Yakeen NEET 2.0 2026

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Cell - The Unit of Life

Practice Sheet - 01

1. Which of the following is not a part of cytoskeleton?
(1) Microtubule
(2) Microfilament
(3) Intermediate filament
(4) Microfibril

2. Select the incorrect statement w.r.t. prokaryotic cells
(1) Cytoplasm lacks membrane bound organelles
(2) Sap vacuoles are absent
(3) Chromosome possesses acidic protein i.e., polyamine
(4) Lack streaming movement of cytoplasm

3. In prokaryotes, ribosomal RNAs
(1) As well as proteins are synthesized in cytoplasm
(2) Are synthesized in the nucleolus while proteins in cytoplasm
(3) Are synthesized in the cytoplasm while proteins in nucleolus
(4) As well as proteins are synthesized in nucleus

4. How many microtubules are associated with the structure of centriole?
(1) 9 (2) 18
(3) 27 (4) 11

5. Granular endoplasmic reticulum is associated with which of the following functions?
(1) Synthesis of secretory as well as non-secretory proteins
(2) Synthesis of non-secretory proteins
(3) Synthesis of steroidal hormones
(4) Synthesis of secretory proteins

6. Which of the following feature is common in all types of plastids?
(1) Double membrane
(2) Presence of chlorophyll
(3) Storage nature
(4) Presence of linear DNA

7. A nuclear pore allows
(1) Unidirectional movement of DNA
(2) RNA movement only
(3) RNA and protein movement
(4) Protein movement only

8. Disc shaped proteinaceous structure attached to centromere of a chromosome is called
(1) Chromocentre
(2) NOR
(3) Chromomere
(4) Kinetochore

9. Which of the following cell structure is made by NOR?
(1) Aleuroplast (2) Nucleolous
(3) Sphaerosome (4) Rough ER

10. Fluidity of the cell membrane is measured
(1) On the amount of cholesterol and protein in membrane
(2) On the amount of carbohydrate in membrane
(3) On the lateral movement of proteins within the overall bilayer
(4) On the flip-flop movement of protein

11. The content of nucleolus is continuous with nucleoplasm
(1) Through microtubules
(2) Through nuclear pores
(3) Due to lack of membrane
(4) Due to presence of channels in membrane

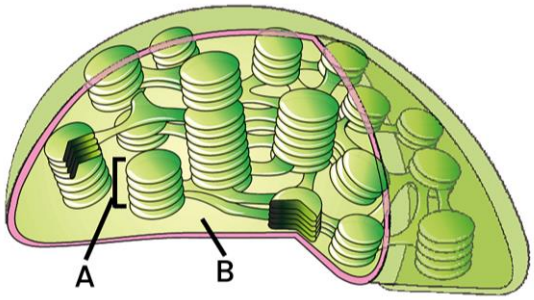
12. The part of chromosome beyond secondary constriction is known as
(1) Chromomere
(2) Satellite
(3) Kinetochore
(4) Centromere

13. Which of the following cell organelle is associated with muscles constriction by release and uptake of Ca^{++} ions?
(1) Vacuole (2) Endoplasmic reticulum
(3) Golgi complex (4) Microtubules

14. How many radial spokes and microtubules are found in an axoneme of a eukaryotic flagellum respectively?
(1) 9 and 20 (2) 9 and 18
(3) 18 and 18 (4) 18 and 20

15. How many microtubules are present in the axoneme part of eukaryotic flagellum?
(1) 9 (2) 27
(3) 18 (4) 20

16. For the sectional view of chloroplast which is given below. Choose the correct statement



(1) Envelope possess fully permeable membranes
(2) 'B' possess the enzymes required for protein and carbohydrate synthesis
(3) 'A' structure giving piles of coins like appearance is the site of C_3 cycle
(4) 'A' Possess ribosomes, large ss circular DNA

17. Ribosomes attach to ER by its
(1) 50 S subunit
(2) 60 S subunit
(3) 40 S subunit
(4) 30 S subunit

18. Naked DNA is found in
(1) Chloroplast and leucoplast only
(2) Leucoplast and chromoplast only
(3) Chloroplast and chromoplast only
(4) All plastids

19. The outer as well as inner membrane of mitochondria
(1) Form a number of infoldings towards the matrix
(2) Both have similar amount of cardiolipin
(3) Have more lipids than proteins
(4) Have their own specific enzymes

20. Which of the following sequence is correct w.r.t. size?
(1) Eukaryotic cell > PPLO > Viruses > Bacteria
(2) Eukaryotic cell > Bacteria > PPLO > Viruses
(3) Eukaryotic cell > PPLO > Bacteria > Viruses
(4) Eukaryotic cell > Viruses > PPLO > Bacteria

21. Both cilium and flagellum arise from the part which is structurally similar to
(1) Centriole (2) Kinetochore
(3) Kinetosome (4) Centrosphere

22. Read the statements carefully and select the set of correct statements
a. Palade particles are found in all cellular organisms
b. A membrane bound structure in nucleus is the site of ribosomal RNA synthesis
c. The mitochondria can divide meiotically to produce daughter mitochondria
d. Vacuoles can occupy about 90 % of the volume of a plant cell
(1) All except b
(2) a & c
(3) b & d
(4) a & d

23. Choose incorrect statement
(1) Leeuwenhoek first saw and described a living cell
(2) Robert Brown discovered cell
(3) Electron microscope revealed all the structural details of cell
(4) A large cell has a higher volume : surface ratio than a smaller cell

24. The lipid-like steroidal hormones are synthesized in SER among
(1) Hopanoid containing bacterial cell
(2) Plant cells
(3) Animal cells
(4) More than one option is correct

25. Match the following

	Column I		Column II
a.	Cristae	(i)	Chromatin
b.	Glycosylation	(ii)	Mitochondria
c.	Rubisco	(iii)	Chloroplast
d.	Histones	(iv)	Golgi complex

(1) a-(ii), b-(iv), c-(iii), d-(i)
(2) a-(i), b-(ii), c-(iii), d-(iv)
(3) a-(i), b-(iii), c-(iv), d-(ii)
(4) a-(iv), b-(iii), c-(ii), d-(i)

26. According to the universally accepted model of plasma membrane
(1) More extrinsic proteins are found on the outer face of membrane
(2) Extrinsic proteins show flip-flop movement
(3) Glycocalyx is exclusively present towards outer face of membrane
(4) Certain extrinsic proteins also help in transport across membrane

27. For the fluid mosaic model of membrane given by Singer and Nicolson, which of the following conditions are not associated?
(1) Lipids enable the lateral movement of proteins in the membrane
(2) Fluid nature of membrane helps in secretion
(3) Lipids can show flip flop movement from one layer of membrane to other
(4) Fluidity of membrane is mainly due to oligosaccharides

28. Single envelope system is characteristic feature of
(1) Prokaryotic cell
(2) Eukaryotic cell
(3) Mesokaryotic cell
(4) More than one option is correct

29. In typical structure of plasma membrane
a. The lipids are amphipathic
b. Proteins are arranged asymmetrically and shows flip flop movement
c. Extrinsic proteins are abundant towards cytoplasmic face
(1) All are correct
(2) Only b is incorrect
(3) Only c is correct
(4) Both a and c are incorrect

30. Ribosomes attach to endoplasmic reticulum by their
(1) 50 'S' sub-unit
(2) 60 'S' sub-unit
(3) 40 'S' sub-unit
(4) More than one option is correct

31. Which of the following is not a membrane bound cell organelle present in the cell of mango plant?
(1) Mitochondria (2) Chloroplast
(3) Ribosome (4) Centriole

32. Neutral solutes directly pass through the lipid bilayer of plasma membrane because
(1) Plasma membrane has special carrier for them
(2) They are lipid soluble
(3) They have specific hydrophilic areas for their passage
(4) They consume ATP

33. Lateral loops are uncoiled or expanded parts of lampbrush chromosome with one to several transcriptional units. These loops are made up of
(1) DNA only (2) m-RNA only
(3) Protein only (4) DNA + mRNA + protein

34. Why concentration of number of ions and other materials is higher in vacuole than cytoplasm?
(1) Vacuolar membrane is permeable for all substances
(2) Tonoplast facilitates transport against concentration gradient
(3) Vacuole is non-membrane structure
(4) Vacuoles store and synthesize ATP to absorb ions and materials

35. The central part of proximal region of centriole is connected with peripheral triplets by radial spokes. These spokes are made up of
(1) Protein
(2) Fatty acid
(3) Oligosaccharide
(4) Phospholipid

36. Mitochondrial DNA is
(1) With high A-T content
(2) With high G-C content
(3) With low G-C content
(4) Linear DNA with A-T/G-C ratio equal to one

37. Which of the following structure in a chromosome can be used as a marker?
(1) Telomere
(2) Satellite
(3) Chromocentre
(4) Kinetochore

38. Which one is not a function of nucleolus?
(1) Synthesis of 28S-rRNA
(2) Synthesis of 23S-rRNA
(3) Synthesis of 5.8S-rRNA
(4) Synthesis of 18S-rRNA

39. Find the incorrect statement with respect to centrosome
(1) A centrosome contains two centrioles
(2) It is surrounded by centrosphere or kinoplasm
(3) Centrioles are not surrounded by any membrane
(4) The arrangement of microtubules is 9+2

40. How many chromosomes in human beings have NOR?
(1) 20 pairs
(2) 15 pairs
(3) 5 pairs
(4) 1 pairs

41. Match the columns and select the correct option

	Column-I		**Column-II**
A.	Protects the cell from loss of water and nutrients	(i)	Pili
B.	Involved in mating Process	(ii)	Slime layer
C.	Small bristle like fibres for attachment to a substratum	(iii)	Capsule
D.	Thick and tough covering	(iv)	Fimbriae

(1) A=(iii), B=(ii), C=(i), D=(iv)
(2) A=(ii), B=(i), C=(iv), D=(iii)
(3) A=(iii), B=(i), C=(ii), D=(iv)
(4) A=(i), B=(ii), C=(iii), D=(iv)

42. Which of the following statement is correct ?
(1) The plasma membrane is highly impermeable to all charged molecules
(2) Ion channels can transport any ion and thus not specific
(3) Aquaporins are special transmembrane protein for movement of water molecules
(4) Na^+ / K^+ pumps can operate passively also

43. Match the columns and find the correct option.

	Column-I		**Column-II**
(A)	Nuclear pore	(i)	Packaging of materials
(B)	Nucleolus	(ii)	Transport of materials against concentration gradient
(C)	Golgi complexes	(iii)	RNA synthesis
(D)	Tonoplast	(iv)	Transport of proteins and RNA

(1) A-(iii), B-(iv), C-(ii), D-(i)
(2) A-(iv), B-(iii), C-(ii), D-(i)
(3) A-(iv), B-(iii), C-(i), D-(ii)
(4) A-(iv), B-(i), C-(ii), D-(iii)

44. Select the incorrect statement with respect to nucleus
(1) Interphase nucleus has high extended and diffused chromatin
(2) Double membranous
(3) Nuclear pore complex allows the movement of RNA and protein in both directions of nucleus
(4) Nucleolus of nucleus is single membranous

45. Which of the following layer in the bacterial cell envelope helps the bacterial cell to hide from host's immune system?
(1) Cell wall
(2) Cell membrane
(3) Capsule
(4) Both (1) and (2)

46. Ribosome is made up of
(1) rRNA and protein
(2) rRNA, mRNA and protein
(3) mRNA and protein
(4) rRNA, t-RNA and protein

47. The 30S smaller subunit of 70 S ribosome has
(1) 5 S rRNA
(2) 5.8 S rRNA
(3) 16 S rRNA
(4) 23 S rRNA

48. Chromosome which appears to have a single arm is
(1) Metacentric (2) Acrocentric
(3) Telocentric (4) Sub-metacentric

49. Choose the correct combination

	Structure	**Origin**	**Function**
(1)	Ribosome	Nucleus	Lipid and protein synthesis
(2)	Lysosome	Endosplasmic reticulum	Packaging
(3)	Nucleolus	Ribosome	Packaging
(4)	Ribosome	Nucleolus	Protein synthesis

50. Identify A, B and C on the basis of the following features given below.
A- Outermost cell wall
B- Organelle within an organelle
C- Organelle with cart wheel like organisation
(1) A - Secondary wall, B - Mitochondria, C - Centriole
(2) A - Primary wall, B - Ribosome, C - Centriole
(3) A - Primary wall, B - Mitochondria, C - Centromere
(4) A - Middle lamella, B - Chloroplast, C - Cytoskeleton

51. Match the column I with column II and select the correct option

	Column - I		**Column - II**
A.	Binucleate cell	(i)	Mature sieve tube cells
B.	Multinucleate cell	(ii)	Opalina
C.	Anucleate cell	(iii)	Paramoecium
		(iv)	Mammalian RBCs

(1) A-i, B-ii, C-iv
(2) A-iii, B-ii, C-i
(3) A-iii, B-i, C-iv
(4) A-iv, B-ii, C-i

52. Choose the correct match type
(1) F_0 - F_1 particle - Oxysome
(2) Power house of the cell - Fully autonomous
(3) Polymorphic cell organelle - Golgi body
(4) Organelle with cartwheel like organization - Centromere

53. Choose the correct statement
(1) Mitochondrial DNA has high G ≡ C content
(2) Mltochondria performs photophosphorylation
(3) The number of mitochodria is fixed in all types of cells
(4) Ribosomes are 80S type

54. Which of following structures is not a part of eukaryotic ribosome ?
(1) 28 S rRNA
(2) 18 S rRNA
(3) 23 S rRNA
(4) 5 S rRNA

55. How many structures given in box are not associated with eukaryotic cell?
A. Double envelope system
B. Gas vacuoles
C. Lack of membrane bound organelles
D. Mesosomes
E. Glycocalyx
(1) One (2) Three
(3) Four (4) Zero

56. Read the given statements and choose the correct option
A. Chloroplasts may convert into chromoplasts
B. Chloroplasts possess both chlorophyll and carotenoids
(1) Only statement A is correct
(2) Only statement B is correct
(3) Both statements A and B are correct
(4) Both statements A and B are incorrect

57. Choose the incorrect combination
(1) Lampbrush chromosome - Primary oocyte nuclei of vertebrates
(2) Lampbrush chromosome - Primary oocyte nuclei of invertebrates
(3) Polytene chromosome - Salivary gland cells of order diptera
(4) Polytene chromosome - Salivary gland cells of all arthropods

58. Choose odd one w.r.t. cell envelope of a bacterial cell
(1) It is tightly bound three-layered structure
(2) It includes glycocalyx(innermost), cell membrane and cell wall(outermost)
(3) Glycocalyx is coating of mucous or polysaccharides
(4) It differs in thickness from bacteria to bacteria

59. Match the given column

	Column I		Column II
(A)	Thylakoid	(i)	Infolding in mitochondria
(B)	Leucoplast	(ii)	Colourless plastid
(C)	Cristae	(iii)	Hollow unbranched non contractile cytoskeleton
(D)	Microtubule	(iv)	Flat membranous sac for light reaction of photosynthesis

(1) A-(iv), B-(ii), C-(i), D-(iii)
(2) A-(iv), B-(ii), C-(iii), D-(i)
(3) A-(i), B-(ii), C-(iii), D-(iv)
(4) A-(ii), B-(i), C-(iii), D-(iv)

60. Read the given statements (A) and (B) and select the correct option
Statement A : Telomere seals the end of chromosomes
Statement B : NOR is found in all chromosomes of humans
(1) Only statement A is correct
(2) Only Statement B is correct
(3) Both A and B are correct
(4) Both A and B are incorrect

61. Choose the incorrect statement
(1) The invention of the microscope and its improvement leading to the electron microscope revealed all the structural details of the cell.
(2) Robert Hooke first saw and described the live cell.
(3) The inanimate thing does not have a cell that a living thing has.
(4) Unicellular organisms are composed of one cell while multicellular organisms are composed of many cells.

62. Choose the incorrect statement
(1) Theodore Schwann is a German Botanist while Matthias Schleiden is a British Zoologist.
(2) Schwann concluded the cell wall to be a unique character of the plant cell.
(3) Schleiden reported that cells have a thin outer layer which is today called the plasma membrane.
(4) Cell theory formulated by Schleiden and Schwann could not explain how new cells were formed.

63. Choose the incorrect statement
(1) All living organisms are composed of cells and product of cells
(2) Omnis cellula e cellula was the modification of cell theory proposed by Rudolf Virchow.
(3) Cell theory does not hold good because all organisms do not have cellular organization.
(4) Modified cell theory means that all living beings are composed of cells capable of reproducing.

64. **Assertion:** The cells of a human cheek cell have an outer membrane as the delimiting structure of the cell.
Reason: Cell wall is absent in animal cells
(1) If both Assertion and Reason are true and Reason is the correct explanation of Assertion.
(2) If both Assertion and Reason are true but reason is not the correct explanation of Assertion.
(3) If Assertion is true but Reason is false.
(4) If both Assertion and Reason are false.

65. How many statements are correct?
(a) The onion cell has a distinct cell membrane as its outer boundary.
(b) The nucleus contains chromosomes, which in turn contains genetic material.
(c) In both prokaryotic and eukaryotic cells, a semi-fluid matrix occupies volume of the cell
(d) All cells have a dense membrane bound structure called nucleus.
(e) Besides the nucleus, all cells have membrane bound distinct structures called organelles.
(1) 1 (2) 2
(3) 3 (4) 4

66. Match the following

(a)	Ribosome.	(1)	Cell division
(b)	Centrosome.	(2)	membrane bound
(c)	Microbodies.	(3)	non membrane bound
(d)	Prokaryotic	(4)	membrane bound nucleus
(e)	Eukaryotic	(5)	devoid of nucleus

(1) a-3, b-2, c-1, d-5, e-4
(2) a-1, b-2, c-3, d-4, e-5
(3) a-3, b-1, c-2, d-5, e-4
(4) a-5, b-3, c-4, d-2, e-1

67. Different cells have different sizes. Arrange the following in ascending order of their size. Choose the correct option among the following.
(a) Mycoplasma (b) Ostrich egg
(c) Human RBC (d) Bacteria
(1) a, d, c, b (2) a, c, d, b
(3) b, a, c, d (4) c, b, a, d

68. **Assertion:** Cells may be disc-shaped, polygonal, columnar, cuboid, thread-Like or even irregular.
Reason: The shape of the cell may vary with the function they perform.
(1) If both Assertion and Reason are true and Reason is the correct explanation of Assertion.
(2) If both Assertion and Reason are true but reason is not the correct explanation of Assertion.
(3) If Assertion is true but Reason is false.
(4) If both Assertion and Reason are false.

69. Which of the following features is common to both prokaryotes and eukaryotes?
(1) Membrane bound subcellular organelles
(2) Cell wall
(3) Plasma membrane
(4) Nuclear membrane

70. **Assertion:** Cytoplasm is the main arena of cellular activities in both plant and animal cells .
Reason: Various chemical reactions take place in cytoplasm to keep the cell in living state.
(1) If both Assertion and Reason are true and Reason is the correct explanation of Assertion.
(2) If both Assertion and Reason are true but reason is not the correct explanation of Assertion.
(3) If Assertion is true but Reason is false.
(4) If both Assertion and Reason are false.

71. Which of the following is correct about prokaryotic cells?
(1) The organization of prokaryotic cells is fundamentally similar even though prokaryotes exhibit variety of shapes and functions
(2) The four basic shapes of bacteria are : bacillus, coccus, vibrio and loci.
(3) The genetic material of prokaryotes is naked.
(4) Plasmid DNA confers unique phenotypic characteristics to bacteria.

72. How many statements are correct?

(a) The plasma membrane of prokaryotes is structurally similar to eukaryotes

(b) Glycocalyx differs in thickness and composition among different bacteria.

(c) Bacteria are divided into Gram positive and Gram negative depending on the differences in the cell envelope and the manner they respond to staining

(d) Inclusion bodies are involved in ingestion of food particles.

(e) Phosphate granules, cyanophycean granule, glycogen granule and gas vacuoles are inclusion bodies

(1) 4 (2) 5

(3) 2 (4) 3

73. Match the following

(a)	Slime layer.	(1)	DNA replication
(b)	Capsule.	(2)	Contains pigments
(c)	Mesosomes.	(3)	Motility
(d)	Pili.	(4)	conjugation
(e)	Fimbriae.	(5)	loose sheath
(f)	Chromatophores	(6)	bristle Like
(g)	Flagella	(7)	Tough

(1) a: 6, b: 4, c: 5, d:1, e: 2, f: 3, g:7

(2) a: 5, b: 7, c:1, d: 4, e: 6, f: 2, g: 3

(3) a: 2, b: 3, c: 6, d:7, e:1, f: 4, g: 5

(4) a: 7, b: 6, c:2, d: 3, e: 5, f: 1, g: 4

74. How many statements are incorrect?

(a) Cell wall prevents the bacteria from bursting or collapsing

(b) Mesosomes help in cell wall formation, respiration and secretion process

(c) The filament is the longest portion of flagella.

(d) Pili are elongated tubular structures made of special protein

(e) DNA in bacteria is always linear.

(1) 5

(2) 4

(3) 3

(4) 2

75. Which of the following is incorrect about the inclusion body?

(1) They are not bound by any membrane

(2) These are involved in ingestion of food particles

(3) They lie freely in the cytoplasm

(4) These represent reserve material in cytoplasm

76. **Assertion:** There is extensive compartmentalisation of cytoplasm in eukaryotes.

Reason: Membrane bound organelles are seen in eukaryotes.

(1) If both Assertion and Reason are true and Reason is the correct explanation of Assertion.

(2) If both Assertion and Reason are true but reason is not the correct explanation of Assertion.

(3) If Assertion is true but Reason is false.

(4) If both Assertion and Reason are false.

77. Which of the following is not true about eukaryotic cells?

(1) The eukaryotic cells have a variety of complex locomotor and cytoskeletal structures

(2) The genetic material is organized into chromosomes

(3) All eukaryotic cells are identical

(4) Eukaryotic cells possess an organized nucleus with a nuclear envelope.

78. Which of the following is correct about cell membrane?

(a) The detailed structure of cell membrane was studied after the advent of light microscopy.

(b) The membrane of erythrocyte has approximately 52 percent protein and 40 percent lipids

(c) Depending upon ease of extraction, membrane proteins can be classified as integral and peripheral.

(d) The Fluid mosaic model was proposed by Singer and Nicolsan.

(e) Proteins make up 60-70 percent of cell membrane.

(1) b, e, d and c (2) b, c and d

(3) b, c, d and a (4) All are correct

79. **Assertion:** The nonpolar tail of saturated hydrocarbons is protected from aqueous environment
Reason: The lipids are arranged within the membrane with polar heads towards the inner part while the hydrophobic tails towards the outer part.
(1) If both Assertion and Reason are true and Reason is the correct explanation of Assertion.
(2) If both Assertion and Reason are true but reason is not the correct explanation of Assertion.
(3) If Assertion is true but Reason is false.
(4) If both Assertion and Reason are false.

80. How many of the following are incorrect?
(a) Sodium-Potassium pumps move across cell membrane by passive transport
(b) The quasi-fluid nature of lipid enables lateral movement of proteins within lipid bilayer
(c) Polar solutes require carrier protein to facilitate their transport across the membrane
(d) Both facilitated diffusion and active transport are energy dependent processes
(e) Neutral solutes may move across the membrane by simple diffusion.
(1) 1 (2) 3
(3) 4 (4) 2

81. **Assertion:** Facilitated diffusion is an energy dependent process
Reason: Facilitated diffusion takes place against the concentration gradient.
(1) If both Assertion and Reason are true and Reason is the correct explanation of Assertion.
(2) If both Assertion and Reason are true but reason is not the correct explanation of Assertion.
(3) If Assertion is true but Reason is false.
(4) If both Assertion and Reason are false.

82. Which of the following is not a function of the cell wall?
(1) Cell wall provides shape to the cell
(2) Cell wall protects the cell from mechanical damage and infection
(3) Cell wall helps in cell to cell interaction and provides barrier to undesirable molecules
(4) Cell wall helps on endocytosis, secretion and cell growth

83. Choose the incorrect statement
(1) The cell wall and middle lamellae may be traversed by plasmodesmata which connect the cytoplasm of neighboring cells
(2) The middle lamellae is a layer of calcium pectate which glues the different neighboring cells together.
(3) Primary cell wall is not capable of growth which gradually diminishes as the cell matures.
(4) Algal cell wall is made of cellulose, galactans, mannans and calcium carbonate

84. **Assertion:** Mitochondria, chloroplast and peroxisomes are not a part of the endomembrane system.
Reason: Functions of mitochondria, chloroplasts and peroxisomes are not coordinated.
(1) If both Assertion and Reason are true and Reason is the correct explanation of Assertion.
(2) If both Assertion and Reason are true but reason is not the correct explanation of Assertion.
(3) If Assertion is true but Reason is false.
(4) If both Assertion and Reason are false.

85. Match the following

a.	Golgi body	1.	Synthesis of protein
b.	Lysosomes	2.	Trap waste and excretory product
c.	Vacuole	3.	Formation of glycoprotein & glycolipid
d.	Ribosomes	4.	Digesting biomolecules

(1) a: 3, b: 4, c: 2, d: 1
(2) a: 4, b: 3, c: 1, d: 2
(3) a: 1, b: 2, c: 3, d: 4
(4) a: 4, b: 3, c: 2, d: 1

86. Select the mismatched pair
(a) Rough ER - Synthesis of glycogen
(b) Smooth ER - Synthesis of lipid
(c) Gas vacuole - Green bacteria
(d) Protists - Eukaryotes
(e) Large central vacuole - Animal cells
(1) a and e (2) Only a
(3) a and d (4) a, d and e

87. Which of the following is incorrect?
(1) ER divides the intracellular space into two distinct compartments- luminal and extra luminal compartment
(2) In animal cells, lipid like steroidal hormones are synthesized in SER
(3) Rough ER are extensive and continuous with the outer membrane of nucleus
(4) Rough ER helps in oxidation of fatty acids as well as synthesis of proteins

88. Which is incorrect about the Golgi body?
(a) It plays a major role in post translational modification of proteins and glycosylation of lipids.
(b) Golgi body was discovered by Camilio Golgi
(c) Golgi body is the packaging center of the cell.
(d) The cisternae are concentrically arranged near the nucleus with distinct convex cis faces and concave trans faces.
(e) Cis and trans face are entirely different and are not connected.
(1) a and d (2) e and d
(3) a, e and d (4) Only e

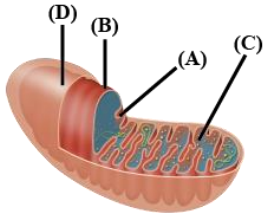
89. **Assertion:** Golgi body is in close association with ER.
Reason: Materials to be packaged in form of vesicle from the ER fuse with the cis face of Golgi apparatus and move towards maturing face.
(1) If both Assertion and Reason are true and Reason is the correct explanation of Assertion.
(2) If both Assertion and Reason are true but reason is not the correct explanation of Assertion.
(3) If Assertion is true but Reason is false.
(4) If both Assertion and Reason are false.

90. **Assertion:** Lysosomes possess an acidic pH.
Reason: Lysosomes have hydrolytic enzymes which require a specific set of conditions to function.
(1) If both Assertion and Reason are true and Reason is the correct explanation of Assertion.
(2) If both Assertion and Reason are true but reason is not the correct explanation of Assertion.
(3) If Assertion is true but Reason is false.
(4) If both Assertion and Reason are false.

91. How many statements are true?
(a) Lysosomes are membrane bound vesicular structures formed by the process of packaging in Golgi apparatus.
(b) The enzymes in lysosomes can digest carbohydrates, proteins, lipids and nucleic acids.
(c) The isolated lysosomal vesicles are rich in hydrolyses of almost all types
(1) All are correct (2) None is correct
(3) 2 (4) 1

92. **Assertion:** Mitochondria and chloroplast are semi-autonomous organelle.
Reason: They are formed by division of pre-existing organelles and they contain DNA but lack protein synthesizing machinery.
(1) If both Assertion and Reason are true and Reason is the correct explanation of Assertion.
(2) If both Assertion and Reason are true but reason is not the correct explanation of Assertion.
(3) If Assertion is true but Reason is false.
(4) If both Assertion and Reason are false.

93. The figure below shows the structure of a mitochondrion with its 4 parts labeled as A, B, C and D. Select the parts correctly matched with function



(a) B- inner membrane= forms infoldings called cristae
(b) A-outer membrane = forms continuous limiting boundary of the organelle
(c) D- cristae = increase the surface area
(d) C-matrix = possess single circular DNA, 70 S ribosomes and components required for synthesis of proteins
(1) All are correct (2) c
(3) None is correct (4) a and b are correct

94. Which of the following is incorrect

(a) Mitochondria are visible under microscope without staining.

(b) The number of mitochondria depends upon the physiological activity of the cell

(c) Outer membrane of mitochondria is permeable to monomers of carbohydrates, fats and proteins

(d) Mitochondria are sites of aerobic respiration

(e) Mitochondria shows variability in shape and size.

(1) c is incorrect

(2) All are correct

(3) Only a

(4) a, b and c and e

95. Select the mismatched pair

(a) Thylakoid : Flat membranous sacs in stroma

(b) Cisternae : Infoldings of Mitochondria

(c) Chromatin: Condensed structure of DNA

(d) Lumen: Space enclosed by thylakoid membrane

(e) Stroma- enzymes required for synthesis of carbohydrates

(1) b and e

(2) b and c

(3) b and a

(4) Only b

96. Select the incorrect statement regarding plastids?

(a) Cytoplasmic ribosomes are smaller than the ribosomes in chloroplasts.

(b) Stromal lamellae connects the thylakoids of different grana.

(c) Outer membrane of chloroplast is less permeable as compared to the inner membrane.

(d) A single chloroplast is seen in the chlamydomonas.

(e) Chlorophyll in chloroplasts is located in grana.

(1) a and c

(2) a, c and d

(3) Only a and e

(4) Only c

97. Match the following

(a)	Aleuroplast.	(1)	oils and fats
(b)	Chloroplast.	(2)	Potato
(c)	Amyloplasts.	(3)	Protein
(d)	Elaioplasts	(4)	Xanthophyll
(e)	Chromoplasts	(5)	Chlorophyll

(1) a: 4, b: 3, c: 2, d: 1, e: 4

(2) a: 3, b: 5, c: 1, d: 2, e: 4

(3) a: 3, b: 5, c: 2, d: 1, e: 4

(4) a: 5, b: 4, c: 3, d: 2, e: 1

98. How many statements are correct?

(a) Vacuole contains water, sap, excretory product and other materials not useful for the cell.

(b) The outer boundary of sap vacuole is called tonoplast

(c) The tonoplast facilitates transport of ions and other materials against concentration gradient into vacuole.

(d) In Protists, food vacuole is formed by engulfing food particles.

(e) Contractile vacuole is seen in lower plants and helps in osmoregulation.

(1) 4

(2) 3

(3) 2

(4) 1

99. Which of the following statements regarding cilia is not correct?

(a) Cilia contains an outer ring of nine doublet microtubules surrounding two singlet microtubules

(b) The organized beating of cilia is controlled by fluxes of calcium across membrane

(c) Cilia are hair-like cellular appendages.

(d) Microtubules of cilia are composed of tubulin

(e) Cilia is seen in prokaryotes as well as eukaryotes

(1) b

(2) b and e

(3) e

(4) All are correct

100. Select the mismatched pair
(a) Centromere- primary constriction
(b) Metacentric - two equal arms of chromosomes
(c) Acrocentric - terminal centromere
(d) Kinetochore - disc shaped
(e) Satellite - Non staining secondary constriction
(f) Sub-metacentric - L shaped
(1) f and c (2) f, c and d
(3) f, c, d and e (4) Only c

101. How many statements are incorrect?
(a) The interphase nucleus has highly extended and elaborate nucleoprotein fibers.
(b) Nuclear envelope is made of lipid and protein
(c) Less nucleoli are present in cells that actively carry out protein synthesis.
(d) Chromatin contains DNA, RNA as well as histone and non histone proteins
(e) The shorter and longer arm of a sun metacentric chromosome is called p and q arm respectively
(1) 2 (2) 3
(3) 4 (4) 1

102. How many statements are correct?
(a) Nucleus is a double membrane bound structure and was first described by Robert Brown.
(b) Perinuclear space forms a barrier between the materials inside the nucleus and cytoplasm
(c) The outer nuclear membrane remains continuous with the ER and also bears ribosomes on it.
(d) All cells have only one nucleus.
(1) 4 (2) 3
(3) 2 (4) 1

103. **Assertion:** All plastids have a similar structure
Reason: Plastids can get transformed from one type to another
(1) If both Assertion and Reason are true and Reason is the correct explanation of Assertion.
(2) If both Assertion and Reason are true but reason is not the correct explanation of Assertion.
(3) If Assertion is true but Reason is false.
(4) If both Assertion and Reason are false.

104. **Assertion:** The contents of nucleolus is continuous with rest of nucleoplasm
Reason: Nucleolus is not a membrane bound structure.
(1) If both Assertion and Reason are true and Reason is the correct explanation of Assertion.
(2) If both Assertion and Reason are true but reason is not the correct explanation of Assertion.
(3) If Assertion is true but Reason is false
(4) If both Assertion and Reason are false.

105. Which of the following is incorrect about ribosomes?
(a) Ribosomes is a non membrane bound organelle and were first discovered by George Palade
(b) Nucleolus is a site of active ribosomal RNA synthesis
(c) Polyribosomes are aggregates of several ribosomes held together by a string of mRNA.
(d) The two subunits of 80S ribosomes are 60S and 30S while that of 70S ribosomes are 50S and 20S
(e) Ribosomes are organelle within an organelle
(1) d and e
(2) Only e
(3) Only c, d and e
(4) Only d

106. Which of the following is true about cytoskeleton?
(a) They are elaborate network of proteinaceous filaments present in the cytoplasm
(b) Cytoskeleton in a cell helps to provide mechanical support
(c) Cytoskeleton helps in maintaining shape of the cell
(d) Cytoskeleton is involved in providing motility.
(1) All are correct (2) a, c and d
(3) a, b and d (4) Only a

107. Which of the following is incorrect ?
(a) In germinating seeds, fatty acids are degraded exclusively in the glyoxysomes
(b) The peptide synthesis takes place in ribosomes
(c) The osmotic expansion of a cell kept in water is chiefly regulated by vacuoles
(d) Nuclear envelope is a derivative of rough ER.

(e) Anthocyanin are non water soluble pigments found in plant cell vacuole
(f) Membrane bound minute vesicles that contain various enzymes are called microbodies.
(1) f, d and e
(2) Only d and e
(3) a, d and e
(4) Only e

108. How many statements are correct?
(a) Centriole is a non membrane bound structure.
(b) Both centrioles of a centrosome lie perpendicular to each other in which each has an organization like cartwheels.
(c) The centriole forms the basal body of cilia and flagella.
(d) Centrioles give rise to spindle fibers during cell division in animals.
(e) Nine evenly spaced peripheral fibrils of tubulin protein are seen in centrioles
(1) 4 (2) 5
(3) 3 (4) 2

109. How many statements are correct?
(a) The core of cilia and flagella is called axoneme
(b) The axoneme possesses a number of microfilaments.
(c) Flagella are comparatively smaller than cilia
(d) The prokaryotic flagella is structurally different from eukaryotic flagella
(e) Flagella are hairlike outgrowths of the cell membrane.
(1) 5 (2) 2
(3) 3 (4) 4

110. Which of the following is not true?
(1) Chloroplasts are lens shaped, oval, ribbon- Like or discoid having typical length as 5-10 micrometer and width 2-4 micrometer.
(2) Typically, mitochondria is sausage shaped or cylindrical with diameter of 0.2-1 micrometer and length of 1.0- 4.1 micrometer.
(3) The number of mitochondria per cell depends on the physiological activity of the cells.
(4) Mitochondria can not divide by fission

111. Keeping in mind the "fluid mosaic model" for the structure of cell membrane, which one of the following statements is correct with respect to the movements of lipids and proteins from one lipid monolayer to the other (described as flip -flop movement)
(1) While protein can flip-flop, lipid do not
(2) Neither lipids, nor proteins can flip-flop
(3) Both lipids and proteins can flip flop
(4) While lipids can rarely flip-flop, proteins can not

112. According to the widely accepted fluid mosaic model, cell membranes are semi fluid, where lipid and integral proteins can diffuse randomly. In recent years, this model has been modified in several respects. In this regard, which of the following is correct ?
(a) Proteins in cell membrane can travel within lipid bilayer
(b) Many proteins remain completely embedded within the lipid bilayer
(c) Protein can remain confined within certain domains of membrane
(d) Proteins can undergo flip-flop movements in lipid bilayer.
(1) All are correct
(2) a, b and c are correct
(3) a and b are correct
(4) Only c

113. From the statements given below choose the correct option: (2025)
A. The eukaryotic ribosomes are 80 S and prokaryotic ribosomes are 70S.
B. Each ribosome has two sub-units.
C. The two sub-units of 80 S ribosome are 60 S and 40 S while that of 70 S are 50 S and 30 S.
D. The two sub-units of 80 S ribosome are 60 S and 20 S and that of 70 S are 50 S and 20 S.
E. The two sub-units of 80 S are 60 S and 30 S and that of 70 S are 50 S and 30 S
(1) A, B, C are true (2) A, B, D are true
(3) A, B, E are true (4) B, D, E are true

114. Which one of the following statements refers to Reductionist Biology? (2025)

(1) Physico-chemical approach to study and understand living organisms.
(2) Physiological approach to study and understand, living organisms.
(3) Chemical approach to study and understand living organisms.
(4) Behavioural approach to study and understand living organisms.

115. Match List-I with List-II. (2025)

	List-I		List-II
A.	Centromere	I.	Mitochondrion
B.	Cilium	II.	Cell division
C.	Cristae	III.	Cell movement
D.	Cell membrane	IV.	Phospholipid Bilayer

Choose the correct answer from the options given below:

(1) A-I, B-II, C-III, D-IV
(2) A-II, B-I, C-IV, D-III
(3) A-IV, B-II, C-III, D-I
(4) A-II, B-III, C-I, D-IV

116. A specialized membranous structure in a prokaryotic cell which helps in cell wall formation, DNA replication and respiration is: (2025)

(1) Mesosome
(2) Chromatophores
(3) Cristae
(4) Endoplasmic Reticulum

117. Given below are two statements : one is labelled as Assertion (A) and the other is labelled as Reason (R).

Assertion (A): The primary function of the Golgi apparatus is to package the materials made by the endoplasmic reticulum and deliver it to intracellular targets and outside the cell.

Reason (R): Vesicles containing materials made by the endoplasmic reticulum fuse with the cis face of the Golgi apparatus, and they are modified and released from the trans face of the Golgi apparatus. In the light of the above statements, choose the correct answer from the options given below:(2025)

(1) Both A and R are true and R is the correct explanation of A
(2) Both A and R are true but R is not the correct explanation of A
(3) A is true but R is false
(4) A is false but R is true

118. Match List I with List II: (2024)

	List I		List II
A.	Axoneme	i.	Centriole
B.	Cartwheel pattern	II.	Cilia and flagella
C.	Crista	iii.	Chromosome
D.	Satellite	IV.	Mitochondria

Choose the correct answer from the options given below:

(1) A-IV, B-III, C-II, D-I
(2) A-IV, B-II, C-III, D-I
(3) A-II, B-IV, C-I, D-III
(4) A-II, B-I, C-IV, D-III

119. The DNA present in chloroplast is: (2024)

(1) Linear, double stranded
(2) Circular, double stranded
(3) Linear, single stranded
(4) Circular, single stranded

120. Match List I with List II : (2024)

	List-I		List-II
A.	Nucleolus	I.	Site of formation of glycolipid
B.	Centriole	II.	Organization like the cartwheel
C.	Leucoplasts	III.	Site for active ribosomal RNA synthesis
D.	Golgi apparatus	IV.	For storing nutrients

Choose the correct answer from the options given below:

(1) A-IV, B-III, C-II, D-I
(2) A-IV, B-II, C-III, D-I
(3) A-II, B-IV, C-I, D-III
(4) A-II, B-I, C-IV, D-III

121. Movement and accumulation of ions across a membrane against their concentration gradient can be explained by (2023)
(1) Facilitated Diffusion
(2) Passive Transport
(3) Active Transport
(4) Osmosis

122. How many different proteins does the ribosome consist of? (2023)
(1) 60 (2) 40
(3) 20 (4) 80

123. Which of the following are NOT considered as the part of endomembrane system? (2023)
A. Mitochondria
B. Endoplasmic reticulum
C. Chloroplasts
D. Golgi complex
E. Peroxisomes
Choose the most appropriate answer from the options given below:
(1) A, C and E only (2) A and D only
(3) A, D and E only (4) B and D only

124. Which of the following functions is carried out by cytoskeleton in a cell? (2023)
(1) Protein synthesis (2) Motility
(3) Transportation (4) Nuclear division

125. Given below are two statements: (2023 manipur)
Statement-I: In bacteria, the mesosomes are formed by the extensions of plasma membrane.
Statement-II: The mesosomes, in bacteria, help in DNA replication and cell wall formation.
In the light of the above statements, choose the most appropriate answer from the options given below:
(1) Statement-I is correct but Statement-II is incorrect.
(2) Statement-I is incorrect but Statement-II is correct.
(3) Both Statement-I and Statement-II are correct.
(4) Both Statement-I and Statement-II are incorrect.

126. Which of the following statements are correct with respect of Golgi apparatus?
A. It is the important site of formation of glycoprotein and glycolipids.
B. It produces cellular energy in the form of ATP.
C. It modifies the protein synthesized by ribosomes on ER.
D. It facilitates the transport of ions.
E. It provides mechanical support.
Choose the most appropriate answer from the options given below: (2023 manipur)
(1) B and C only (2) A and C only
(3) A and D only (4) D and E only

127. Match the List-I with List-II. (2022)

	List-I		**List-II**
A.	Metacentric chromosome	I.	Centromere situated close to the end forming one extremely short and one very long arms
B.	Acrocentric chromosome	II.	Centromere at the terminal end
C.	Submetacentric	III.	Centromere in the middle forming two equal arms of chromosomes
D.	Telocentric chromosome	IV.	Centromere slightly away from the middle forming one shorter arm and one longer arm

Choose the correct answer from the options given below:
(1) A-Q, B-P, C-S, D-R
(2) A-S, B-R, C-Q, D-P
(3) A-P, B-R, C-S, D-Q
(4) A-R, B-Q, C-P, D-S

128. Which of the following statements with respect to Endoplasmic Reticulum is incorrect? (2022)
(1) SER are the sites for lipid synthesis
(2) RER has ribosomes attached to ER
(3) SER is devoid of ribosomes
(4) In prokaryotes only RER are present

129. Which type of substance would face difficulty to pass through the cell membrane? (2022 (Phase 2))
(1) Substance with hydrophobic moiety
(2) Substance with hydrophilic moiety
(3) All substance irrespective of hydrophobic and hydrophilic moiety
(4) Substance soluble in lipids

130. If the pH in lysosomes is increased to alkaline, what will be the outcome? (2022 (Phase 2))
(1) Hydrolytic enzymes will function more efficiently
(2) Hydrolytic enzymes will become inactive
(3) Lysosomal enzymes will be released into the cytoplasm
(4) Lysosomal enzymes will be more active

131. Which of the following is an incorrect statement? (2021)
(1) Microbodies are present both in plant and animal cells.
(2) The perinuclear space forms a barrier between the materials present inside the nucleus and that of the cytoplasm.
(3) Nuclear pores act as passages for proteins and RNA molecules in both directions between nucleus and cytoplasm.
(4) Mature sieve tube elements possess a conspicuous nucleus and usual cytoplasmic organelles.

132. Match the List-I with List-II (2021)

	List-I		List-II
A.	Cristae	I.	Primary constriction in chromosome
B.	Thylakoids	II.	Disc-shaped sacs in Golgi apparatus
C.	Centromere	III.	Infoldings in mitochondria
D.	Cisternae	IV.	Flattened membranous sacs in stroma of plastids

Choose the correct answer from the options given below.
(1) (A)-(I); (B)-(IV); (C)-(III); (D)-(II)
(2) (A)-(III); (B)-(IV); (C)-(I); (D)-(II)
(3) (A)-(II); (B)-(III); (C)-(IV); (D)-(I)
(4) (A)-(IV); (B)-(III); (C)-(II); (D)-(I)

133. When the centromere is situated in the middle of two equal arms of chromosomes, the chromosome is referred as: (2021)
(1) Telocentric (2) Sub-metacentric
(3) Acrocentric (4) Metacentric

134. The organelles that are included in the endomembrane system are: (2021)
(1) Endoplasmic reticulum, Golgi complex, Lysosomes and Vacuoles.
(2) Golgi complex, Mitochondria, Ribosomes and Lysosomes.
(3) Golgi complex, Endoplasmic reticulum, Mitochondria and Lysosomes.
(4) Endoplasmic reticulum, Mitochondria, Ribosomes and Lysosomes.

135. Which of the following statements about inclusion bodies is incorrect? (2020)
(1) These are involved in ingestion of food particles.
(2) They lie free in the cytoplasm
(3) These represent reserve material in cytoplasm
(4) They are not bound by any membrane

136. Which is the important site of formation of glycoproteins and glycolipids in eukaryotic cells? (2020)
(1) Peroxisomes (2) Golgi bodies
(3) Polysomes (4) Endoplasmic reticulum

137. The biosynthesis of ribosomal RNA occurs in: (2020 Covid)
(1) Golgi apparatus
(2) Microbodies
(3) Nucleolus
(4) Ribosomes

138. Inclusion bodies of blue-green, purple and green photosynthetic bacteria are: (2020 Covid)
(1) Gas vacuoles
(2) Centrioles
(3) Microtubules
(4) Contractile vacuoles

139. Match the following Lists and select the correct option; (2020 Covid)

	List-I		List-II
A.	Smooth Endoplasmic Reticulum	I.	Protein synthesis
B.	Rough endoplasmic reticulum	II.	Lipid synthesis
C.	Golgi complex	III.	Glycosylation
D.	Centriole	IV.	Spindle formation

	(A)	(B)	(C)	(D)
(1)	(III)	(I)	(II)	(IV)
(2)	(IV)	(II)	(I)	(III)
(3)	(I)	(II)	(III)	(IV)
(4)	(II)	(I)	(III)	(IV)

140. The size of Pleuropneumonia - like Organism (PPLO) is: (2020 Covid)

(1) 1 - 2 µm (2) 10 - 20 µm
(3) 0.1 µm (4) 0.02 µm

141. Which of the following pair of organelles does not contain DNA? (2019)

(1) Mitochondria and Lysosomes
(2) Chloroplast and Vacuoles
(3) Lysosomes and Vacuoles
(4) Nuclear envelope and Mitochondria

142. The shorter and longer arms of a sub-metacentric chromosome are referred to as (2019)

(1) s-arm and l-arm respectively
(2) p-arm and q-arm respectively
(3) q-arm and p-arm respectively
(4) m-arm and n-arm respectively

143. Which of the following statements is not correct? (2019)

(1) Lysosomes have numerous hydrolytic enzymes.
(2) The hydrolytic enzymes of lysosomes are active under acidic pH.
(3) Lysosomes are membrane bound structures.
(4) Lysosomes are formed by the process of packaging in the endoplasmic reticulum.

144. The concept of "*Omnis cellula-e cellula*" regarding cell division was first proposed by (2019)

(1) Rudolf Virchow
(2) Theodor Schwann
(3) Schleiden
(4) Aristotle

145. Which of the following statements regarding mitochondria is incorrect? (2019)

(1) Outer membrane is permeable to monomers of carbohydrates, fats and proteins.
(2) Enzymes of electron transport are embedded in outer membrane.
(3) Inner membrane is convoluted with infoldings.
(4) Mitochondrial matrix contains single circular DNA molecule and ribosomes.

146. Which of the following cell organelles is present in the highest number in secretory cells? (2019 odisha)

(1) Mitochondria
(2) Golgi complex
(3) Endoplasmic reticulum
(4) Lysosomes

147. Non-membranous nucleoplasmic structures in nucleus are the site for active synthesis of (2019 odisha)

(1) protein synthesis
(2) mRNA
(3) rRNA
(4) tRNA

148. Which of the following nucleic acids is present in an organism having 70 S ribosomes only?(2019 odisha)

(1) Single stranded DNA with protein coat
(2) Double stranded circular naked DNA
(3) Double stranded DNA enclosed in nuclear membrane
(4) Double stranded circular DNA with histone proteins

149. Match the List-I with List-II. (2019 odisha)

	List-I		List-II
A.	Golgi apparatus	P.	Synthesis of protein
B.	Lysosomes products	Q.	Trap waste and excretory
C.	Vacuoles	R.	Formation of glycoproteins and glycolipids
D.	Ribosomes	S.	Digesting biomolecules

Choose the right match from options given below:
(1) A-R, B-S, C-Q, D-P
(2) A-S, B-R, C-P, D-Q
(3) A-R, B-Q, C-S, D-P
(4) A-P, B-Q, C-S, D-R

150. Which among the following is not a prokaryote? (2018)
(1) *Saccharomyces* (2) *Mycobacterium*
(3) *Nostoc* (4) *Oscillatoria*

151. Many ribosomes may associate with a single mRNA to form multiple copies of a polypeptide simultaneously. Such strings of ribosomes are termed as (2018)
(1) Polysome (2) Polyhedral bodies
(3) Plastidome (4) Nucleosome

152. The Golgi complex participates in (2018)
(1) Fatty acid breakdown
(2) Formation of secretory vesicles
(3) Respiration in bacteria
(4) Activation of amino acid

153. Which of the following events does not occur in rough endoplasmic reticulum? (2018)
(1) Protein folding
(2) Protein glycosylation
(3) Cleavage of signal peptide
(4) Phospholipid synthesis

154. Which of the following is true for nucleolus? (2018)
(1) Larger nucleoli are present in dividing cells.
(2) It is a membrane-bound structure.
(3) It takes part in spindle formation.
(4) It is a site for active ribosomal RNA synthesis

155. Which of the following components provides sticky character to the bacterial cell? [OS] (2017-Delhi)
(1) Cell wall
(2) Nuclear membrane
(3) Plasma membrane
(4) Glycocalyx

156. Which of the following cell organelles is responsible for extracting energy from carbohydrates to form ATP? (2017-Delhi)
(1) Lysosome (2) Ribosome
(3) Chloroplast (4) Mitochondrion

157. A complex of ribosomes attached to a single strand of RNA is known: (2016 - I)
(1) Polysome
(2) Polymer
(3) Polypeptide
(4) Okazaki fragment

158. 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? (2016-I)
(1) Both (A) and (B) are correct
(2) (B) is true but (A) is false
(3) (A) is true but (B) is false
(4) Both (A) and (B) are false

159. Microtubules are the constituents of: (2016-I)
(1) Cilia, Flagella and Peroxisomes
(2) Spindle fibres, Centrioles and Cilia
(3) Centrioles, Spindle fibres and Chromatin
(4) Centrosome, Nucleosome and Centrioles

160. Select the wrong statement: (2016 - II)
(1) Cyanobacteria lack flagellated cells.
(2) Mycoplasma is a wall-less microorganism
(3) Bacterial cell wall is made up of peptidoglycan.
(4) Pilli and fimbriae are mainly involved in motility of bacterial cells

161. Select the mismatch: (2016 - II)
(1) Protists-Eukaryotes
(2) Methanogens-Prokaryotes
(3) Gas vacuoles-Green bacteria
(4) Large central vacuoles-Animal cells

162. A cell organelle containing hydrolytic enzymes is: (2016 - II)
(1) Ribosome (2) Mesosome
(3) Lysosome (4) Microsome

163. Which one of the following is not an inclusion body found in prokaryotes? (2015)
(1) Glycogen granule
(2) Polysome
(3) Phosphate granule
(4) Cyanophycean granule

164. Select the correct matching in the following pairs: (2015)
(1) Rough ER – Synthesis of glycogen
(2) Rough ER – Oxidation of fatty acids
(3) Smooth ER – Oxidation of phospholipids
(4) Smooth ER – Synthesis of lipids

165. The structures that are formed by stacking of organized flattened membranous sacs in the chloroplasts are: (2015)
(1) Stroma lamellae (2) Stroma
(3) Cristae (4) Grana

166. DNA is not present in: (2015)
(1) Nucleus (2) Mitochondria
(3) Chloroplast (4) Ribosomes

167. The chromosomes in which centromere are situated close to one end are: (2015)
(1) Telocentric (2) Sub-metacentric
(3) Metacentric (4) Acrocentric

168. Nuclear envelope is a derivative of: (2015)
(1) Microtubules
(2) Rough endoplasmic reticulum
(3) Smooth endoplasmic reticulum
(4) Membrane of Golgi complex

169. Cellular organelles with membranes are: (2015 Re)
(1) Chromosomes, ribosomes and endoplasmic reticulum
(2) Endoplasmic reticulum, ribosomes and nuclei
(3) Lysosomes, Golgi apparatus and mitochondria
(4) Nuclei, ribosome and mitochondria

170. Which of the following structures is not found in a prokaryotic cell? (2015 Re)
(1) Ribosome (2) Mesosome
(3) Plasma membrane (4) Nuclear envelope

171. Which of the following is not membrane-bound? (2015 Re)
(1) Ribosomes (2) Lysosomes
(3) Mesosomes (4) Vacuoles

172. Chromatophores take part in: (2015 Re)
(1) Growth (2) Movement
(3) Respiration (4) Photosynthesis

173. The structures that help some bacteria to attach to rocks and or host tissues are: (2015 Re)
(1) Fimbriae (2) Mesosomes
(3) Holdfast (4) Rhizoids

174. Balbiani rings are sites of: [OS] (2015 Re)
(1) Nucleotide synthesis
(2) Polysaccharide synthesis
(3) RNA and protein synthesis
(4) Lipid synthesis

175. Match the columns and identify the correct option. (2015 Re)

	Column-I		**Column-II**
A.	Thylakoids	i.	Disc-shaped sacs in Golgi apparatus
B.	Cristae	ii.	Condensed structure of DNA
C.	Cisternae	iii.	Flat membranous sacs in stroma
D.	Chromatin	iv.	Infoldings in mitochondria

(1) A-(iii) B-(iv) C-(i) D-(ii)
(2) A-(iii) B-(i) C-(iv) D-(ii)
(3) A-(iii) B-(iv) C-(ii) D-(i)
(4) A-(iv) B-(iii) C-(i) D-(ii)

176. The motile bacteria are able to move by: (2014)
(1) Pili
(2) Fimbriae
(3) Flagella
(4) Cilia

177. The osmotic expansion of a cell kept in water is chiefly regulated by: (2014)
(1) Ribosomes
(2) Mitochondria
(3) Vacuoles
(4) Plastids

178. Which structures perform the function of mitochondria in bacteria? (2014)
(1) Mesosomes
(2) Nucleoid
(3) Ribosomes
(4) Cell wall

179. The solid linear cytoskeleton elements having a diameter of 6 nm and made up of a single type of monomer are known as: [OS] (2014)
(1) Lamins
(2) Microtubules
(3) Microfilaments
(4) Intermediate filaments

180. Match the following and select the correct answer: (2014)

A.	Centriole	i.	Infoldings in mitochondria
B.	Chlorophyll	ii.	Thylakoids
C.	Cristae	iii.	Nucleic acids
D.	Ribozymes	iv.	Basal body cilia or flagella

(1) A-iv B-iii C-i D-ii
(2) A-iv B-ii C-i D-iii
(3) A-i B-ii C-iv D-iii
(4) A-i B-iii C-ii D-iv