein molecules in only one direction
B) Only proteins in both direction
C) Proteins in one direction & RNA in both directions
D) None of the these

164. Few of the mature cells have no any nucleus:-

Pg 138, easy

A) Their function are not specific
B) Are dead cells with cytoplasm
C) Their function are controlled by some another cells.
D) All of the above

165. Statement – (I): The nucleus per cell varies per cell.

Statement – (II): Normally there is only one nucleus per cell.

Pg 138, medium

A) Both (I) & (II) are true & (II) is correct explanation of (I)
B) Both (I) & (II) are true but (II) is not the correct explanation of (I)
C) (II) is wrong but (I) is true.
D) (I) is wrong but (II) is true.

166. The nucleus matrix contains:-

Pg 138, easy

A) Nucleoplasm and chromatin
B) Nucleoplasm, Chromatin and Mitochondria
C) Nucleoplasm, chromatin &E.R
D) None of the above

167. What is not true about the nucleolus:-

Pg 138, easy

A) Spherical structure present in the nucleoplasm ‘
B) Membrane less structure.
C) Also known as Ribosomal factory of the cell.
D) None of the above

168. At which phase of cell cycle the nucleolus has a loose and indistinct network of nucleoprotein fibers known as chromatin:-

Pg 138, easy

A) Prophase B) Anaphase
C) Interphase D) Metaphase

169. Cell show structured chromosome during:-

Pg 139, easy

A) All phases except anaphase
B) All phases except metaphase
C) All phases except Inter phase
D) All phases except m – phase

170. Chromatin contains

Pg 139, easy

A) Histones; Non – histones & RNA
B) Histones & non – histone proteins only
C) DNA & some basic proteins
D) Both (A) & (C)

171. A human cell has approximately _____ meters long thread of DNA, distributed among its _____ chromosomes:-

Pg 139, easy

A) 4; 46 B) 2; 46
C) 4; 23 D) 2; 23

172. Each chromosome

Pg 139, easy

A) Has primary constriction
B) Is visible only in dividing cells.
C) Has disc shaped structure known as kinetochore
D) All of the above

173. Function of centriole is:

Pg 139, easy

A) Provides site of attachment to the spindle fibers on chromosome
B) Holds two chromatids of a chromosome
C) Both (A) & (B)
D) None

174. What is type of chromosome having a middle centromere:-

Pg 139, easy

A) Metacentric B) Sub – metacentric
C) Acrocentric D) Telocentric

175. What is the type of chromosome having its centromere near the telomere

Pg 139, easy

A) Metacentric B) Sub – metacentric
C) Telocentric D) Acrocentric

176. Chromosomes having centromere slightly away from the middle is:-

Pg 139, easy

A) Metacentric B) Sub – metacentric
C) Telocentric D) Acrocentric

177. Chromosome having one long and one short arm are:-

Pg 139, easy

A) Metacentric & sub – metacentric
B) Sub – metacentric & acrocentric
C) Acrocentric & telocentric
D) Telocentric & metacentric

178. A non – staining is present on a few chromosome

A) Secondary constriction or centromere
B) Satellite or centromere
C) Secondary constriction or satellite
D) None of the above

Paragraph – 8.5.11

Micro bodies

179. Membrane bound minute vesicles containing enzymes are known as:-

Pg 140, easy

A) Chloroplast B) Mitochondria
C) Ribosomes D) Micro bodies

ANSWER KEY

CELL THE UNIT OF LIFE

Q	01	02	03	04	05	06	07	08	09	10
Ans	C	C	D	C	B	A	D	D	A	A
Q	11	12	13	14	15	16	17	18	19	20
Ans	A	C	D	A	C	A	A	C	D	B
Q	21	22	23	24	25	26	27	28	29	30
Ans	D	C	D	B	C	D	B	D	B	C
Q	31	32	33	34	35	36	37	38	39	40
Ans	A	B	A	C	D	D	D	C	C	B
Q	41	42	43	44	45	46	47	48	49	50
Ans	C	D	D	D	D	C	C	C	C	C
Q	51	52	53	54	55	56	57	58	59	60
Ans	A	C	D	C	D	A	C	A	C	A
Q	61	62	63	64	65	66	67	68	69	70
Ans	A	A	A	D	C	A	A	D	B	A
Q	71	72	73	74	75	76	77	78	79	80
Ans	D	D	C	B	B	D	C	C	A	D
Q	81	82	83	84	85	86	87	88	89	90
Ans	A	D	C	C	A	A	A	A	A	A
Q	91	92	93	94	95	96	97	98	99	100
Ans	C	A	C	A	A	B	B	C	D	C
Q	101	102	103	104	105	106	107	108	109	110
Ans	D	C	D	A	C	C	C	C	C	D
Q	111	112	113	114	115	116	117	118	119	120
Ans	D	B	C	D	A	C	D	C	D	C
Q	121	122	123	124	125	126	127	128	129	130
Ans	D	B	D	C	D	C	D	C	B	B
Q	131	132	133	134	135	136	137	138	139	140
Ans	A	C	C	A	D	C	B	A	A	B
Q	141	142	143	144	145	146	147	148	149	150
Ans	D	B	B	C	D	D	A	C	A	C
Q	151	152	153	154	155	156	157	158	159	160
Ans	C	D	C	B	A	B	D	A	C	C
Q	161	162	163	164	165	166	167	168	169	170
Ans	D	B	D	C	B	A	D	C	C	D
Q	171	172	173	174	175	176	177	178	179	
Ans	B	D	C	A	C	B	C	C	D	