ALLEN CAREER INSTITUTE KOTA (RAJASTHAN)

path to success

PRE-MEDICAL

BOTANY

ENTHUSIAST | LEADER | ACHIEVER

EXERCISE

Cell : The unit of life

ENGLISH MEDIUM

EXERCISE-I (Conceptual Questions) — Build Up Your Understanding

INTRODUCTION TO EUKARYOTIC CELL (CELL WALL, CELL MEMBRANE)

1. Cell membrane is composed of :-
(1) Proteins and cellulose
(2) Proteins and phospholipids
(3) Proteins and carbohydrates
(4) Proteins, phospholipids and some carbohydrates

CL0001

2. Carbohydrates are present in the plasmalemma in the form of :–
(1) Hemicellulose (2) Cellulose
(3) Starch (4) Glycoprotein

CL0002

3. Carbohydrates which are present in the cell membrane take part in :–
(1) Transport of substance
(2) Cell recognition
(3) Attachment to microfilament
(4) Attachment to microtubules

CL0004

4. Plasma membrane is fluid structure due to presence of :–
(1) Carbohydrates (2) Lipid
(3) Glycoprotein (4) Polysaccharide

CL0005

5. The chemical substance abundantly present in middle lamella is :–
(1) Cutin (2) Chitin
(3) Lignin (4) Pectin

CL0006

6. Which of the following is capable of growth and gradually diminishes as the cell matures?
(1) Primary cell wall
(2) Secondary cell wall
(3) Middle lamella
(4) Cell membrane

CL0007

7. The fluid nature of the membrane is helpful in function of :-
(1) Cell growth (2) Cell division
(3) Endocytosis (4) All the above

CL0008

8. Plasma membrane is :–
(1) Selectively permeable
(2) Permeable
(3) Impermeable
(4) Semipermeable

CL0009

9. The Singer and Nicolson's Model of Plasma membrane differs from the Robertson's model in the-
(1) Number of lipid layers
(2) Arrangement of proteins
(3) Arrangement of lipid layers
(4) Absence of proteins

CL0010

10. Ingestion of large molecules by a cell is called -
(1) Diffusion (2) Osmosis
(3) Exocytosis (4) Endocytosis

CL0012

11. In fluid mosaic model of plasma membrane:-
(1) Upper layer is non-polar and hydrophilic
(2) Polar layer is hydrophobic
(3) Phospholipids form a bimolecular layer in middle part
(4) Proteins form a middle layer

CL0013

12. The main lipid components of the plant cell membrane are :-
(1) Phosphodiester
(2) Glycocalyx
(3) Peptidoglycan
(4) Phosphoglyceride

CL0015

EUKARYOTIC CELL (ENDOMEMBRANE SYSTEM)

13. Rough E.R. mainly responsible for:-
(1) Protein synthesis
(2) Cell wall formation
(3) Lipid synthesis
(4) Cholesterol synthesis
CL0017

14. Mitochondrial DNA is :-
(1) Naked (2) Circular
(3) Double stranded (4) All the above
CL0018

15. Golgibody orginates from :-
(1) E. R. (2) Mitochondria
(3) Nucleus (4) Proplastid
CL0019

16. Which cell organelle synthesises steroids ?
(1) E. R. (2) Golgibody
(3) Peroxisomes (4) Lysosomes
CL0020

17. Which of the following provides mechanical support and shape to the cell ?
(1) Golgi complex (2) Centrioles
(3) Lysosomes (4) E.R.
CL0021

18. Hydrolytic enzymes are abundantly found in which cell organelles ?
(1) Ribosome
(2) Lysosome
(3) Golgi body
(4) Endoplasmic reticulum
CL0023

19. The smooth E.R. is mainly made up of :–
(1) Cisternae
(2) Tubules
(3) Vesicle
(4) All the above
CL0028

20. Which of the following is known as **"System of membranes"** ?
(1) Lysosome
(2) E.R.
(3) Mitochondria
(4) Chloroplast
CL0029

21. Ribophorins occur on the surface of :–
(1) Rough E.R. (2) Smooth E.R.
(3) Golgi body (4) Lysosome
CL0031

22. At which pH lysosomal enzymes become active ?
(1) pH – 5 (2) pH – 7
(3) pH – 8 (4) pH – 10
CL0032

23. Main function of golgi–complex is :–
(1) Fermentation
(2) Phosphorylation
(3) Respiration
(4) Packaging of materials for secretion
CL0034

24. Which cell organelle(s) take(s) part in the formation of lysosomes ?
(1) Endoplasmic reticulum
(2) Golgi bodies
(3) Both 1and 2
(4) Mitochondria
CL0040

25. A single unit membrane organelle is :-
(1) Ribosome
(2) Mitochondria
(3) Chloroplast
(4) Lysosome
CL0045

26. Cisternae are found -
(1) Only in mitochondria
(2) Only in Endoplasmic Reticulum
(3) In Endoplasmic Reticulum and Golgi body
(4) Only in Golgi body
CL0047

27. Which of the following is the site of lipid synthesis?
(1) Rough ER
(2) Smooth ER
(3) Golgi bodies
(4) Ribosome
CL0049

28. Detoxification of lipid soluble drugs and other harmful compounds, in endoplasmic reticulum is carried out by :-
(1) Cytochrome P450
(2) Cytochrome bf
(3) Cytochrome c
(4) Cytochrome a_1–a_3

CL0052

29. Anthocyanin pigment is found in :–
(1) Chromoplasts (2) Amyloplasts
(3) Cytoplasm (4) Cell sap

CL0065

30. Golgibody is concerned with :-
(1) Respiration (2) Secretion
(3) Excretion (4) Digestion

CL0081

EUKARYOTIC CELL (MITOCHONDRIA, PLASTIDS)

31. Power house of cell is :-
(1) Nucleus (2) DNA
(3) Mitochondria (4) ATP

CL0022

32. Which of the following sets of cell organelles contain DNA ?
(1) Mitochondria, peroxisome
(2) Plasma membrane, ribosome
(3) Mitochondria, chloroplast
(4) Chloroplast, dictyosome

CL0024

33. Semiautonomous cell organelle is :–
(1) Mitochondria (2) Ribosome
(3) Golgi body (4) Peroxisome

CL0025

34. Which cell organelle releases oxygen ?
(1) Mitochondria (2) Golgi–body
(3) Chloroplast (4) Ribosome

CL0026

35. The cell organelles having abundance of oxidizing enzymes is :–
(1) Golgi body
(2) Endoplasmic reticulum
(3) Centrioles
(4) Mitochondria

CL0033

36. Aerobic respiration is performed by :-
(1) Mitochondria (2) Chloroplast
(3) Ribosome (4) Golgibody

CL0037

37. Ground substance present inside the mitochondria is called :-
(1) Stroma (2) Matrix
(3) Cell sap (4) Cytoplasm

CL0039

38. ATP factories of cells are –
(1) Chloroplast (2) Mitochondria
(3) Ribosome (4) Nucleus

CL0043

39. Cristae are found in :-
(1) Surface of grana
(2) Surface of plasma membrane.
(3) Membrane of Mitochondria
(4) Nuclear Membrane

CL0044

40. Double layered organelles are -
(1) Ribosomes
(2) Mitochondria
(3) Lysosomes
(4) Centrioles

CL0046

41. Chlorophyll in chloroplasts is located in –
(1) Grana
(2) Only in stroma thylakoids
(3) Stroma
(4) Both grana and stroma

CL0051

42. Elaioplasts are absent in :-
(1) **Potato**
(2) ***Cocos nucifera*** (Coconut)
(3) ***Arachis hypogea*** (Ground nut)
(4) ***Helianthus annuus*** (Sunflower)

CL0053

43. In higher plants, the chloroplasts are :-
(1) Discoidal or oval
(2) Spiral
(3) Cup shaped
(4) Reticulate

CL0054

44. Mitochondria and chloroplast are considered to be endosymbionts of cell because they :–
(1) Possess their own nucleic acid
(2) Have capacity of ATP synthesis
(3) Do not reproduce
(4) All the above

CL0056

45. Non pigmented part of chloroplast is called :-
(1) Thylakoids (2) Grana
(3) Stroma (4) Lamellae

CL0073

46. Which of following is not common in chloroplasts & mitochondria ?
(1) Both are present in animal cells
(2) Both contain their own genetic material
(3) Both are present in eukaryotic cells
(4) Both are present in plant cells

CL0074

EUKARYOTIC CELL (RIBOSOME, CYTOSKELETON, CILIA, FLAGELLA, CENTROSOME AND CENTRIOLE, MICROBODIES)

47. During germination of seeds which cell organelle converts fatty acid into soluble carbohydrate ?
(1) Peroxisome (2) Glyoxysome
(3) Golgi body (4) Lysosome

CL0042

48. DNA is not found in :–
(1) Nucleus (2) Mitochondria
(3) Chloroplast (4) Ribosome

CL0055

49. Self duplication does not occur in :–
(1) Mitochondria (2) Centrioles
(3) Chloroplast (4) Ribosome

CL0058

50. In which of the following tubulin protein is not present?
(1) Plasma membrane
(2) Cilia
(3) Flagella
(4) Microtubules

CL0059

51. The peroxisomes are associated with the phenomenon of :–
(1) Krebs cycle
(2) Degradation of H_2O
(3) Anaerobic respiration
(4) Photorespiration and degradation of H_2O_2

CL0060

52. Which of the following termed as highly specialised peroxisomes ?
(1) Glyoxysomes (2) Mitochondria
(3) Golgibody (4) Lysosomes

CL0061

53. "Palade particles" are :–
(1) Ribosomes
(2) Golgi vesicles
(3) Lysosomes
(4) Peroxisomes

CL0062

54. Polysome is a chain of :–
(1) Pinosomes (2) Phagosomes
(3) Microsomes (4) Ribosomes

CL0064

55. Basal body is :-
(1) Centriole like
(2) Plastid like
(3) Ribosome like
(4) Mitochondria like

CL0067

56. Prokaryotic ribosomes are 70S, S refers to:-
(1) Svedberg unit (2) Smallest unit
(3) Smooth (4) Speed

CL0068

57. Microtubules are composed of :-
(1) Actin protein (2) Myosin protein
(3) Tubulin protein (4) Dynein protein

CL0231

58. Arrangement of microtubules in centriole is:-
(1) 9 + 2 (2) 2 + 9
(3) 11 + 0 (4) 9 + 0

CL0070

59. Smallest cell organelle is :-
(1) Lysosome (2) Centrosome
(3) Ribosome (4) Golgibody

CL0072

60. 70 S type of ribosomes are found in :-
(1) Prokaryotic cells
(2) Prokaryotic cells, chloroplasts and mitochondria
(3) Mitochondria
(4) Nucleus, mitochondria

CL0075

61. The Ribosomes are made up of -
(1) DNA + Protein
(2) RNA + Protein
(3) DNA + RNA
(4) Only protein

CL0077

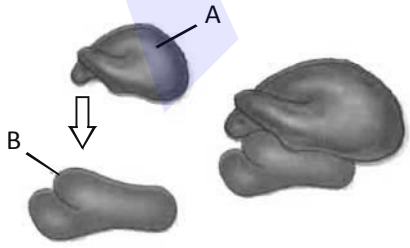
62. Cilia and flagella both -
(1) have 9 + 2 arrangement of microtubules
(2) are protective structure of cells
(3) are only present in protozoa animals
(4) are outgrowth structures of cytoplasm

CL0079

63. In which one of the following would you expect to find glyoxysomes ?
(1) Endosperm of wheat
(2) Endosperm of castor
(3) Palisade cells in leaf
(4) Root hairs

CL0082

64. Here 'S' (Svedberg's unit) stands for sedimentation coefficient then what are [A] & [B] for eukaryotic cell.



(1) A – 40S B – 60S
(2) A – 60S B – 40S
(3) A – 80S B – 60S
(4) A – 40S B – 80S

CL0083

EUKARYOTIC CELL (NUCLEUS, CHROMOSOME)

65. Genome is :-
(1) Part of chromosome
(2) Half part of a chromosome
(3) Total DNA in cell
(4) Total chromosomes in a gamete

CL0084

66. Nucleolar organizer region is a :-
(1) Primary constriction
(2) Secondary constriction
(3) Tertiary constriction
(4) Centriole

CL0085

67. Kinetochore is present on :-
(1) Mitochondria
(2) Peroxisome
(3) Chromosome
(4) Flagella

CL0086

68. Chromosomes are composed of :-
(1) DNA, RNA, Histones, Non histones
(2) DNA and Histones
(3) DNA and RNA
(4) DNA, RNA and Histones

CL0088

69. Which part of chromosome is concern with ageing of organism?
(1) Centromere (2) Telomere
(3) Kinetochore (4) Satellite

CL0089

70. The non–sticky chromosomal ends are known as–
(1) Chromatids
(2) Centromeres
(3) Satellites
(4) Telomeres

CL0090

71. The protein nucleoplasmin occurs on :-
(1) Nuclear pore
(2) Sieve cells
(3) Nucleolus
(4) Hetero chromatin

CL0093

72. Salivary gland chromosome is concerned with :-
(1) vitellogenesis
(2) formation of ribosomes
(3) lipid systhesis
(4) metamorphosis in some insects
CL0232

73. Part of chromosome after secondary constriction is called :–
(1) Centromere
(2) Telomere
(3) Satellite
(4) Nucleolar organiser
CL0098

74. If the centromere is close to chromosome's end and the two arms are unequal then the chromosome is called as :-
(1) Metacentric (2) Submetacentric
(3) Acrocentric (4) Telocentric
CL0100

75. Hetero-chromatin is :-
(1) Darkly stained part of chromatin
(2) Lightly stained part of cristae
(3) Lightly stained part of grana
(4) Scattered lobes in cytoplasm
CL0102

76. Chromosome with centromere at one end, is :-
(1) Metacentric (2) Submetacentric
(3) Telocentric (4) Acrocentric
CL0103

77. Nucleus is absent in :-
(1) Cell of vascular cambium
(2) Root hair cell
(3) Companion cell
(4) Members of mature sieve tube
CL0106

78. The telomeres of eukaryotic chromosomes consist of short sequences of –
(1) Cytosine rich repeats
(2) Adenine rich repeats
(3) Guanine rich repeats
(4) Thymine rich repeats
CL0107

79. Protein synthesis in an animal cell occurs –
(1) On ribosomes present in cytoplasm as well as in mitochondria
(2) On ribosomes present in the nucleolus as well as in cytoplasm
(3) Only on ribosomes attached to the nuclear envelope and endoplasmic reticulum
(4) Only on the ribosomes present in cytosol
CL0110

EXERCISE-I (Conceptual Questions) ANSWER KEY

Que.	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
Ans.	**4**	**4**	**2**	**2**	**4**	**1**	**4**	**1**	**2**	**4**	**3**	**4**	**1**	**4**	**1**
Que.	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30
Ans.	**1**	**4**	**2**	**2**	**2**	**1**	**1**	**4**	**3**	**4**	**3**	**2**	**1**	**4**	**2**
Que.	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45
Ans.	**3**	**3**	**1**	**3**	**4**	**1**	**2**	**2**	**3**	**2**	**1**	**1**	**1**	**1**	**3**
Que.	46	47	48	49	50	51	52	53	54	55	56	57	58	59	60
Ans.	**1**	**2**	**4**	**4**	**1**	**4**	**1**	**1**	**4**	**1**	**1**	**3**	**4**	**3**	**2**
Que.	61	62	63	64	65	66	67	68	69	70	71	72	73	74	75
Ans.	**2**	**1**	**2**	**2**	**4**	**2**	**3**	**1**	**2**	**4**	**1**	**4**	**3**	**3**	**1**
Que.	76	77	78	79											
Ans.	**3**	**4**	**3**	**1**											

EXERCISE-II (Previous Year Questions)

AIPMT/NEET

AIPMT 2006

1. Which of the following statements regarding mitochondrial membrane is **not** correct ?
(1) The outer membrane resembles a sieve
(2) The outer membrane is permeable to all kinds of molecules.
(3) The enzymes of the electron transfer chain are embedded in the outer membrane.
(4) The inner membrane is highly convoluted forming a series of infoldings.

CL0111

2. Which of the following statements regarding cilia is **not** correct?
(1) Cilia contain an outer of nine doublet microtubules surrounding two single microtubules.
(2) The organized beating of cilia is controlled by fluxes of Ca^{2+} across the membrane.
(3) Cilia are hair-like cellular appendages.
(4) Microtubules of cilia are composed of tubulin.

CL0112

AIPMT 2007

3. Which one of the following is not a constituent of cell membrane ?
(1) Phospholipids (2) Cholesterol
(3) Glycolipids (4) Proline

CL0113

4. Select the **wrong** statement from the following :
(1) The chloroplasts are generally much larger than mitochondria
(2) Both chloroplasts and mitochondria contain an inner and an outer membrane
(3) Both chloroplasts and mitochondria have an internal compartment, the thylakoid space bounded by the thylakoid membrane
(4) Both chloroplasts and mitochondria contain DNA

CL0114

AIPMT 2008

5. Polysome is formed by :-
(1) A ribosome with several subunits
(2) Ribosomes attached to each other in a linear arrangement
(3) Several ribosomes attached to a single mRNA
(4) Many ribosomes attached to a strand of endoplasmic reticulum

CL0115

6. Vacuole in a plant cell :-
(1) Lacks membrane and contains air
(2) Lacks membrane and contains water and excretory substances
(3) Is membrane-bound and contains storage proteins and lipids
(4) is membrane-bound and contains water and excretory substances

CL0116

7. In germinating seeds, fatty acids are degraded **exclusively** in the:-
(1) Peroxisomes (2) Mitochondria
(3) Proplastids (4) Glyoxysomes

CL0117

8. Keeping in view the "fluid mosaic model" for the structure of cell membrane, which one of the following statements is **correct** with respect to the movement of lipids and proteins from one lipid monolayer to the other (described as flipflop movement) ?
(1) While proteins can flip-flop, lipids can 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

CL0118

AIPMT 2009

9. Plasmodesmata are :-
(1) Connections between adjacent cells
(2) Lignified cemented layers between cells
(3) Locomotary structures
(4) Membranes connecting the nucleus with plasmalemma

CL0119

10. Middle lamella is composed mainly of :-
(1) Phosphoglycerides (2) Hemicellulose
(3) Muramic acid (4) Calcium pectate

CL0120

11. Cytoskeleton is made up of :-
(1) Proteinaceous filaments
(2) Calcium carbonate granules
(3) Callose deposits
(4) Cellulosic microfibrils

CL0121

AIPMT Pre. 2010

12. The plasma membrane consists mainly of :
(1) proteins embedded in a carbohydrate bilayer
(2) phospholipids embedded in a protein bilayer
(3) proteins embedded in a phospholipid bilayer
(4) proteins embedded in a polymer of glucose molecules

CL0122

13. Which one of the following structures between two adjacent cells is an effective transport pathway ?
(1) Plasmalemma
(2) Plasmodesmata
(3) Plastoquinones
(4) Endoplasmic reticulum

CL0123

14. Which one of the following has its own DNA ?
(1) Peroxisome (2) Mitochondria
(3) Dictyosome (4) Lysosome

CL0124

15. The main arena of various types of activities of a cell is:
(1) Nucleus
(2) Plasma membrane
(3) Mitochondrian
(4) Cytoplasm

CL0125

16. Algae have cell wall made up of:
(1) Cellulose, hemicellulose and pectins
(2) Cellulose, galactans and mannans
(3) Hemicellulose, *pectins* and proteins
(4) Pectins, cellulose and proteins

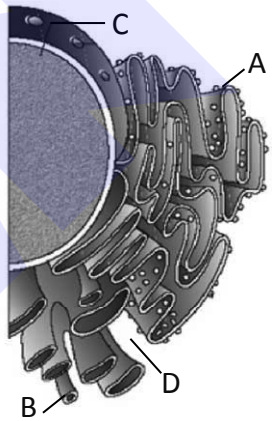
CL0126

AIPMT Mains 2010

17. An elaborate network of filamentous proteinaceous structures present in the cytoplasm which helps in the maintenance of cell shape is called :
(1) Endosplasmic Reticulum
(2) Plasmalemma
(3) Cytoskeleton
(4) Thylakoid

CL0127

18. Identify the components labelled A, B ,C and D in the diagram below from the list (i) to (viii) given with



Components :
(i) Cristae of mitochondria
(ii) Inner membrane of mitochondria
(iii) Cytoplasm
(iv) Smooth endoplasmic reticulum
(v) Rough endoplasmic reticulum
(vi) Mitochondrial matrix
(vii) Cell vacuole
(viii) Nucleus

The correct component are :

	A	B	C	D
(1)	(i)	(iv)	(viii)	(vi)
(2)	(vi)	(v)	(iv)	(vii)
(3)	(v)	(i)	(iii)	(ii)
(4)	(v)	(iv)	(viii)	(iii)

CL0128

AIPMT-Pre 2011

19. Important site for formation of glycoproteins and glycolipids is :-
(1) Vacuole (2) Golgi apparatus
(3) Plastid (4) Lysosome

CL0130

20. Peptide synthesis inside a cell takes place in :-
(1) Chloroplast (2) Mitochondria
(3) Chromoplast (4) Ribosomes

CL0131

21. In eubacteria, a cellular component that resembles eukaryotic cell is :-
(1) Plasma membrane (2) Nucleus
(3) Ribosomes (4) Cell wall

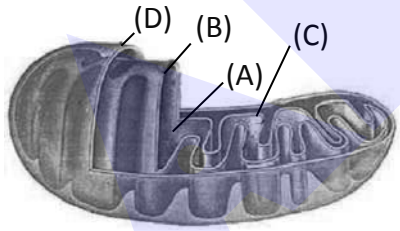
CL0132

AIPMT-Mains 2011

22. Which one of the following is not considered as a part of the endomembrane system ?
(1) Lysosome (2) Golgi complex
(3) Peroxisome (4) Vacuole

CL0133

23. The figure below shows the structure of a mitochondrion with its four parts labelled (A), (B), (C) and (D). Select the part correctly matched with its function.



(1) Part (A) : Matrix - major site for respiratory chain enzymes
(2) Part (D) : Outer membrane - gives rise to inner membrane by splitting
(3) Part (B) : Inner membrane - forms infoldings called cristae
(4) Part (C) : Cristae - possess single circular DNA molecule and ribosomes

CL0134

AIPMT-Pre 2012

24. Select the correct statement from the following regarding cell membrane :-
(1) Lipids are arranged in a bilayer with polar heads towards the inner part
(2) Fluid mosaic model of cell membrane was proposed by Singer and Nicolson
(3) Na^+ and K^+ ions move across cell membrane by passive transport
(4) Proteins make up 60 to 70% of the cell membrane

CL0136

25. What is true about ribosomes ?
(1) These are found only in eukaryotic cells
(2) These are self-splicing introns of some RNAs
(3) The prokaryotic ribosomes are 80S where "S" stands for sedimentation coefficient
(4) These are composed of ribonucleic acid and proteins

CL0137

26. Ribosomal RNA is actively synthesized in :-
(1) Nucleoplasm (2) Ribosomes
(3) Lysosomes (4) Nucleolus

CL0138

AIPMT-Mains 2012

27. Which one of the following cellular parts is correctly described ?
(1) Ribosomes - those on chloroplasts are larger (80S) while those in the cytoplasm are smaller (70S)
(2) Lysosomes-optimally active at a pH of about 8.5
(3) Thylakoids-flattened membranous sacs forming the grana of chloroplasts
(4) Centrioles - sites for active RNA synthesis

CL0139

28. Which one of the following structures is an organelle within an organelle?
(1) ER (2) Mesosome
(3) Ribosome (4) Peroxisome

CL0140

NEET-UG 2013

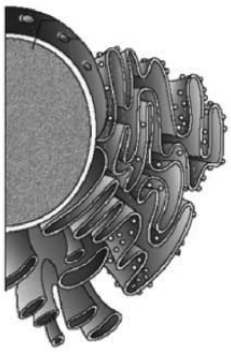
29. The Golgi complex plays a major role :
(1) in post translational modification of proteins and glycosidation of lipids
(2) in trapping the light and transforming it into chemical energy
(3) in digesting proteins and carbohydrates
(4) as energy transferring organelles

CL0141

30. A major site for synthesis of lipids is :
(1) Nucleoplasm (2) RER
(3) SER (4) Symplast

CL0142

31. Which one of the following organelle in the figure correctly matches with its function ?



(1) Rough endoplasmic reticulum, protein synthesis
(2) Rough endoplasmic reticulum, formation of glycoproteins
(3) Golgi apparatus, protein synthesis
(4) Golgi apparatus, formation of glycolipids

CL0143

AIPMT 2014

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

CL0146

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

CL0147

34. Match the following and select the **correct** answer :

(a) Centriole	(i) Infoldings in mitochondria
(b) Chlorophyll	(ii) Thylakoids
(c) Cristae	(iii) Nucleic acids
(d) Ribozymes	(iv) Basal body cilia or flagella

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

CL0148

AIPMT 2015

35. DNA is **not** present in :-
(1) Ribosomes (2) Nucleus
(3) Mitochondria (4) Chloroplast

CL0149

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

CL0150

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

CL0151

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

CL0152

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

CL0154

Re-AIPMT 2015

40. Which of the following structures is **not** found in prokaryotic cells?
(1) Plasma membrane
(2) Nuclear envelope
(3) Ribosome
(4) Mesosome

CL0155

41. Which of the following are **not** membrane-bound?
(1) Mesosomes
(2) Vacuoles
(3) Ribosomes
(4) Lysosomes

CL0156

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

CL0157

43. A protoplast is a cell :
(1) without cell wall
(2) without plasma membrane
(3) without nucleus
(4) undergoing division

CL0158

44. Match the columns and identify the correct option:

	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

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

CL0159

NEET-I 2016

45. 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** ?
(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

CL0162

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

CL0163

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

CL0164

48. Which one of the following cell organelles is enclosed by a single membrane ?
(1) Mitochondria (2) Chloroplasts
(3) Lysosomes (4) Nuclei

CL0165

49. Water soluble pigments found in plant cell vacuoles are :-
(1) Xanthophylls (2) Chlorophylls
(3) Carotenoids (4) Anthocyanins

CL0166

NEET-II 2016

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

CL0167

NEET(UG) 2017

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

CL0170

NEET(UG) 2018

52. Which of the following is true for nucleolus?
(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.

CL0172

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

CL0173

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

CL0174

55. Select the ***incorrect*** match :
(1) Lampbrush chromosomes – Diplotene bivalents
(2) Allosomes – Sex chromosomes
(3) Submetacentric chromosomes – L-shaped chromososmes
(4) Polytene chromosomes – Oocytes of amphibians

CL0175

NEET(UG) 2019

56. The shorter and longer arms of a submetacentric chromosome are referred to as :-
(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

CL0223

57. Which of the following pair of organelles does not contain DNA ?
(1) Mitochondria and Lysosomes
(2) Chloroplast and Vacuoles
(3) Lysosomes and Vacuoles
(4) Nuclear envelope and Mitochondria

CL0224

58. Which of the following statements is **not** correct?
(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.

CL0225

59. The concept of " *Omnis cellula-e cellula*" regarding cell division was first proposed by:
(1) Rudolf Virchow
(2) Theodore Schwann
(3) Schleiden
(4) Aristotle

CL0226

60. Which of the following statements regarding mitochondria is **incorrect**?

(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.

CL0227

NEET(UG) 2019 (Odisha)

61. Which of the following cell organelles is present in the highest number in secretory cells ?

(1) Mitochondria

(2) Golgi complex

(3) Endoplasmic reticulum

(4) Lysosomes

CL0228

62. Non-membranous nucleoplasmic structures in nucleus are the site for active synthesis of:-

(1) Protein synthesis (2) mRNA

(3) rRNA (4) tRNA

CL0229

63. Match the column-I with column-II :-

Column-I	**Column-II**
(a) Golgi apparatus	(i) Synthesis of protein
(b) Lysosomes	(ii) Trap waste and excretory products
(c) Vacuoles	(iii) Formation of glycoproteins and glycolipids
(d) Ribosomes	(iv) Digesting biomolecules

Choose the right match from options given below :-

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

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

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

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

CL0230

NEET(UG) 2020

64. Which is the important site of formation of glycoproteins and glycolipids in eukaryotic cells ?

(1) Polysomes

(2) Endoplasmic reticulum

(3) Peroxisomes

(4) Golgi bodies

CL0233

NEET(UG) 2020 (COVID-19)

65. The biosynthesis of ribosomal RNA occurs in :

(1) Ribosomes

(2) Golgi apparatus

(3) Microbodies

(4) Nucleolus

CL0234

66. The size of Pleuropneumonia - like Organism (PPLO) is :

(1) 0.02 μm (2) 1-2 μm

(3) 10-20 μm (4) 0.1 μm

CL0235

67. Match the following columns and select the correct option :

Column - I	**Column - 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

(1) (a)-(ii), (b)-(i), (c)-(iii). (d)-(iv)

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

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

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

CL0236

NEET(UG) 2021

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

CL0237

69. Match **List -I** with **List - II.**

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.

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

CL0238

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

CL0239

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

CL0240

NEET(UG) 2021 (Paper-2)

72. Match the columns.

Column I	**Column II**
a. Endoplasmic reticulum	i. Stack of cisternae
b. Sphaerosomes	ii. Stores oil
c. Dictyosomes	iii Synthesis and storage of lipids
d. Peroxisomes	iv. Photorespiration
e. Elaioplasts	v. Detoxification of drugs

(1) a–v, b–iii, c–i, d–iv, e–ii
(2) a–v, b–iii, c–ii, d–iv, e–i
(3) a–ii, b–iii, c–i, d–iv, e–v
(4) a–iii, b–v, c–i, d–iv, e–ii

CL0282

73. Which of the following is the incorrect matching of three items and their grouping category ?
(1) ER, Golgi body, lysosome – Endomembrane system
(2) Chromoplast, chloroplast, leucoplast – Plastids
(3) Amyloplast, elaioplast, aleuroplast – Leucoplast
(4) Abrin, ricin, concanavalin – Toxins

CL0283

74. The middle lamella is
(1) A lignified layer which glues the neighbouring cells together.
(2) A membrane which connects cell membrane and cell wall.
(3) A structure which connects the cytoplasm of neighbouring cells.
(4) A layer which holds the different neighbouring cells together.

CL0284

NEET(UG) 2022

75. Match **List-I** with **List-II**.

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) Sub-metacentric chromosome	(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)-(i),(b)-(iii),(c)-(ii),(d)-(iv)

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

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

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

CL0285

76. Which of the following statements with respect to Endoplasmic Reticulum is **incorrect?**

(1) SER is devoid of ribosomes

(2) In prokaryotes only RER are present

(3) SER are the sites for lipid synthesis

(4) RER has ribosomes attached to ER

CL0286

77. Given below are two statements :

Statement I:

Mycoplasma can pass through less than 1 micron filter size.

Statement II:

Mycoplasma are bacteria with cell wall

In the light of the above statements, choose the **most appropriate** answer from the options given below:

(1) Both **Statement I** and **Statement II** are incorrect

(2) **Statement I** is correct but **Statement II** is incorrect

(3) **Statement I** is incorrect but **Statement II** is correct

(4) Both **Statement I** and **Statement II** are correct

CL0287

NEET(UG) 2022 (OVERSEAS)

78. Given below are two statements :

Statements-I : Membrane-bound organelles of the endomembrane system coordinate cellular functions.

Statement-II : Mitochondria and chloroplasts are not considered a part of the endomembrane system.

In the light of the above statements choose the **most appropriate** answer from the options given below :

(1) Statement-I is incorrect but **Statement-II** is correct

(2) Both **Statement-I** and **Statement-II** are correct

(3) Both **Statement-I** and **Statement-II** are incorrect

(4) **Statement-I** is correct but **Statement-II** is incorrect

CL0288

79. Match **List - I** with **List - II**

List – I	List - II
(a) Chromoplasts	(i) Proteins
(b) Amyloplasts	(ii) Oil and fats
(c) Elaioplasts	(iii) Starch
(d) Aleuroplasts	(iv) Carotene

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)-(iv), (b)-(iii), (c)-(i), (d)-(ii)

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

CL0289

Re-NEET(UG) 2022

80. If the pH in lysosomes is increased to alkaline, what will be the outcome?

(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

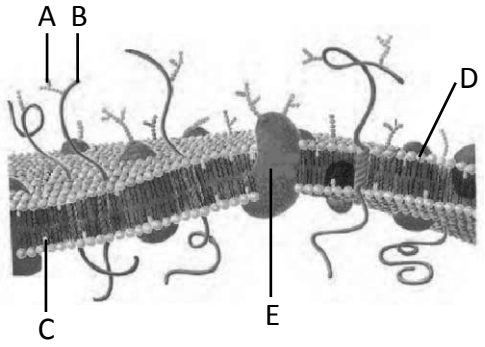
CL0290

EXERCISE-II (Previous Year Questions) ANSWER KEY

Que.	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
Ans.	**3**	**2**	**4**	**3**	**3**	**4**	**4**	**4**	**1**	**4**	**1**	**3**	**2**	**2**	**4**
Que.	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30
Ans.	**2**	**3**	**4**	**2**	**4**	**1**	**3**	**3**	**2**	**4**	**4**	**3**	**3**	**1**	**3**
Que.	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45
Ans.	**1**	**2**	**2**	**1**	**1**	**3**	**1**	**1**	**1**	**2**	**3**	**1**	**1**	**3**	**3**
Que.	46	47	48	49	50	51	52	53	54	55	56	57	58	59	60
Ans.	**2**	**1**	**3**	**4**	**3**	**3**	**4**	**2**	**4**	**4**	**2**	**3**	**4**	**1**	**2**
Que.	61	62	63	64	65	66	67	68	69	70	71	72	73	74	75
Ans.	**2**	**3**	**1**	**4**	**4**	**4**	**1**	**1**	**3**	**1**	**2**	**1**	**4**	**4**	**4**
Que.	76	77	78	79	80										
Ans.	**2**	**2**	**2**	**1**	**2**										

EXERCISE-III(A) NCERT BASED QUESTIONS

1. The figure given below shows the structure of plasma membrane, with its parts labelled from A to E, Identify the correct :-



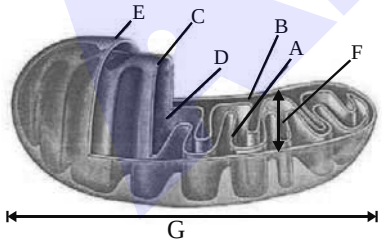
(1) A $\rightarrow$ 52 percent of erythrocyte membrane
(2) B and D $\rightarrow$ Movement of these can be measured as fluidity of membrane
(3) C $\rightarrow$ Help in facilitated transport of polar molecules
(4) D $\rightarrow$ Its polar tail contains saturated hydrocarbons

CL0182

2. Contractile vacuole :-
(1) is a membrane less structure
(2) is formed by engulfing the food
(3) is important for osmoregulation
(4) is called suicidal bag of cell

CL0241

Q. No. 3 to 7 are based on given diagram :-



3. Which represents aqueous compartments ?
(1) A, B (2) D, C
(3) A, D (4) B, D

CL0184

4. What is the average value of labelled F ?
(1) 0.2 µm (2) 0.5 µm
(3) 1.0 µm (4) 4.1 µm

CL0185

5. Cristae are infoldings of ..... , present toward the .....
(1) E and B (2) B and C
(3) C and D (4) F and D

CL0186

6. Single, circular DNA molecule is found in :-
(1) B (2) D (3) E (4) C

CL0187

7. D contains :-
(i) few RNA molecules (ii) 70s ribosome
(iii) Enzymes (iv) Circular DNA
Options :-
(1) ii, iv (2) i, ii, iv
(3) ii, iii, iv (4) i, ii, iii, iv

CL0188

8. (a) granular structure
(b) first observed under the electron microscope as dense particles by George Palade
(c) composed of RNA and proteins
(d) not surrounded by any membrane
Above given statements are true for which cell organelle?
Options :-
(1) Nucleolus (2) Ribosome
(3) Lysosome (4) Chloroplast

CL0189

9. Find **incorrect** statement with regard to centrosome and centrioles :-
(a) Centrosome is surrounded by amorphous pericentriolar material
(b) In centrosome, both centrioles lie parallel to each other in which each has an organisation like the cartwheel
(c) Centrioles are made up of nine unevenly spaced peripheral fibrils of tubulin
(d) Hub is the central proteinaceous part of centriole
(e) Proteinaceous radial spokes connect hub to peripheral triplets
Options :-
(1) a,b, e (2) only b
(3) b, c (4) All are correct

CL0190

10. .....observed that all plant tissues are made up of cells. At the same time....., studied different type of animal cells.
(1) Rudolf Virchow and Robert Brown respectively
(2) Mathias Schleiden and Theodore Schwann respectively
(3) Theodore Schwann and Mathias Schleiden respectively
(4) Robert Hooke and Schleiden respectively

CL0242

11. According to fluid-mosaic model, the quasi-fluid nature of.....enables lateral movement of.....within the overall bilayer. This ability to move within the membrane is measured as its...
(i) Carbohydrates
(ii) Lipids
(iii) Proteins
(iv) Fluidity
(v) Selective permeability
Correct sequence is :-
(1) ii, iii, iv (2) iii, i, iv
(3) iii, ii, v (4) i, ii, iv

CL0243

12. One of the most important functions of the plasma membrane is :-
(1) Formation of nuclear membrane
(2) Transport of molecules across it
(3) Exocytosis
(4) Detoxification

CL0244

13. .....can not pass through the lipid bilayer, they require a carrier protein of the membrane to facilitate their transport across the membrane
(1) Nonpolar molecules
(2) Polar molecules
(3) Hydrophobic molecules
(4) Both (2) and (3)

CL0245

14. Na^+/K^+ pump is an example of :-
(1) Passive transport (2) Osmosis
(3) Active transport (4) Simple diffusion

CL0246

15. Mark the incorrect match for transport of molecules across the membrane :-
(1) Neutral solute – simple diffusion
(2) Water – osmosis
(3) Non polar molecules – facilitate diffusion
(4) ATP utilized – active transport

CL0247

16. Mitochondria :-
(a) are easily visible under the microscope (without specifically stained)
(b) are typically sausage-shaped or cylindrical
(c) are double membrane bound structures
(d) have two aqueous compartments
Options :-
(1) a, d correct and b, c incorrect
(2) a, b correct and c,d incorrect
(3) a incorrect and b, c, d correct
(4) a, d incorrect and b, c correct

CL0248

17. Inner mitochondrial membrane forms infoldings called :-
(1) Thylakoid (2) Cisternae
(3) Oxysomes (4) Cristae

CL0249

18. The number of mitochondria per cell is variable, depending on :-
(1) Size of cells
(2) Shape of cells
(3) Physiological activity of cells
(4) Type of genes present in mitochondrial DNA

CL0250

19. Which one of the following is not a component of endomembrane system ?
(a) Endoplasmic reticulum
(b) Golgibody
(c) Lysosome
(d) Vacuole
(e) Nucleus
Options :-
(1) Both a and c (2) Only c
(3) d and e both (4) Only e

CL0251

20. Membrane bound vesicular structures formed by the process of packaging in the Golgi apparatus and filled with hydrolytic enzymes, are called :-
(1) Contractile vacuoles
(2) Food vacuoles
(3) Lysosomes
(4) Centrosome

CL0252

21. Eukaryotes have 80S, while prokaryotes have 70S ribosomes in cytoplasm. Here "S":-
(a) denotes sedimentation coefficient
(b) is an indirect measure of density
(c) is an indirect measure of size
Options :-
(1) a only (2) a and b only
(3) b and c only (4) a, b and c

CL0253

22. In r-RNA, ''r'' stands for :-
(1) Reversible (2) Ribozyme
(3) Ribosomal (4) Recognition

CL0254

23. Interphase nucleus has a loose and indistinct network of nucleoprotein fibres called chromatin, but during different stages of cell division, cells show "*structured chromosomes*" in place of the:-
(1) Nucleus (2) Plastids
(3) Mitochondria (4) Vacuole

CL0255

24. Nucleus as a "cell organelle" was first described by.....as early as.....
(1) Robert Hooke, 1665
(2) Robert Brown, 1831
(3) Flemming, 1931
(4) Strasburger, 1831

CL0256

25. Space between parallel nuclear membranes is called perinuclear space which is :-
(1) 10–50 nm (2) 0.1 – 0.4 μm
(3) 10 – 50 Å (4) 1 – 4 nm

CL0257

26. A single human cell has approximately.....long thread of DNA distributed among its....chromosomes:-
(1) 2 cm, 46 (2) 2 metre, 46
(3) 2 cm, 23 (4) 2 metre, 23

CL0258

27. The physico-chemical approach to study and understand living organisms is called -
(1) Physiochemical biology
(2) Reductionist biology
(3) Fundamental biology
(4) Biochemical biology

CL0259

28. Regarding to cell membrane find out the odd one -
(1) Fluid mosaic model is widely accepted model
(2) Quasi fluid nature of lipids enables the lateral movement of proteins
(3) All types of molecules can easily pass through membrane
(4) Fluid nature of membrane is also important for cell growth & formation of intercellular junctions

CL0260

29. Which type of solutes may move across plasma membrane from higher to lower concentration along concentration gradient without help of transmembrane proteins?
(1) Positively charged solutes
(2) Negatively charged solutes
(3) Neutral solutes
(4) Any of the above

CL0261

30. Select out the wrong statement -
(1) Neutral solute can move according to concentration gradient across the nonpolar lipid bilayer
(2) Water can also move according to concentration gradient across the plasma membrane.
(3) Non polar molecules can not pass through non polar lipid bilayer
(4) Na^+ & K^+ can move across membrane through active transport

CL0262

31. Which of the following is not a function of cell wall ?
(1) Protection from mechanical damage and infection
(2) Cell to cell interaction
(3) Barrier to undesirable macromolecules
(4) Secretion
CL0263

32. Which of the following components is not a constituent of algal cell wall ?
(1) Cellulose (2) Galactans
(3) Mannans (4) Chitin
CL0264

33. Endoplasmic reticulum helps in :-
(1) The transport of substances
(2) Synthesis of lipoproteins
(3) Synthesis of glycogen
(4) All of the above
CL0265

34. Regarding to endoplasmic reticulum which of the following statements are wrong ?
(1) ER divides the intra cellular space into two distinct compartments
(2) RER frequently observed in cells actively involved in secretion
(3) In animals steroidal hormones are synthesized in RER
(4) SER is the major site of lipid synthesis
CL0266

35. Golgi complex receives proteins for modification from RER at which face ?
(1) Cis face (2) Trans face
(3) Concave face (4) Maturing face
CL0267

36. Classification of plastids into chloroplast, chromoplast and leucoplast is based on -
(1) Stored food (2) Pigments
(3) Structure (4) Size
CL0268

37. Chloroplast of higher plants contains -
(1) Only chlorophyll
(2) Only carotenoids
(3) Both chlorophyll and carotenoids
(4) Phycobillins
CL0269

38. Regarding to cilia and flagella which of the following statements is incorrect ?
(1) Cilia is small and flagella is long
(2) Cilia can move either cell or surrounding fluid
(3) Flagella is responsible for movement of surrounding fluid
(4) Cilia work like oars
CL0270

39. Plasma membrane covers the central core of the flagella and cilia this central core is known as -
(1) Bridge (2) Axoneme
(3) Radial spoke (4) Arms
CL0271

40. Radial spokes of flagella helps in connection between-
(1) Peripheral triplets
(2) Central singlet microtubules
(3) Peripheral doublet and central sheath
(4) Two successive peripheral doublets
CL0272

41. Match the following -

(A) Robert Brown	(I)	Ribonucleo proteins
(B) Flemming	(II)	Nucleus as cell organelle
(C) Palade	(III)	Packaging of materials
(D) Camillo Golgi	(IV)	Staining of nucleus material

Options :-
(1) A - (II) B - (IV) C - (I) D - (III)
(2) A - (II) B - (IV) C - (III) D - (I)
(3) A - (I) B - (II) C - (III) D - (IV)
(4) A - (IV) B - (III) C - (II) D - (I)
CL0273

42. Classification of chromosomes is based on -
(1) the size of satellite
(2) Number of telomeres
(3) Position of centromere
(4) Position of secondary constriction
CL0274

43. Chromosome with centromere slightly away from center is known as -
(1) Metacentric (2) Submetacentric
(3) Acrocentric (4) Telocentric

CL0275

44. Find out the incorrect about secondary constriction -
(1) Non staining
(2) Constant position
(3) Known as satellite
(4) Present in some chromosomes

CL0276

45. Match the column I and II and choose correct option :-

Column-I		Column-II	
(A)	Plasma membrane	(I)	Helps in cell division of animal cells
(B)	Centriole	(II)	Protein synthesis
(C)	Ribosomes	(III)	Not present in animal cell
(D)	Plastids	(IV)	Rich in hydrolytic enzymes
(E)	Lysosome	(V)	Barrier between cytoplasm and outer environment, in an animal cell.

Options :-
(1) A – V , B – I, C – II, D – III, E – IV
(2) A – V , B – III, C – II, D – I, E – IV
(3) A – IV , B – III, C – II, D – I, E – V
(4) A – II , B – IV, C – III, D – I, E – V

CL0277

46. Which of the following is not the function of cell wall ?
(i) Provides shape to the cell.
(ii) Protects the cell from mechanical damage and infection.
(iii) Helps in cell to cell connection.
(iv) Provides barrier to undesirable macromolecules.
(v) Helps in cell recognition

Options :-
(1) only (iii) (2) only (iv)
(3) only (ii), (iii) & (v) (4) only (v)

CL0278

47. (A) Unicellular organisms are capable of independent existence.
(B) Cell is the fundamental structural and functional unit of all unicellular organisms only.
(C) All cells arise from pre-existing cells.
(D) The cytoplasm is the main arena of cellular activities of cells.

Options :-
(1) Statements A, C and D are correct
(2) Statements A, B and D are not correct
(3) Statements A, B and C are correct
(4) Statements B, C and D are not correct

CL0279

48. Which one of the following statements is not correct for the vacuoles ?
(1) Contractile vacuoles are helpful in excretion
(2) Food vacuoles are formed by engulfing the food particles
(3) Sap vacuole is bound by tonoplast
(4) Tonoplast facilitates the transport of ions against the concentration gradient into cytoplasm

CL0280

49. Which of the following is true for mitochondria?
(A) Mitochondrial ribosome is smaller than prokaryotic ribosome
(B) Single stranded circular DNA is present in matrix
(C) Protein synthesis occurs in Mitochondrial matrix
(D) Outer membrane is highly folded and form cristae

Options :-
(1) A, C and D only
(2) A, B and D only
(3) Only C
(4) A and D only

CL0281

EXERCISE-III(B) (ANALYTICAL QUESTIONS)

50. Which of the following are **correct** for the cell which has naked ds circular DNA?
(a) Both 70S and 80S ribosomes
(b) Histone absent
(c) Compartmentalisation of cytoplasm absent
(d) Always diploid
Options :-
(1) a and d (2) b and c
(3) a and c (4) b and d

CL0192

51. Which of the following is/are function(s) of Golgi complex ?
(I) Modification of lipids and proteins
(II) Detoxification
(III) Formation of acrosome
(IV) Glycogen synthesis & breakdown
Choose the correct option –
(1) I and II are incorrect
(2) I and III are correct
(3) II is incorrect and remaining are correct
(4) II and III are incorrect

CL0193

52. If living cells, similar to those found on earth, were found on another planet, where there was no oxygen, then which cell organelle would most probably be absent ?
(1) Ribosomes
(2) Golgi apparatus
(3) Mitochondria
(4) Endoplasmic Reticulum

CL0196

53. Plant and prokaryotic cells are similar with each other but differ from animal cells :-
(1) In possessing 70 S ribosomes
(2) In possessing cell wall
(3) In possessing mitochondria
(4) In possessing chloroplasts

CL0197

54. Ratio of protein and lipid in the membrane of erythrocytes of human being is :-
(1) 1.8 (2) 1.3 (3) 0.80 (4) 0.60

CL0198

55. A student done the cell fractionation of a tissue and forgot to label his tubes. The content of one tube when studied showed organelles bounded by membrane with activity of catalase enzyme. These organelles could be :-
(1) SER (2) Chloroplast
(3) Lysosome (4) Peroxisome

CL0200

EXERCISE-III ANSWER KEY

Que.	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
Ans.	**2**	**3**	**4**	**2**	**3**	**2**	**4**	**2**	**3**	**2**	**1**	**2**	**2**	**3**	**3**
Que.	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30
Ans.	**3**	**4**	**3**	**4**	**3**	**4**	**3**	**1**	**2**	**1**	**2**	**2**	**3**	**3**	**3**
Que.	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45
Ans.	**4**	**4**	**4**	**3**	**1**	**2**	**3**	**3**	**2**	**3**	**1**	**3**	**2**	**3**	**1**
Que.	46	47	48	49	50	51	52	53	54	55					
Ans.	**4**	**1**	**4**	**3**	**2**	**2**	**3**	**2**	**2**	**4**					