BIOLOGY

BOOKS - AAKASH SERIES

THE UNIT OF LIFE

Exercise I Historical Account

1. The living cell was first discovered by

A. R.Hooke

B. A.V. Leeuwenhoek

C. N.Grew

D. R. Brown

Answer: B

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2. All structural details of cell were revealed through the following instrument

A. Light microscope

B. Ultra centrifuge

C. Electron microscope

D. Phase contrast microscope

Answer: C

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3. ..... concluded that the presence of cell wall is a unique character of plant cells .

A. AT. schwann

B. M.J. schleiden

C. R. virchow

D. R. Brown

Answer: A

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4. The study of cells is evolved into a branch of science with the

A. Discovery of a cells by Robert Hooke

B. Publication of micrographia

C. Invention of microscope by Zacharias jannsen

D. Discovery of bacteria by Leeuwenhoek

Answer: C

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5. Living cells were discovered by

A. Robert Hooke

B. Schleiden

C. Blue green algae

D. Mesophyll cells

Answer: A

6. The first electron microscope was designed by

A. Janssen and Hans

B. Robert Hooke

C. Knoll & Ruska

D. Schleiden and Schwann

Answer: C

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7. Compound microscope was discovered by

A. Zacharias Janssen

B. Robert Hooke

C. Leeuwenhoek

D. Dujardin

Answer: A

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8. Cell was first discovered by

A. Robert Hooke

B. Leeuwenhoek

C. Dujardin

D. Janssen

Answer: A

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9. Robert hooke wrote a book entitled

A. Enquiry into plants

B. Micrographia

C. Historia Plantarum

D. Cell

Answer: B

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10. Bacteria were discovered by

A. Robert Hooke

B. Janssen

C. Leeuwenhoek

D. Robert Brown

Answer: C

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11. The following century is usually considered as "Classical period of cell biology"

A. 18th

B. 19th

C. 20th

D. 21st

Answer: B

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Exercise I General Morphology Of A Cell Cell Theory

1. Cell lineage or cell inheritance theory was proposed by

R.Virchow

R. Brown

Suttan & Boveri

Hanstein

A. R.Virchow

B. R. Brown

C. Suttan & Boveri

D. Hanstein

Answer: A

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2. Cell theory is not applicable to

A. Viruses

B. Viroids

C. Prions

D. All the above

Answer: D

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3. "Omnis cellula-e-cellula" statement was given by-

A. Schleiden

B. Schwann

C. Rudolf Virchow

D. (1) & (2)

Answer: C

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4. The scope of cell theory was extended by

A. Schleiden & Schwann

B. R. Virchow

C. Robert Hooke

D. Corti

Answer: B

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Exercise I Protoplasm Theory Prokaryotic Cell

1. A membranous cell organelles which are found in both prokaryotic, eukaryotic cells are

A. Mitochondria

B. Ribosomes

C. Microbodies

D. Vacuole

Answer: B

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2. Genetic material of prokaryotic cell

A. ds DNA

B. ss DNA

C. ss RNA

D. ds DNA

Answer: A

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3. Extrachromosomal self replicating double stranded circular DNA in bacterial cell is called

A. Transposon

B. Extron

C. Intron

D. Plasmid

Answer: D

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4. Plasmids

Contain antibiotic resistance genes

Contain ds DNA molecule

Are self replicable

All the above

A. Contain antibiotic resistance gens

B. Contain ds DNA molecule

C. Are self replicable

D. All the above

Answer: D

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5. Unique features of prokaryotic cells are the presence of

A. Mesosomes

B. Inclusion bodies

C. Plasmids

D. All the above

Answer: D

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6. In prokaryotes the cell envelope includes

Glycocalyx

Cell wall

Cell membrane

All the above

A. Glycocalyx

B. Cell wall

C. Cell membrane

D. All the above

Answer: D

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7. Bacteria are divided into Gram +ve and Gram -ve based on

A. Nature of cell wall

B. Response to staining

C. Plasmids

D. 1 & 2

Answer: D

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8. The structure which prevents the bacteria from bursting or collapsing is

A. Cell wall

B. Glycocalyx

C. Cell membrane

D. Mesosomes

Answer: A

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9. Mesosomes include

A. Vesicles

B. Tubules

C. Lamellae

D. All the above

Answer: D

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10. Mesosomes help in

(A) Cell wall formation (B) DNA replication

(C) Replication (D) Secretion

(E) To increase enzymatic content

A. A, B, C only

B. C, D only

C. A, C only

D. A, B, C, D, E

Answer: D

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11. In some cyanobacteria, there are membranous extensions into the cytoplasm called _____which contain pigments.

A. Chromosomes

B. Chromomeres

C. Chromatophores

D. Chloroplasts

Answer: C

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12. Bacterial flagella is composed of _____.

A. Basal body

B. Hook

C. Filament

D. All the above

Answer: D

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13. Function of fimbriae is

A. Attachment

B. Absorption

C. Secretion

D. Reproduction

Answer: A

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14. In prokaryotes the ribosomes are associated with

A. Cytosol

B. Cell wall

C. Plasma membrane

D. Nucleoid

Answer: C

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15. Type of ribosomes present in prokaryotes is

A. 80s

B. 50s

C. 30s

D. 70s

Answer: D

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16. Site of protein synthesis in a prokaryotic cell is

A. Cytosol

B. Plasma membrane

C. Ribosomes

D. Gas vacuoles

Answer: C

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17. Reserve materials in prokaryotic cells are stored in the cytoplasm in the form of

Ribosomes

Polysomes

Inclusion bodies

Vacuoles

A. Ribosomes

B. Polysomes

C. Inclusion bodies

D. Vacuoles

Answer: C

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18. Amembrane bound systems which are present freely in the cytoplasm

A. Ribosomes

B. Inclusion bodies

C. Residual bodies

D. Baker's bodies

Answer: B

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19. Amembrane systems that lie freely in the cytoplasm includes

A. Phosphate granules

B. Glycogen granules

C. Cyanophycean granules

D. All the above

Answer: D

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20. Inclusion bodies of blue-green,purple and green photosynthetic bacteria are:

A. Vacuoles

B. Palade granules

C. Gas vacuoles

D. Elementary bodies.

Answer: C

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21. This pigment is abundantly present in blue green algae

A. Phycocyanin

B. Phycoerythrin

C. Fucoxanthin

D. Mixoxanthin

Answer: A

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22. Single, circular, naked, coiled DNA molecule of a prokaryote represents

A. Nucleoid

B. Chromosome

C. Heterokaryon

D. Plasmid

Answer: A

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Exercise I Morphology Eukaryotic Cell Cell Wall

1. Animal cells are different from plant cells in lack of

Cell wall

Plastids

Nucleus

1 & 2

A. Cell wall

B. Plastids

C. Nucleus

D. 1 & 2

Answer: D

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2. Cell wall materials found in Algal cell wall are

A. Cellulose

B. Galactans

C. Mananns

D. All the above

Answer: D

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3. Neighbouring cells are adjoined by

A. Middle lamellum

B. Primary cell wall

C. Secondary cell wall

D. Plasma membrane

Answer: A

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4. Common cell wall material in primary wall, secondary wall and middle lamellum is

A. Cellulose

B. Suberin

C. Pectin

D. Lignin

Answer: C

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5. The framework of secondary cell walls is made up of

A. Cellulose

B. Pectin

C. Lignin

D. Suberin

Answer: A

6. Living structures passing through the cell wall at the region of primary pit fields are called as

A. Plasma membrane

B. Microtubules

C. Cytoskeleton

D. Plasmodesmata

Answer: D

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7. Only primary cell wall is present in the cells of

A. Transfer cells

B. Xylem fibres

C. Meristematic cells

D. Sclereids

Answer: C

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8. The Secondary cell wall is present

A. Primary cell wall and middle lamellum

B. Plasmamembrane and primary cell wall

C. Meristematic cells

D. Tertiary wall and plasmamembrane

Answer: B

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9. Which of the following is a function of cell wall ?

A. Absorption

B. Secretion

C. Protection

D. All

Answer: D

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10. Major cell wall material present in the cell wall of fungal cells is

A. Cellulose

B. Suberin

C. Chitin

D. Cutin

Answer: C

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11. Wall layer of a typical plant cell composed by cellulose is

A. Primary cell wall

B. Secondary cell wall

C. Tertiary cell wall

D. All the above

Answer: C

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12. Cell wall was first observed by

A. Robert Brown

B. Robert Hooke

C. Schleiden

D. Robert Hill

Answer: B

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13. Middle lamellum is chemically rich in

A. Suberin

B. Pectin

C. Chitin

D. Lignin

Answer: B

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14. Thin areas in the primary wall are called

A. Pits

B. Primary pit fields

C. Plasmodesmata

D. Torus

Answer: B

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15. Frame work of plant cell wall is formed by

A. Cellulose microfibrils

B. Pectin

C. Mucopeptides

D. Cisternae of golgi complex

Answer: A

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16. Thickness of the cell wall is increased by a process called

A. Intussuception

B. Apposition

C. Gelatinization

D. Precipitation

Answer: B

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17. Increase of the following results due to intussusception is

A. Surface area

B. Thickness

C. Permeability

D. Flexibility

Answer: A

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18. Highly rigid cell wall in the following is

A. Suberised wall

B. Lignified wall

C. Cutinised wall

D. Primary cellwall

Answer: B

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19. The structure that acts as intercellular cementing substance and binds adjacent cells together is

A. Desmosome

B. Primary cellwall

C. Middle lamellum

D. Secondary cellwall

Answer: C

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20. Which of the following is a wrong statement

A. Pit cavity is uniformly wide in a simple pit

B. The thick middle portion of middle lamellum crossing the borderd pits is called torus

C. The diameter of the pit chamber gradually decreases towards Lumen of the cell in simple pit.

D. Secondary wall is absent in meristematic cells.

Answer: C

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21. The cell wall is not involved in

A. Absorption

B. Secretion

C. Translocation

D. Osmoregulation

Answer: D

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22. Regarding simple pits, the true statement is

A. Secondary wall arches over the pit chamber

B. Diameter of pit chamber is uniform throughout

C. Diameter of pit aperture is bigger than that of pit cavity

D. They are formed over the primary pit field only

Answer: B

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23. Find out the incorrect statement

A. Growth by apposition is particularly obvious in secondary walls

B. Thin areas in primary wall are called primary pit fields

C. Pit membrane of bordered pit pair has torus in the centre

D. Deposition of secondary wall keeps pace with cell enlargement

Answer: D

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24. Outermost living limit of a plant cell is

A. Cell wall

B. Plasma membrane

C. Cytoplasm

D. Tonoplast

Answer: B

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Exercise I Cell Membrane

1. The detailed structure of cell membrane was studied only after the invention of

A. Simple microscope

B. Compound microscope

C. Electron microscope

D. Phase contrast microscope

Answer: C

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2. Experimental material used for the study ale chemical structure of cell membrane was

A. White blood cells

B. Red blood cells

C. Platelets

D. Lymph cells

Answer: B

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3. The lipid component of cell membrane mainly consists of

A. Glycerides

B. Phosphoglycerides

C. Oligosaccharides

D. Proteins

Answer: B

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4. Cell membrane is chemically composed by

A. Lipids

B. Carbohydrates

C. Proteins

D. All the above

Answer: D

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5. The approximate percentage of proteins and lipids in the cell membrane of human erythrocyte respectively is

A. 40 and 52

B. 42 and 50

C. 52 and 40

D. 48 and 52

Answer: C

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6. Most widely accepted model for plasma membrane is

A. Sandwitch model

B. Fluid mosaic model

C. Unit membrane model

D. Trilamellar model

Answer: B

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7. The fluid nature of cell membrane is given by

A. Proteins

B. Carbohydrates

C. Lipids

D. All the above

Answer: C

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8. Fluid-mosaic model was proposed by

A. Robertson

B. Peter mitchell

C. Danielli and Daveson

D. Singer and Nicolson

Answer: D

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9. The fluid nature of plasma membrane helps in

A. Cell division

B. Cell growth

C. Endocytosis

D. All

Answer: D

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10. The selectively permeable nature of cell membrane is mainly contributed by

A. Lipids

B. Proteins

C. Lipo-proteins

D. Carbohydrates

Answer: C

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11. Many molecules can move briefly across the membrane without any requirement of energy and special membrane proteins. This is called _____.

A. Active transport

B. Passive transport

C. Osmosis

D. Plasmolysis

Answer: B

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12. Movement of water through the plasma membrane by diffusion is called

A. Plasmolysis

B. Exosmosis

C. Endosmosis

D. Osmosis

Answer: D

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13. Physical phenomenon that occur in Osmosis is

A. Diffusion

B. Evaporation

C. Percolation

D. Plasmolysis

Answer: A

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14. Driving force for active transport of ions across the cell membrane is

A. AMP

B. ATP

C. GTP

D. ADP

Answer: B

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15. Carrier proteins which are present in the cell membrane facilitate the transport of

A. Non - polar molecules

B. Hydrophobic molecules

C. Polar - molecules

D. Water

Answer: C

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16. Na^+ and K^+ pumping across the membrane is al an

A. Passive transport

B. Active transport

C. Diffusion

D. None of these

Answer: B

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17. Similar characater between prokaryotic cells and eukaryotic cells is

A. Cell wall composition

B. Presence of slime layer

C. Composition of plasma membrane

D. Nature of nucleus

Answer: C

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18. The thickness of plasma membrane is

A. 6.5 nm

B. 75 nm

C. 7.5 nm

D. 65 nm

Answer: C

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19. The cell structure consisting of trimorphic

A. Cell wall

B. Glycocalyx

C. Cell membrane

D. Middle lamellum

Answer: C

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20. Which model explains selective permeability of plasma membrane?

A. Sandwich model

B. Fluid mosaic model

C. Trilamellar model

D. Unit membrane model

Answer: B

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21. Fluid mosaic model of plasma membrane differs from trilamellar model in

A. Having proteins

B. The arrangement of phospholipids

C. The arrangement of proteins

D. The absence of proteins

Answer: C

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22. According to sandwitch model the thickness of each protein layer and the bilipid layer, respectively

A. 75 and $35A^{\circ}$

B. 35 and $75A^{\circ}$

C. 35 and $20A^{\circ}$

D. 20 and $35A^{\circ}$

Answer: D

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23. Presence of bilayered lipid in the cell membrane was first reported by

A. Singer

B. Nicholson

C. Davson and Danielli

D. Corti and Fontana

Answer: C

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Exercise I Protoplasm

1. Viscous fluid of living cell was called "sarcode" by

A. Kolliker

B. Von Mohl

C. Dujardin

D. Purkinje

Answer: C

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2. Most accepted nature of protoplasm is

A. Particulate nature

B. Sol - Gel nature

C. Alveolar nature

D. Fibrillar nature

Answer: B

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3. The seat of a number of biological process in a cell is

A. Nucleolus

B. DNA

C. Protoplasm

D. Plasma membrane

Answer: C

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4. The jelly like substance in a cell was identified by

A. Corti & Fontana

B. Dujardin

C. Robert Brown

D. Purkinje

Answer: A

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Exercise I Cytoplasm

1. Which one is present in both prokaryotic and eukaryotic cells?

A. Nucleus

B. DNA with histones

C. Cytoplasm

D. 80 S Ribosomes

Answer: C

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2. Cytoplasm of adjacent cells is interconnected by

A. Plasma membrane

B. Primary cell wall

C. Plasmodesmata

D. Pits

Answer: C

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3. The component of cytoplasm with 7-10% is

A. Protein

B. Lipid

C. Carbohydrates

D. Oil

Answer: A

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4. Amount of lipids in cytoplasm is

A. 1-2%

B. 2-3%

C. 3-4%

D. 7-10%

Answer: A

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5. Physical property of cytosol is

A. Tyndall's effect

B. Brownian movement

C. Irritability

D. (1) & (2)

Answer: D

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6. The phase reversel property of cytoplasmic matrix induces

A. Osmosis

B. Plasmolysis

C. Cyclosis

D. Deplasmolysis

Answer: C

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7. Circulatory movements of cytoplasm are seen in the

A. Staminal hair cells of Rheo

B. Leaf cells of Hydrilla

C. Cells of onion pealing

D. Pith cells

Answer: A

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8. Unidirectional flow of materials around a large central vacuole of the cell is called

A. Circulation

B. Brownian movement

C. Rotation

D. (1) and (2)

Answer: C

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Exercise I Endomembrane System

1. Cell organelles which are not included in the endomembrane system of a cell are

A. Mitochondria

B. Peroxisome

C. Chloroplast

D. All the above

Answer: D

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2. Luminal and extra luminal compartments in the intracellular space of a cell distiguished by the presence of

A. Mitochondria

B. Endoplasmic reticulum

C. Ribosomes

D. Cytoskeleton

Answer: B

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3. Lipo-protein network of tubular structures scattered in the cytoplasm of eukaryotic cell is

A. Cytoskeleton

B. Microtubules

C. Endoplasmic reticulum

D. Plastids

Answer: C

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4. Endoplasmic reticulum arises from

A. Inner karyotheca

B. Outer karyotheca

C. Plasmamembrane

D. Endomembrane system

Answer: B

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5. Rough ER is associated with

A. Ribosomes

B. Nucleus

C. Mesosomes

D. Peroxysomes

Answer: A

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6. Endoplasmic reticulum is involved in

A. Intracellular transport

B. Protein synthesis

C. Secretion

D. All

Answer: D

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7. What is the major site for lipid synthesis in a cell is

A. RER

B. SER

C. Mitochondria

D. Nucleus

Answer: B

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8. In animal cells steroidal hormones are synthesised by

A. Glyoxysomes

B. Peroxisomes

C. SER

D. RER

Answer: C

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9. SER differ with RER in lack of

A. Polysomes

B. Ribosomes

C. Nucleus

D. Centrioles

Answer: B

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10. Densely stained reticular structure found near the nucleus in a eukaryotic cell, is

A. Endoplasmic reticulum

B. Cytoskeleton

C. Golgi apparatus

D. Vacuoles

Answer: C

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11. Important site for formation of glycoproteins and glycolipids is

A. Golgi complex

B. SER

C. Lysosomes

D. Mitochondria

Answer: A

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12. The functional unit of Golgi apparatus is

A. Tubules

B. Vesicles

C. Cisternae

D. All

Answer: C

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13. The diameter of the cisternae ranges from

A. 0.5-1.0 mu m`

B. 1.0 -1.5 mu m`

C. $1.5 - 2.0\mu m$

D. $0.5 - 1.5\mu m$

Answer: A

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14. Cis face of golgi cisternae is always

A. Nearer to the nucleus

B. Nearer to the nucleolus

C. Away from the nucleus

D. Away from the nucleus

Answer: A

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15. The cell organelle which principally performs the function of packaging materials in a cell is

A. RER

B. SER

C. Golgi complex

D. Cell wall

Answer: C

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16. Membrane bound vesicular structures formed from golgi complex are

A. Peroxisomes

B. Lysosomes

C. Glyoxysomes

D. ER

Answer: B

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17. Cell organelle rich in almost all types of hydrolytic enzymes in a cell is

A. Mitochondria

B. Chloroplast

C. Lysosomes

D. Cytoplasm

Answer: C

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18. Enzymes that are found in the matrix of lysosome

A. Carbohydrates

B. Proteases

C. Lipases

D. All the above

Answer: D

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19. Cell organelles which help in the digestion of carbohydrates proteins and nucleic acids are

A. Glyoxysomes

B. Peroxysomes

C. Lysosomes

D. Spherosomes

Answer: C

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20. Hydrolytic enzymes present in the lysosome are optimally active at

A. Acidic pH

B. Basis pH

C. Neutral pH

D. No influence of pH

Answer: A

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21. The membrane bound space found in the cytoplasm

A. Centrosome

B. Vacuole

C. Centriole

D. ER

Answer: B

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22. The unit membrane present around the vacuole is called

A. Tonoplasm

B. Tonoplast

C. Tonolymph

D. (2) & (3)

Answer: B

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23. A large number of ions and other materials are transported into the vacuole by

A. Passive transport

B. Diffusion

C. Osmosis

D. Active transport

Answer: D

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24. Contractile vacuole is important for excretion in

A. Amoeba

B. Paramecium

C. Euglena

D. Plasmodium

Answer: A

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25. Food vacuoles are usually found in

A. Amoeba

B. Protists

C. Amphibians

D. Fungi

Answer: B

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26. 90 percent of the volume of the mature plant cell is occupied by

A. Cytoplasm

B. Nucleus

C. Vacuole

D. Cell membrane

Answer: C

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27. Endomembrane components are

(A) ER (B) Mitochondria

(C) Repository of cell (D) Chloroplast

(E) Suicidal bags of cell

A. A, B, C and D

B. Except 'A' remaining all

C. A, D, E

D. A, C, E

Answer: D

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28. Densely stained structure near the nucleus is

A. Lysosomes

B. Ribosomes

C. Golgi complex

D. Bioplasts

Answer: C

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29. The term Endoplasmic reticulum was given by

A. Kolliker

B. Schimper

C. Altman

D. Porter

Answer: D

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30. Which of the following cell organelles is involved in the formation of cell plate

A. Peroxysomes

B. Chloroplast

C. ER

D. Golgi complex

Answer: D

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31. Trimorphic cellorganelle is

A. Suicidal bags of cell

B. Palade granules

C. Plasmasome

D. Golgi complex

Answer: A

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32. Hydrolysing enzymes are present in

A. Nucleoplasm, peroxisomes

B. Lysosomes, peroxisomes

C. Glyoxysomes, nucleoplasm

D. Lysosomes, nucleoplasm.

Answer: D

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33. Polymorphic cell organelles are

A. All semiautonomous cell organelles and lysosomes

B. Lysosomes and peroxysomes

C. Suicidal bags of cell and exclusive semi autonomous plant cell organelle

D. Endoplasmic reticulm and chloroplast.

Answer: C

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34. Anthocyanins impart the following colours

A. Blue

B. Pink

C. Violet

D. All the above

Answer: D

35. The structural components of endoplasmic reticulum are

A. Cisternae

B. Tubules

C. Vesicles

D. All the above

Answer: D

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36. Tonoplasm is made up of

(I) H_2O

(II) Metabolic byproducts

(III) Secretory substances

(IV) Excretory materials

A. I only

B. I, IV only

C. I, II, IV only

D. I, II, III, IV

Answer: D

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37. Cell plate which transforms into middle lamellum is secreted by

A. Plasma membrane

B. Golgi complex

C. ER

D. Phragmoplast

Answer: B

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38. ER extends from

A. Middle lamellum to plasma membrane

B. Tonoplast to plasma membrane

C. Nuclear envelope to plasma membrane

D. Primary wall to secondary wall

Answer: C


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39. Lipochondria and Idiosomes are the alternative names of this cell organelle

A. Mitochondria

B. Lysosomes

C. Golgi complex

D. Elaioplasts

Answer: C

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40. Cytokinesis is inhibited if the following becomes non functional

A. Phragmoplast

B. Ribosomes

C. Lysosomes

D. Dictyosomes

Answer: D

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41. The pigment found in vacuole that imparts blue, red or violet colours is

A. Carotene

B. Anthocyanin

C. Xanthophyll

D. choloroplast

Answer: B

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42. Suicidal bags of a cell were discovered by

A. De Duve

B. Fontana

C. Palade

D. Golgi

Answer: A

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43. Digestion of foreign particles within the cell by lysosomes is called

A. Autolysis

B. Autophagy

C. Phagocytosis

D. Heterophagy

Answer: D

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44. What is untrue about lysosomes?

A. Polymorphic organelle

B. Bring about autolysis

C. Carry out intracellular digestion

D. Formation of cell plate

Answer: D

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45. The cell organelle that reduces the number of other cell organelles is

A. Mitochondrion

B. Elaioplast

C. Lysosome

D. Golgi complex

Answer: C

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Exercise I Plastids

1. Cell organelle exclusively found in all autotrophic plant cells and in Euglenoides is

A. Mitochondria

B. Chloroplast

C. lysosomes

D. Ribosomes

Answer: C

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2. Classification of plastids is mainly based on

A. Shape

B. Size

C. Pigmentation

D. Ontogeny

Answer: C

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3. Plastids with carotenoid pigments are

A. Chloroplast

B. Leucoplasts

C. Chromoplasts

D. (1) & (3)

Answer: D

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4. Plastids which are responsible for trapping light energy essential for photosynthesis

A. Leucoplasts

B. Chromoplasts

C. Chloroplasts

D. All

Answer: C

 Watch Video Solution

5. Plastid with carotenoids only are

A. Leucoplasts

B. Chromoplasts

C. Chloroplasts

D. All

Answer: B

 Watch Video Solution

6. Fat soluble pigments are

A. Carotenes

B. Xanthophylls

C. (1) & (2)

D. None

Answer: C

Watch Video Solution

7. The colourless (non-pigmented) plastids are

A. Leucoplasts

B. Chloroplasts

C. Chromoplasts

D. (1) & (3)

Answer: A

 Watch Video Solution

8. Leucoplasts which help in storage of carbonhydrates are

A. Elaioplasts

B. Aleuroplasts

C. Amyloplasts

D. Amorphoplasts

Answer: C

Watch Video Solution

9. Fat storing, non-pigmented plastid is

A. Elaioplasts

B. Amyloplasts

C. Aleuroplast

D. All

Answer: A

 Watch Video Solution

10. Colourless plastid responsible for storage of proteins is

A. Amyloplast

B. Aleuroplast

C. Elaioplast

D. None

Answer: B

 Watch Video Solution

11. Majority of the chloroplasts of the green plants are found in

A. Epidermal cells

B. Cortical cells

C. Mesophyll cells

D. Cork cells

Answer: C

Watch Video Solution

12. The average number of chloroplasts that are present in mesophyll cells

A. $1 - 10$

B. $10 - 20$

C. $20 - 30$

D. $30 - 40$

Answer: D

Watch Video Solution

13. Unicellular green alga with only one chloroplast is

A. Spirogyra

B. Ulothrix

C. Ulva

D. Chlamydomonas

Answer: D

 Watch Video Solution

14. The space limited by the inner membrane of chloroplast is called stroma

A. Envelope

B. Peri-plastidial space

C. Cristae

D. Stroma

Answer: D

Watch Video Solution

15. A number of organised flattened membranous sacs present in the stroma are

A. Grana

B. Fret membranes

C. Thylakoids

D. Spherosomes

Answer: C

Watch Video Solution

16. Pigmented regions of the chloroplast are

A. Stroma

B. Inner membrane

C. Thylakoids

D. (2) & (3)

Answer: C

Watch Video Solution

17. Proplastids form

A. Leucoplasts

B. Chromoplasts

C. Chloroplasts

D. All

Answer: D

Watch Video Solution

18. After fertilization one of the following changes is noticed in the ovary of Capsicum and potato.

A. Chromoplasts conversion to chloroplasts

B. Chloroplasts conversion to chromoplasts

C. Leucoplasts conversion to chromoplasts

D. Leucoplasts conversion to chloroplasts

Answer: D

 Watch Video Solution

19. Leucoplast does not contain

(A) Chlorophylls (B) Carotene

(C) Xanthophylls (D) Anthocyanin

A. Except D

B. AB only

C. BC only

D. ABCD

Answer: D

Watch Video Solution

20. Plastids were first reported by

A. Schimper

B. Sachs

C. Leeuwenhoek

D. Benda

Answer: C

Watch Video Solution

21. Plastids found in roots of Taeniophyllum are

A. Chromoplasts

B. Chloroplasts

C. Leucoplasts

D. (2) & (3)

Answer: D

 Watch Video Solution

Exercise I Mitochondria

1. Common semi autonomous cell organelles found in all eukaryotic cells are

A. Plastids

B. Mitochondria

C. Nucleus

D. 1 & 2

Answer: B

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2. The number of unit membranes which bound the mitochondria are

A. 1

B. 2

C. 3

D. 4

Answer: B

 Watch Video Solution

3. The continous limiting boundary of mito chondria is

A. Outer membrane

B. Inner membrane

C. (1) & (2)

D. None

Answer: A

Watch Video Solution

4. The surface area of mitochondria can be increased by

A. Outer membrane

B. Cristae

C. Matrix

D. All

Answer: B

5. Site of aerobic respiration in an eukaryotic cell is

A. Plasma membrane

B. Cytoplasm

C. Mitochondria

D. Peroxysome

Answer: C

Watch Video Solution

6. Cell organelle which produces the cellular energy in the form of ATP is

A. Mitochondria

B. Chloroplast

C. (1) & (2)

D. None

Answer: A

Watch Video Solution

7. Power houses of the cell is

A. Chloroplast

B. Mitochondria

C. Ribosomes

D. Lysosome

Answer: B

 Watch Video Solution

8. The mitochondria divide by

A. Binary fission

B. Mitosis

C. Fission

D. Replication

Answer: C

Watch Video Solution

9. The matrix of both chloroplast and mitochondria are similar in having

A. Circular DNA

B. 70s ribosomes

C. RNA

D. All

Answer: D

 Watch Video Solution

10. The cell organelle which helps in oxidative phosphorylation is

A. Chloroplast

B. Mitochondria

C. Ribosome

D. ER

Answer: B

Watch Video Solution

11. Circular DNA, RNA fragments and 70S ribosomes are seen in

A. ER

B. Mitochondria

C. Chloroplast

D. Both (2) and (3)

Answer: D

 Watch Video Solution

12. Potential energy is converted into kinetic energy by

A. Chloroplasts

B. Chromoplasts

C. Mitochondria

D. E.R.

Answer: C

Watch Video Solution

13. The term .mitochondrion. was given by

A. Benda

B. Schimper

C. Altmann

D. Kolliker

Answer: A

 Watch Video Solution

14. Krebs cycle takes place in

A. Matrix of mitochondrion

B. Stroma of chloroplast

C. Thylakoid of Chloroplast

D. Cristae of Mitochondrion

Answer: A

Watch Video Solution

15. Mitochondrion is semiautonous cell organelle due to the presence of

A. 70S Ribosomes

B. Circular DNA

C. Cell wall

D. Plasma membrane

Answer: B

Watch Video Solution

16. Number of oxysomes per mitochondrion is

A. $10^4 - 10^5$

B. $10^2 - 10^3$

C. $10^6 - 10^8$

D. $10^8 - 10^9$

Answer: A

Watch Video Solution

17. Which of the following is described as cell within the cell or prokaryotic cell within a eukaryotic cell?

A. Nucleus

B. Ribosome

C. Mitochondria

D. Endoplasmic Reticulum

Answer: C

Watch Video Solution

18. Mitochondria were first discovered by

A. Altmann

B. Kolliker

C. Benda

D. Schimper

Answer: B

Watch Video Solution

19. In mitochondria, electron transport occurs in the

A. Cristae

B. Matrix

C. Ribosome

D. All the above

Answer: A

 Watch Video Solution

20. More mitochondria would be found in

A. Meristematic cells

B. Epidermis

C. Companion cells

D. Xylem parenchyma

Answer: A

 Watch Video Solution

Exercise I Ribosomes

1. Ribosomes were first observed under the EM as dense particles by

A. Kolliker

B. Benda

C. Palade

D. Camelio Golgi

Answer: C

 Watch Video Solution

2. Cell oganelle which is not bounded by any membrane

A. Centriole

B. Spherosome

C. Vacuole

D. Ribosome

Answer: D

Watch Video Solution

3. Ribonucleoprotein particles found in a cell are

A. Ribosomes

B. Mesosomes

C. Glyoxysomes

D. All

Answer: A

Watch Video Solution

4. 70s and 80s ribosomes both are present in

A. Mitochondria

B. Chloroplast

C. Prokaryotic cells

D. Eukaryotic cells

Answer: D

Watch Video Solution

5. Energy transducing organelle is /are

A. Chloroplast

B. Mitochondria

C. Ribosome

D. (1) and (2)

Answer: D

Watch Video Solution

6. Universal cell organelles are

A. Ergosomes

B. Palade granules

C. Peroxysomes

D. (1) and (2)

Answer: D

Watch Video Solution

7. Peptidyl transferase enzyme is present in the following ribosomal sub-unit in chloroplast.

A. 30S

B. 50S

C. 40S

D. 60S

Answer: B

 Watch Video Solution

8. Polysome contains

One m-RNA with one paladae granule

One m-RNA with many lysosomes

One m-RNA with many Ergosomes

Many m-RNA with many lysosomes.

A. One m-RNA with one paladae granule

B. One m-RNA with many lysosomes

C. One m-RNA with many Ergosomes

D. Many m-RNA with many lysosomes.

Answer: C

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9. The two subunits of ribosomes get associated in the presence of the following ion

A. Mg^{+2}

B. Ca^{+2}

C. Fe^{+2}

D. Fe^{+3}

Answer: A

Watch Video Solution

10. Universal cell organelles (found in all living cells) are

A. Ribosomes

B. Plastids

C. Mitochondria

D. Vacuoles

Answer: A

Watch Video Solution

11. Universal smaller sub unit of ribosome is

A. 30S

B. 40S

C. 50S

D. 60S

Answer: A

 Watch Video Solution

12. Enzyme found in ribosomes which is essential for peptide bond formation is

A. Aminoacyl tRNA synthetase

B. Peptidyl transferase

C. RNA polymerase

D. Peptidyl hydrolase

Answer: B

Watch Video Solution

13. These are regarded as "protein factories"

A. Golgi complex

B. Ribosomes

C. Nucleoli

D. Microsomes

Answer: D

 Watch Video Solution

14. Of the following which one is classified on the basis of sedimentation co-efficient?

A. Endoplasmic reticulum

B. Ribosomes

C. Nucleus

D. Golgi complex

Answer: B

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15. Which among the following can be seen only under electron microscope?

(a) Chloroplast

(b) Ribosome

(c) Leucoplast

(d) Nucleus

A. Plastids

B. Mitochondria

C. Endoplasmic reticulum

D. Ribosomes

Answer: D

Watch Video Solution

16. Repository of cell is

A. Mitochondria

B. Chloroplast

C. Lysosome

D. Vacuole

Answer: D

Watch Video Solution

17. Biogenesis of the organelles concerned with translation of genetic message occurs in

A. Nucleolus

B. Nucleosome

C. Rough Endoplasmic Reticulum

D. Ribosomes

Answer: A

Watch Video Solution

18. The protein necessary for the organization of ribosomal subunits are synthesized by

A. Golgi complex

B. Peroxysomes

C. Ribosomes

D. Smooth endoplasmic reticulum

Answer: C

Watch Video Solution

Exercise I Microbodies

1. Membrane bound minute vesicles with enzymatic matrix present in both plant and animal cells are

A. Microbodies

B. Microsomes

C. Ribosomes

D. Plastids

Answer: A

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2. $2H_2O_2 \xrightarrow{catalase} 2H_2O_2 + O_2$

The above reaction is catalysed by an enzyme produced by which of the following cell organelle

A. Glyoxysomes

B. Perxisome

C. Lysosome

D. Spherosomes

Answer: B

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3. Conversion of fats into carbohydrates is a part of

A. HMP pathway

B. Glyoxylate cycle

C. EMP pathway

D. TCA cycle

Answer: B

Watch Video Solution

4. In the leaves of C_3 plants, peroxisomes are involved in a process celled

A. Respiration

B. C_3 cycle

C. C_2 cycle

D. C_4 cycle

Answer: C

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5. Organelles involved in the protection of cell from microbes and effect of H_2O_2 respectively are

A. Lysosomes and glyoxysomes

B. Peroxysomes and glyoxysomes

C. ER and golgi complex

D. Lysosomes and peroxysomes

Answer: D

 Watch Video Solution

Exercise I Cytoskeleton

1. A network of filamentous proteinaceous structures present in the cytoplasm is

A. Endoplasmic reticulum

B. Polysome

C. Cytoskeleton

D. None

Answer: C

Watch Video Solution

2. The cytoskeleton in a cell is involved in

A. Motility

B. Mechanical support

C. Shape of cell

D. All of above

Answer: D

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Exercise I Centrosome And Centrioles

1. Amembranous cell organelle .centriole. is present in

A. All plant cells

B. All animal cells

C. All prokaryotic cells

D. All cyanobacteria

Answer: B

 Watch Video Solution

2. Cell structures that are exclusively found in animal cells but not in plant cells are

A. Plastids

B. Cell wall

C. Centrioles

D. Gas vacuoles

Answer: C

Watch Video Solution

3. The membrane less space present nearer to the nucleus in animal cell is

A. Spherosome

B. Centrosome

C. Basal bodies

D. Chondriosome

Answer: B

Watch Video Solution

4. Number of centrioles present in a centrosome

A. One

B. Two

C. Three

D. Four

Answer: B

Watch Video Solution

5. The fibrils present as the structural component of centrosome

are made up of

A. Tubulin

B. Mannitol

C. Insulin

D. 1 and 2

Answer: A

Watch Video Solution

6. The proteinaceous central part of the proximal region of the centriole is

A. Spoke

B. Tubulin

C. Hub

D. Axoneme

Answer: C

Watch Video Solution

7. Component of centrosome that gives rise to spindle

apparatus during cell division in animal cells is

A. Hub

B. Axoneme

C. Centriole

D. All the above

Answer: C

Watch Video Solution

8. The cell organelle which facilitates locomotion in certain eukaryotic animal cell is

A. Cilia

B. Flagella

C. Centrosome

D. Centriole

Answer: C

9. Amembranous cell-organelles in animal cells are

A. Ribosomes, vacuole

B. Ribosomes and lysosomes

C. Ribosomes and centromere

D. Centrosome and Ribosomes

Answer: D

Watch Video Solution

Exercise I Cilia And Flagella

1. Hair like outgrowths of the cell membrane which work like oars are

A. Cilia

B. Flagella

C. Fimbriae

D. Sex pili

Answer: A

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2. The core of the cilium (or) the flagellum is called

A. Exoneme

B. Axoneme

C. Endoneme

D. All

Answer: B

Watch Video Solution

3. The core of the cilium/flagellum is composed of

A. 2 pairs of microtubules

B. 9 pairs of microtubules

C. 11 pairs of microtubules

D. 10 pairs of microtubules

Answer: D

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4. 9 + 2 array of microtubules is found in the core of

A. Cilia

B. Flagella

C. Fimbriae

D. (1) & (2)

Answer: D

Watch Video Solution

5. Number of radial spokes found in the axoneme of cilium/flagellum are

A. 2

B. 6

C. 9

D. 11

Answer: C

Watch Video Solution

6. In the axoneme of cilium, the pair of central microtubules are connected to peripheral to peripheral microtubules (doublet) by

A. Axial spoke

B. Radial spoke

C. Linkers

D. Inter doublet bridge

Answer: B

 Watch Video Solution

7. Centriole - like structure that produces cilium or flagellum is called

A. Baker's bodies

B. Peripheral bodies

C. Basal bodies

D. (2) & (3)

Answer: C

Watch Video Solution

Exercise I Nucleus

1. Nucleus with nuclear membrane is found in

A. Protists

B. Plant & fungal cells

C. Animal cells

D. All

Answer: D

Watch Video Solution

2. Eukaryotic cells may differ with prokaryotic cells in having

A. Locomotory structures

B. Cytoskeleton

C. Nucleus with nuclear membrane

D. All the above

Answer: D

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3. The term 'Chromatin was coined by

A. Robert Brown

B. Robertson

C. Flemming

D. Robert Hooke

Answer: C

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4. Chromatin found in the nucleus is a

A. Ribonucleoprotein

B. Nucleoprotein

C. Lipoprotein

D. Lipoxyprotein

Answer: B

Watch Video Solution

5. The nucleoprotein fibres present in the inter phase nucleus are

A. Chromatin

B. Chromosome

C. Nucleosome

D. Centromere

Answer: A

Watch Video Solution

6. Space between the two membranes of nuclear envelope is called

A. Periplastidial space

B. Perimitochondrial space

C. Perinuclear space

D. Perichondrial space

Answer: C

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7. The diameter of perinuclear space is

A. 10-50 nm

B. 50-100 nm

C. 20-40 nm

D. 30-50 nm

Answer: A

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8. Rough texture of outer nuclear membrane is due to the presence of

A. RER

B. SER

C. Nuclear pores

D. Ribosomes

Answer: D

Watch Video Solution

9. Transport of RNA and protein molecules in between nucleus and cytoplasm in both directions is facilitated by

A. RER

B. Nuclear envelope

C. Nuclear pores

D. Perinuclear space

Answer: C

Watch Video Solution

10. Cell organelle not found in erythrocytes of many mammals is

A. Mitochondria

B. Ribosomes

C. Nucleus

D. All

Answer: C

 Watch Video Solution

11. An example of enucleated living plant cell is

A. Erythrocytes

B. Immature sieve tube cells

C. Mature sieve tube cells

D. Tracheary elements

Answer: C

Watch Video Solution

12. A membranous spherical structure found in the nucleoplasm is

A. Chromatin

B. Nucleolus

C. Histones

D. All

Answer: B

 Watch Video Solution

13. Site for active ribosomal RNA synthesis in nucleus is

A. Nucleoplasm

B. Chromatin

C. Nucleolus

D. Nuclear envelope

Answer: C

Watch Video Solution

14. Nucleus as a cell organelle was first described by

A. Robert Hooke

B. Robertson

C. Rausburg

D. Robert Brown

Answer: D

Watch Video Solution

15. Prokaryotic cells differ from eukaryotic cells in the :

A. Nuclear membrane

B. Mitochondria

C. Plastids

D. All

Answer: D

Watch Video Solution

16. The shape of nucleus in human neutrophils

A. Bilobed

B. Tetralobed

C. Trilobed

D. Spherical

Answer: C

Watch Video Solution

17. Fungus with multinucleate condition is

(A) Mucor (C) Vaucheria

(B) Spirogyra (D) Rhizopus

A. A, B

B. B, C

C. A, D

D. C, D

Answer: C

 Watch Video Solution

18. Nucleoli were discovered by

A. Sutton

B. Fontona

C. Hertwig

D. Watson

Answer: B

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19. Nucleolus is absent in

A. Bacteria

B. Yeast

C. Mammalian RBC

D. (1) & (3)

Answer: D

20. Name the nucleic acid in nucleolar organizer which is involved in the synthesis of ribosomal RNA is

A. m-DNA

B. s-DNA

C. n-DNA

D. r-DNA

Answer: C

Watch Video Solution

21. Algae with multinucleate, haploid condition is

(A) Mucor (B) Vaucheria

(C) Spirogyra (D) Rhizopus

A. A, B

B. B, C

C. B

D. C, D

Answer: C

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22. Nucleus is often described as "cell brain" because

A. It is located in the centre of the cell

B. It is shaped like that of brain

C. It controls and coordinates various metabolic activities

D. It can divide and give rise to new nuclei

Answer: C

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23. The term nuclesome was coined by

A. Oudet

B. Nageli

C. Kornberg

D. Fontana

Answer: A

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Exercise I Chromosomes

1. Eukaryotic chromosome is chemically constituted by

A. DNA

B. Histones

C. RNA

D. All the above

Answer: D

Watch Video Solution

2. Major packaging material of chromosome is

A. DNA

B. RNA

C. Histones

D. All

Answer: A

 Watch Video Solution

3. The part of chromosome at primary constriction area is called

A. Kinetochore

B. Centromere

C. Chromatin

D. Nucleus

Answer: B

Watch Video Solution

4. Proteinaceous disc shaped structures associated with centromere of a chromosome are

A. Kinetochores

B. Histones

C. Nucleoproteins

D. Telomeres

Answer: A

 Watch Video Solution

5. Component of a chromosome which divides it into two arms is

A. Primary constriction

B. Secondary constriction

C. Nuclear organizer

D. Trebent

Answer: A

 Watch Video Solution

6. A chromosome with two equal arms is

A. Sub-metacentric

B. Metacentric

C. Telocentric

D. Acrocentric

Answer: B

 Watch Video Solution

7. Chromosome with two unequal arms is

A. Metacentric

B. Sub-metacentric

C. Acrocentric

D. (2) and (3)

Answer: D

 Watch Video Solution

8. Chromosome with one shorter arm and one longer arm, having centromere slightly away from middle is

A. Metacentric

B. Sub-metacentric

C. Acrocentric

D. Telocentric

Answer: B

Watch Video Solution

9. A chromosome with one extremely short and one very long arm is

A. Acrocentric

B. Telocentric

C. Metacentric

D. Sub-metacentric

Answer: A

Watch Video Solution

10. A chromosome with only one arm is

A. Acrocentric

B. Telocentric

C. Metacentric

D. Sub-metacentric

Answer: B

Watch Video Solution

11. Sometimes a few chromosomes have non-staining secondary constrictions at a constant location. This gives the appearance of small fragment called the

A. Primary constriction

B. Secondary constriction

C. Satellite

D. (2) and (3)

Answer: B

Watch Video Solution

Watch Video Solution

12. The small rounded knob like fragment in a chromosome lying beyond the secondary constriction is

A. Centromere

B. Kinetochore

C. Satellite

D. Telomere

Answer: C

Watch Video Solution

13. Number of centromeres present in acentric chromosome

A. 2

B. 3

C. 2

D. 0

Answer: D

Watch Video Solution

14. Polytene chromosome was first observed by

(a) Stevens and Wilson

(b) Heitz and Bauer

(c) Balbiani

(d) Khorana

A. Balbiani

B. T.Painter

C. Kollar

D. Kolliker

Answer: C

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15. Sex chromosomes are also called

A. Determinant chromosomes

B. Super numerary chromosomes

C. Accessory chromosomes

D. Allosomes

Answer: D

Watch Video Solution

16. Number of chromosomes found in the pollen grain of maize is

A. 20

B. 10

C. 30

D. 40

Answer: B

Watch Video Solution

17. Lampbrush chromosomes occur during

A. Salivary gland cells of dipterans

B. Gonadal cells of reptiles

C. Amphibian oocytes

D. Brain cells

Answer: C

Watch Video Solution

18. Shape of prokaryotic chromosome is

A. Rod shape

B. Circular

C. L shape

D. Sac like

Answer: B

Watch Video Solution

19. Balbiani rings are found in

A. Lampbrush chromosomes

B. Polytene chromosomes

C. Allosomes

D. Autosomes

Answer: B

 Watch Video Solution

20. Mixing of paternal and maternal chromosomes is called

A. Apospory

B. Fertilization

C. Apogamy

D. Apomixis

Answer: B

 Watch Video Solution

21. Polytene chromosomes were discovered by

A. Muller

B. Hofmeister

C. Balbiani

D. Waldeyer

Answer: C

 Watch Video Solution

22. Folded Fibre Model of chromatin was proposed by

A. Dupraw

B. Kornberg

C. Thomas

D. All the above

Answer: A

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23. According to folded fibre model, the diameter of chromatin fiber is

A. $30A^{\circ}$

B. 230 nm

C. $230A^{\circ}$

D. $23A^{\circ}$

Answer: C

Watch Video Solution

24. The size of the largest chromosome in Trilium

A. 42 microns

B. 22 microns

C. 52 microns

D. 30 microns

Answer: D

Watch Video Solution

25. Identify the giant chromosomes

A. B-chromosomes

B. G-chromosomes

C. Polytene-chromosomes

D. Q-band chromosome

Answer: C

Watch Video Solution

26. Term chromosome was coined by

A. Meischer

B. Hofmeister

C. Flemming

D. Waldeyer

Answer: D

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27. Heterochromatin differs from euchromatin in

A. Chemical nature

B. Degree of staining

C. Activeness of genes

D. (2) and (3)

Answer: D

Watch Video Solution

28. The term "nucleolar organizer" refers to

A. Organizing site of nucleolus in a specific chromosome

B. Karyosome

C. Chromatin reticulum

D. Genetically active chromatin

Answer: A

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29. Differential stainability of a chromosome is called

A. Heiroglyphics

B. Heteropycnosis

C. Heterosis

D. Idiogram

Answer: B

Watch Video Solution

30. Chromosomal theory of inheritance was pro posed by

A. Schleiden and Schawann

B. Beadle and Tautum

C. Sutton and Boveri

D. Nageli and Hofmeister

Answer: C

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31. Chromosomes are the

A. Physical basis of heredity

B. Physical basis of life

C. Chemical basis of heredity

D. Dynamic centres of the cells

Answer: A

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32. Diagrammatic representation of karyotype of a species is called

A. Biome

B. Idiogram

C. Genome

D. Heiroglyphics

Answer: B

Watch Video Solution

33. Ends of chromosomes exhibiting polarity and offering stability are known as

A. Knobs

B. Chromomeres

C. Satellites

D. Telomeres

Answer: D

Watch Video Solution

34. Size of chromosome can be measured easily in

A. metaphase

B. S-phase

C. Telophase

D. Interphase

Answer: A

 Watch Video Solution

35. V-shaped anaphasic chromosome is

A. Metacentric

B. Sub-metacentric

C. Acrocentric

D. Telocentric

Answer: A

Watch Video Solution

36. Plant showing highest number of chromosomes belongs to

A. Fungus

B. Algae

C. Pteridophyte

D. Angiosperm

Answer: C

Watch Video Solution

37. Chracteristic diploid chromosome complement of an organism is called

A. Idiogram

B. Linkage group

C. Karyotype

D. None

Answer: C

Watch Video Solution

38. The haploid chromosome number in sugarcane is how many times greater than diploid number of maize?

A. One

B. Three

C. Two

D. Six

Answer: C

Watch Video Solution

39. Number of genomes in a tetraploid plant having 24 chromosomes is

A. 6

B. 12

C. 24

D. 4

Answer: D

Watch Video Solution

40. Histone octamer acts as the core of the nucleosome. The type of histone which is not a component of octamer?

A. H_2A

B. H_2B

C. H_4

D. H_1

Answer: D

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41. Number of H_1 proteins associated with a 10 nucleosomes in chromatin fibre is

A. 9

B. 10

C. 11

D. 12

Answer: B

Watch Video Solution

42. A chromosome with centromeres and arms in 1:1 ratio is

A. Metacentric

B. Sub metacentric

C. Acrocentric

D. Telocentric

Answer: D

Watch Video Solution

43. A telocentric chromosome of metaphase consists of

A. One centromere, one arm, two chromatids

B. One centromere, two arms, two chromatids

C. One centromere, one arm, one chromatid

D. One centromere, two arms, one chormatid

Answer: A

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44. The ratio between Histone .2. and Histone 1 associated with eukaryotic DNA, respectively?

A. $2:1$

B. 1: 2`

C. $1:4$

D. $4:1$

Answer: D

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45. Chromosomes were first observed by Hofmeister in

A. Tridax

B. Pisum

C. Tradescantia

D. Oryza

Answer: C

Watch Video Solution

46. Chromosomal morphology (Structure) is best observed at :-

A. Interphase and prophase

B. Prophase and Metaphase

C. Metaphase and Anaphase

D. Naphase and Telophase

Answer: C

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47. The ratio of centromeres, kinetochores, DNA molecules in a metaphase chromosome

A. $1:2:2$

B. $1:2:1$

C. $2:2:2$

D. $1:1:2$

Answer: A

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48. If a diploid chromosomal number of plant "A" is doubled for once gives the haploid chromosomal number of plant B and haploid chromosome number of plant .C. is equalent to the diploid chromosomal number of plant “D”. Identify the correct sequence of plant names

A. Oryza sativa, Nicotiana tobaccum, Zea mays, Saccharum officinarum

B. Pisum sativum, Zea mays, oryza sativa, Allium cepa

C. Saccharum officinarum, Gossypium hirsutum, Oryza sativa, Nicotiana tobaccum

D. Zea mays, Saccharum officinarum, Nicotiana tobaccum, Oryza sativa

Answer: D

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49. Find out the correct sequence in decreasing order of chromosome number of the following

(A) Egg cell of Zea mays

(B) Microspore of Oryza sativa

(C) Synergid of Allium cepa

(D) Secondary nucleus of Pisum sativum

A. DBAC

B. DABC

C. BDAC

D. CADB

Answer: A

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50. The amino acid ,Arginine, is rich in

A. H_{2A}, H_{2B}

B. H_3, H_4

C. H_1

D. H_1, H_{2A}

Answer: B

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51. The amino acid Lysine is rich in

A. H_{2B}, H_3

B. H_{2A}, H_{2B}

C. H_3, H_4

D. H_5, H_1

Answer: B

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52. The ratio of H_1 and H_3 proteins in chromatin is

A. $1:2$

B. $2:1$

C. $1:1$

D. $1:4$

Answer: A

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Exercise Ii

1. Which of the following structure is present only in prokaryotic cell?

A. Plasmid

B. Nucleus

C. Mitochondria

D. Ribosomes

Answer: A

Watch Video Solution

2. which type of vacuoles provide buoyancy to bacteria?

A. Sap vacuoles

B. Contractile Vacuoles

C. Gas vacuoles

D. Food vacuoles

Answer: C

Watch Video Solution

3. A cell organelle 'x' is divided into two types on the basis of a cell organelle 'y' , that helps in the protein synthesis. Identify 'x' and 'y' respectively

A. Golgi complex and ribosome

B. ER and mitochondria

C. ER and ribosome

D. Lysosome and ER

Answer: C

Watch Video Solution

4. A number of proteins synthesised by ribosomes present on the ER are transferred to

A. Vacuoles

B. Lysosomes

C. Plastids

D. Golgi apparatus

Answer: D

Watch Video Solution

5. which of the following vacuoles help in osmoregulation in Amoeba?

A. Gas vacuoles

B. Food vacuoles

C. Contractile vacuoles

D. Sap vacuoles

Answer: C

 Watch Video Solution

6. The vaculoes which help in the digestion of food particles engulfed by protists are

A. Contractile vacuoles

B. Gas vacuoles

C. Sap vacuoles

D. Food vacuoles

Answer: D

Watch Video Solution

7. Which of the following stain is used to observe mitochondria?

A. Methylene blue

B. Safranin

C. Janus green

D. Gram stain

Answer: C

Watch Video Solution

8. which of the following plastid is coloured and contains carotenoids?

A. Aleuroplast

B. Elaioplast

C. Amyloplast

D. Chromoplast

Answer: D

 Watch Video Solution

9. The orange colour of carrot root is due to the presence of

A. Aleuroplast

B. Elaioplast

C. Chromoplast

D. Amyloplast

Answer: C

 Watch Video Solution

10. A network of filamentous proteinaceous structures present in

the cytoplasm is

A. Thylakoid

B. Endoplasmic reticulum

C. Plasmalemma

D. Cytoskeleton

Answer: D

Watch Video Solution

11. Animals cannot carry out gluconeogenesis as they do not possass

A. Glycolysis enzyme

B. Glycolate enzyme

C. Glyoxylate enzyme

D. Lysosome

Answer: C

 Watch Video Solution

12. Diagrammatic representation of karyotype of a species is called

A. Cladogram

B. Dendogram

C. Idiogram

D. More than one option is correct

Answer: C

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13. Incorrect statement in relation to nucleolus is

A. It is a spherical structure

B. It is separated from nucleoplasm by nuclear envelope

C. It is the site of rRNA synthesis

D. They are larger and more numerous in cells actively engaged in protein synthesis

Answer: B

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14. Microfilaments perform all the following functions, except

A. Provide support to plasma membrane

B. Involved in cyclosis

C. Help in cell plate method during cell division

D. Help in pseudopodia formation

Answer: C

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15. Gas vacuole ,Single envelope system Cytoskeleton Non cellulosic wall Microfilaments , Cytoplasmic streaming Lack any cell organelles

How many of the above features are associated with procarytic cell ?

A. One

B. Four

C. Two

D. Three

Answer: D

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16. Certain golgain vesicles which are budded-out from the trans - face contains acid hydrolases. Such vesicles are better termed as

A. Heterophagosomes

B. Microsomes

C. Phragmosomes

D. Primary lysosomes

Answer: D

 Watch Video Solution

17. In plants the tonoplast facilitates the transport of a number of ions and other materials

A. Against concentration gradient into vacuole

B. Along concentration gradient into vacuole

C. Along concentration gradient into gas vacuoles

D. Against concentration gradient in contractile vacuole

Answer: A

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18. An organelle that has no DNA but capable of duplication is

A. Ribosome

B. Centriole

C. Chloroplast

D. Nucleus

Answer: B

Watch Video Solution

19. Find out all the proteins that make eukaryotic flagellum.

A. Nexin, tubulin and flagellin

B. Tubulin, nexin, dynein and flagellin

C. Actin, myosin, dynein, nexin and tubulin

D. Dynein, tubulin and nexin

Answer: D

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20. Eukaryotic cells have a well organised nucleus and

a. Both 70 S and 80 S types of ribosomes

b. Flagella associatd with 9 + 2 organisation

c. Shows cytoplasmic streaming

d. their DNA si complexed with histones to constitute the chromatin

A. All are correct

B. Only 1 is incorrect

C. Only 3 and 4 are correct

D. Both 2 and 4 are incorrect

Answer: A

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21. 9 + 2 organisation is present in

A. Flagella of bacteria

B. Flagella and cilia of eukaryotic cell

C. Basal body

D. Centriole and basal body

Answer: B

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22. All the following statements are correct except ,

A. Peroxisomes are quite common in the photosynthetic cells. Their number can be 70100 per mesophyll cell, wherein they interact with mitochondria and chloroplasts to take part in photorespiration

B. Glyoxysomes are numerous in the endosperm of wheat

C. The ER- bound ribosomes synthesise secretory membrane and lysosomal protein

D. Ribosomes when associated with ER are attached with their 60S sub-unit

Answer: B

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23. Triglyceride metabolism to convert fats into carbohydrates is helped by glyoxylate cycle. The organella responsible for this is found is .

A. Rice seeds

B. Castor seeds

C. Wheat seeds

D. More than one option is correct

Answer: B

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24. Catalase and urate oxidase enzymes are associated with the organelle which is also involved in

A. Gluconeogenesis

B. Photorespiration

C. Glycolate oxidation

D. Secretion

Answer: D

Watch Video Solution

25. Carbohydrates which present in the cell membrane take part in :-

A. Transport of substance

B. Cell recognition

C. Attachment to microfilament

D. Attachment to microtubules

Answer: B

Watch Video Solution

26. Plasma membrane is fluid structure due to presence of :-

A. Carbohydrate

B. Lipid

C. Glycoprotein

D. Polysaccharide

Answer: B

Watch Video Solution

27. Amphipathic molecule in plasma membrane is

A. Protein

B. Carbohydrates

C. Phospholipids

D. All the above

Answer: C

Watch Video Solution

28. Ingestion of solid food by plasma membranes is called

A. Endosmosis

B. Pinocytosis

C. Cytokinesis

D. Phagocytosis

Answer: D

Watch Video Solution

29. Ingestion of large molecules by animal cell is called

A. Diffusion

B. Osmosis

C. Exocytosis

D. Endocytosis

Answer: D

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30. Mitochondria are also called as

A. Lipochondria

B. Sarcoplasm

C. Chondriosomes

D. Microbodies

Answer: C

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31. Maximum enzymes are found in :

A. Lysosomes

B. Mitochondria

C. Nucleus

D. E.R

Answer: C

Watch Video Solution

32. Besides producing vesicles, the function of Golgi body is

A. Lysosome formation

B. Formation of spindle fibres

C. Formation of E.R

D. All the above

Answer: A

Watch Video Solution

33. Which cell organelles secretes zymogen granules

A. Lysosomes

B. Golgibody

C. Smooth E.R.

D. Sphaerosomes

Answer: B

Watch Video Solution

34. Acrosome of sperm is derived from

A. Golgi vesicle

B. Lysosome

C. Golgi tubule

D. cisternae

Answer: A

 Watch Video Solution

35. Hydrolytic enzymes are abundantly found in which cell organelles?

A. Ribosome

B. Lysosome

C. Oxysome

D. Endoplasmic reticulum

Answer: B

Watch Video Solution

36. The smooth E.R. is generally made up of :-

A. Cisternae

B. Tubules

C. Vesicle

D. All the above

Answer: B

Watch Video Solution

37. Most of the cell-organelles are derived from which structure of cell

A. Nucleus

B. Endoplasmic reticulum

C. Mitochondria

D. Chloroplast

Answer: B

Watch Video Solution

38. Ribophorin-I and II occur on the surface of

A. Rough E.R.

B. Smooth E.R.

C. Golgi body

D. None

Answer: A

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39. The term lipochondria was suggested for

A. Mitochondria

B. E.R.

C. Golgi complex

D. Ribosome

Answer: C

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40. The golgi components are bound by :

A. Single unit membrane

B. Double unit membrane

C. Cisternae by single, tubules and vacuole by double

D. Cisternae and tubules by single and vacuole by double

Answer: A

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41. At which pH lysosomal enzymes remain active

A. pH - 5

B. PH - 7

C. pH - 8

D. pH - 1.0

Answer: A

Watch Video Solution

42. The cell organelles having abundance of oxidizing enzymes is :-

A. Golgi body

B. Endoplasmic reticulum

C. Centrioles

D. Mitochondria

Answer: D

Watch Video Solution

43. Mitochondria are present in the :

A. Aerobic organism only

B. Obligate anaerobic organism

C. Aerobic and obligate anaerobic organism

D. Angiosperm only

Answer: A

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44. Mark the lysosomal stabilizer

A. Vitamin- K

B. Vitamin-A

C. Cortisone

D. Progesterone

Answer: C

Watch Video Solution

45. The nuclear membrane originate from :-

A. E.R.

B. Golgi cisternae

C. Golgi vesicle

D. Lysosome

Answer: A

Watch Video Solution

46. Which of the following prevents the rupturing of lysosomal membrane :

A. Cholesterol

B. Vit. A

C. Testosterone

D. UV - rays

Answer: A

Watch Video Solution

47. GERL concerned with the biogenesis of:

A. Golgibody

B. E.R.

C. Mitochondria

D. Lysosomes

Answer: D

 Watch Video Solution

48. The stored food and secretory substances found in the cytoplasm makes :

A. Cytoplasm

B. Hyaloplasm

C. Protoplasm

D. Deuto plasm

Answer: D

 Watch Video Solution

49. Labilisers found on membrane of lysosome are

A. Cortisone and cortisol

B. Cholesterol and heparin

C. Testosterone and progesterone

D. Cholesterol and progesterone

Answer: C

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50. Vacuole in a plant cell

A. Lacks membrane and contains air

B. Lacks membrane and contains water and excretory substances

C. Is membrane-bound and contains storage proteins and lipids

D. Is membrane-bound and contains water and excretory substances

Answer: D

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51. Detoxification of lipid soluble drugs and other harmful compounds in ER is carried out by cytochrome.

A. Cytochrome P450

B. Cytochrome bf

C. Cytochrome c

D. Cytochrome $a_1 - a_3$

Answer: A

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52. What is not true of sphaerosomes

A. Involved in photorespiration

B. Arise from E.R

C. Related to fat metabolism

D. Single membrane bound

Answer: A

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53. Elioplasts absent in :-

A. Potato

B. Cocos nucifera

C. Arachis hypogea

D. Helianthus

Answer: A

Watch Video Solution

54. Which ionholds the ribosomal subunits together

A. Ca^{+2}

B. Mn^{+2}

C. Mg^{+2}

D. Na^+

Answer: C

Watch Video Solution

55. Smallest cell organelle is :-

A. Lysosome

B. Centrosome

C. Ribosome

D. Golgibody

Answer: C

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56. Non pigmented part of chloroplast is called :-

A. Thylakoids

B. Grana

C. Stroma

D. Lamella

Answer: C

Watch Video Solution

57. Which of the following pair lack the unit membrane

A. Nucleus & E.R

B. Mitochondria & Chloroplast

C. Ribosome & Nucleolus

D. Golgi body & lysosome

Answer: C

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58. Which of the following is NOT a true oganalle

A. Lysosome

B. Ribosome

C. Chloroplast

D. Mitochondrion

Answer: B

Watch Video Solution

59. Nuclear pores are guarded by:

A. DNA

B. Annulus

C. Protein

D. None

Answer: B

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60. True chromosomes absent in prokaryotes due to the absence of

A. Nucleus

B. Nucleolus

C. Histone

D. All the above

Answer: C

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61. A complete set of chromosome or cell genes inherited as a unit from a parent is known as

A. Karyotype

B. Gene pool

C. Genotype

D. Genome

Answer: C

Watch Video Solution

62. Which part of chromosome is concern with ageing of organism and cancer.

A. Centromere

B. Telomere

C. Kinetochore

D. Satellite

Answer: B

Watch Video Solution

63. Total heriditray material outside the chromosome is called

A. Cistron

B. Plasmon

C. Muton

D. Intron

Answer: B

Watch Video Solution

64. The non-sticky chromosomal ends are known as-

A. Chromatids

B. Centromere

C. Chromomere

D. Telomere

Answer: D

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65. One solenoid composed of:

A. 8-nucleosome

B. 6-nucleosome

C. 10-nucleosome

D. 16-nucleosome

Answer: B

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66. Nucleosome is made up of

A. Nonhistone protein + RNA

B. Histone protein and DNA

C. Non-histone and histone protein

D. Phospholipid and protein

Answer: B

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67. Nucleosome model proposed by

A. Du-Praw

B. Kornberg and Thomas

C. Sleffensen

D. Waldeyer and Taylor

Answer: B

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68. Structure which provide shape to chromosome is called

A. 1)Telomere

B. 2)Satellite

C. 3)Centromere

D. 4)Chromomere

Answer: C

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69. Nucleolus is formed by

A. Mitochondria

B. Nucleus and Ribosome

C. Primary constriction

D. Secondary constriction

Answer: D

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70. Hetero-chromatin is :-

A. Darkly stained part of chromatin

B. Lightly stained part of cristae

C. Lightly stained part of grana

D. Scattered Lobes in cytoplasm

Answer: A

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71. One genome is which only one set of Chromosomes present ?

A. Haploid

B. Diploid

C. Triploid

D. Polyploid

Answer: A

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72. Telomerase is an enzyme which is a

A. RNA

B. Ribonucleoprotein

C. Repetitive DNA

D. Simple protein

Answer: B

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73. Which of following organisms has cell wall?

A. Euglena

B. Mucor

C. Mycoplasma

D. Amoeba

Answer: B

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74. Which of following is mismatched?

A. Algae - Galactans, mannose

B. Fungi - Cellulose

C. Dinoflagellate - Stiff cellulose plate

D. Bacteria- Peptidoglycans

Answer: B

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75. In r-RNA, "r" stands for

A. Ribophorins

B. Ribozyme

C. Ribosomal

D. SRP

Answer: C

Watch Video Solution

Exercise Iii Previous Aipmt Neet Questions

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

A. Lysosome

B. Ribosome

C. Chloroplast

D. Mitochondrion

Answer: D

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2. The correct sequence of involvement of cell organelles in secretion of proteins from the cell is

A. Nucleus → Ribosomes → Endoplasmic reticulum → Golgi apparatus → Secretory vesicles → Plasma membrane

B. Nucleus → Ribosomes → Endoplasmic reticulum → Lysosomes → Plasma membrane

C. Nucleus → Endoplasmic reticulum → Ribosomes → Golgi apparatus → Lysosomes → Plasma membrane

D. Nucleus $\rightarrow$ Endoplasmic reticulum $\rightarrow$ Ribosomes $\rightarrow$ Golgi apparatus $\rightarrow$ Secretory vesicles $\rightarrow$ Plasma membrane

Answer: A

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3. The type of ribosomes is same in:

A. 1)Cytoplasm of eukaryotic cells, their mitochondria and chloroplasts.

B. 2)cytoplasm of eukaryotic cells, their chloroplasts and microbodies.

C. 3)Prokaryotes, mitochondria and chloroplasts.

D. 4) Eukaryotic cytoplasm, mitochondria and endo plasmic reticulum.

Answer: C

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4. A complex of ribosomes attached to a single strand of RNA is known as.

A. Polymer

B. Polyribosome

C. Polypeptide

D. Okazaki fragment

Answer: B

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5. Which of the following pathways is involved for packaging of secretory proteins?

A. Trans face of Golgi body $\rightarrow$ Cis face of Golgi body $\rightarrow$ RER SER $\rightarrow$ Secretory vesicles

B. RER $\rightarrow$ Cis face of Golgi body $\rightarrow$ Trans face of Golgi body $\rightarrow$ Secretory vesicles

C. Cis face of Golgi body $\rightarrow$ Trans face of Golgi body $\rightarrow$ RER $\rightarrow$ Secretory vesicles

D. RER $\rightarrow$ Trans face of Golgi body $\rightarrow$ Cis face of Golgi body $\rightarrow$ Secretory vesicles

Answer: B

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6. Mitochondria and chloroplast are

(a) semi-autonomous organelles

(b) formed by division of pre-existing organelles and they contain DNA but lack protein synthesizing machinery

Which one of the following options is correct?

A. both (a) and (b) are correct

B. (b) is true but (a) is false

C. (a) is true but (b) is false

D. both (a) and (b) are false

Answer: C

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7. Microtubules are the constituents of

A. Cilia, Flagella and Peroxisomes

B. Spindle fibres, Centrioles and Cilia

C. Centrioles, Spindle fibres and Chromati

D. Centrosome, Nucleosome and Centrioles

Answer: B

 Watch Video Solution

8. A complex of ribosomes attached to a single strand of RNA is known as

A. Polysome

B. Polymer

C. Polypeptide

D. Okazaki fragment

Answer: A

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

A. Mitochondria

B. Chloroplasts

C. Lysosomes

D. Nuclei

Answer: C

Watch Video Solution

10. Water soluble pigments found in plant cell vacuoles are

A. Xanthophylls

B. Chlorophylls

C. Carotenoids

D. Anthocyanins

Answer: D

 Watch Video Solution

11. A cell organelle containing hydrolytic enzymes is :

A. Lysosome

B. Microsome

C. Ribosome

D. Mesosome

Answer: A

 Watch Video Solution

12. Which of the following are not membrane-bound?

A. Ribosomes

B. Lysosomes

C. Mesosomes

D. Vacuoles

Answer: A

Watch Video Solution

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

A. Ribosome

B. Mesosome

C. Plasma membrane

D. Nuclear envelope

Answer: D

Watch Video Solution

14. A protoplast is a cell

A. without nucleus

B. undergoing division

C. without cell wall

D. without plasma membrane

Answer: C

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15. Satellite DNA is important because it

A. shows high degree of polymorphism in population and also the same degree of polymorphism in an individual, which is heritable from parents to children.

B. does not code for proteins and is same in all members of the population

C. codes for enzymes needed for DNA replication

D. codes for proteins needed in cell cycle.

Answer: A

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16. Cellular organelles with membranes are

A. chormosomes, ribosomes and endoplasmic reticulum

B. endoplasmic reticulum, ribosomes and nuclei

C. lysosomes, Golgi apparatus and mitochondria

D. nuclei, ribosomes and mitochondria

Answer: C

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17. Cell wall is absent in

A. Funaria

B. Mycoplasma

C. Nostoc

D. Aspergillus

Answer: B

Watch Video Solution

18. Which structures perform the function of mi- tochondria in bacteria?

A. Nucleoid

B. Ribosomes

C. Cell wall

D. Mesosomes

Answer: D

Watch Video Solution

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

A. Microtubules

B. Microfilaments

C. Intermediate filaments

D. All the above

Answer: B

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20. The osmotic expansion of a cell kept in water is chiefly regulated by

A. Mitochondria

B. Vacuoles

C. Plastids

D. Ribosomes

Answer: B

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21. Match the following and select the correct answer.

A) Centriole
B) Chlorophyll
C) Cristae
D) Ribozymes

I) Infoldings in mitochondria
II) Thylakoids
III) Nucleic acids
IV) Basal body cilia or flagella

	A	B	C	D
1)	IV	II	I	III
3)	I	III	II	IV

	A	B	C	D
2)	I	II	IV	III
4)	IV	III	I	II

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22. Which one of the following living organisms completely lacks a cell wall?

A. Cyanobacteria

B. Sea-fan (Gorgonia)

C. Saccharomyces

D. Blue-green algae

Answer: B

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23. A major site for synthesis of lipids is

A. RER

B. SER

C. Symplast

D. Nucleoplasm

Answer: B

Watch Video Solution

24. The complex formed by a pair of synapsed homologous chromosomes is called

A. Equatorial plate

B. Kinetochore

C. Bivalent

D. Axoneme

Answer: C

Watch Video Solution

25. The Glogi complex palys a major role

A. in trapping the light and transforming it into chemical energy

B. in digesting proteins and carbohydrates

C. as energy transferring organelles

D. in post translational modification of proteins and glycosidation of lipids

Answer: D

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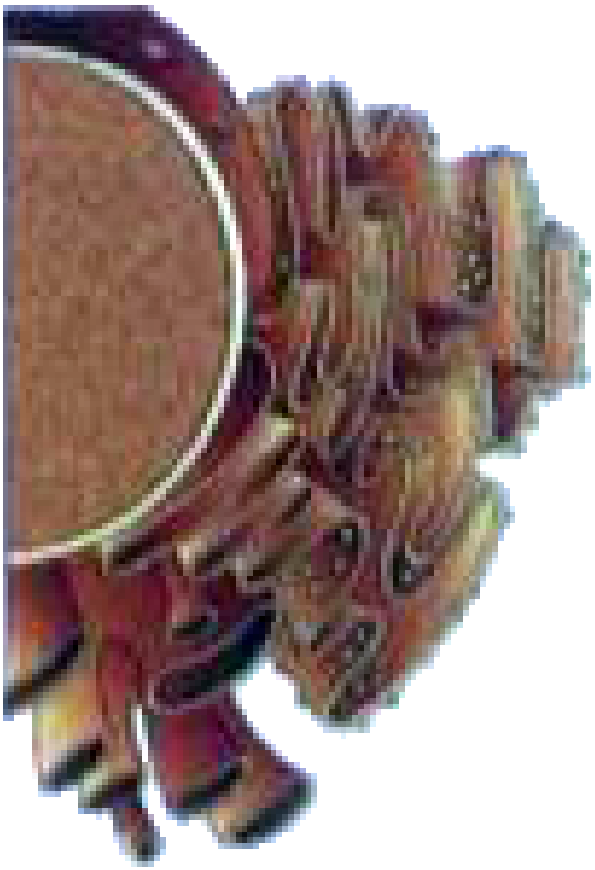
26. Which one of the following organelle in the figure correctly matches with its function?



A. Rough endopolasmic reticulum, formation of glycoproteins

B. Golgi apparatus, protein synthesis

C. Golgi apparatus, formation of glycolipids

D. Rough endoplasmic reticulum, protein synthesis

Answer: D

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27. Which one of the following is correctly matched

A. Passive transport of nutrients - ATP

B. Apoplast - Plasmodesmata

C. Potassium - Readily mobilization

D. Bakane of rice seedings - F.Skoog

Answer: C

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28. Which one of the following does not differ in E . Coli and chlamydomonas ?

A. Ribosomes

B. Chromosomal organization

C. Cell wall

D. Cell membrane

Answer: D

Watch Video Solution

29. What is true about ribosomes ?

A. The prokaryotic ribosomes are 80s, where "S" stands for sedimentation

coefficient

B. These are composed of ribonucleic acid and proteins

C. These are found only in eukaryotic cells

D. These are self-splicing introns of some RNAs

Answer: B

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30. Nuclear membrane is absent in

A. Penicillium

B. Agaricus

C. Volvox

D. Nostoc

Answer: D

 Watch Video Solution

31. Select the the correct statement from the following regarding cell membrane

A. Na^+ and K^+ ions move across cell membrane by passive transport

B. Proteins make up 60 to 70% of the cell membrane.

C. Lipids are arranged in a bilayer with polar heads towards the inner part.

D. Fluid mosaic model of cell membrane was proposed by Singer and Nicolson

Answer: D

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32. Which one of the following conditions correctly describes the manner of determining the sex in the given example?

A. XO type of sex chromosomes determine male sex in grasshopper.

B. XO condition in humans as found in turner syndrome, determine female sex.

C. Homozygous sex chromosomes (xx) produce male in drosophila

D. Homozygous sex chromosomes (zz) determine female sex in birds.

Answer: A

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33. What would be the number of chromosomes of the aleurone cells of a plant with 42 chromosomes in its root tip cells ?

A. 63

B. 84

C. 21

D. 42

Answer: A

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34. Important site for formation of glycoproteins and glycolipids is

A. Golgi apparatus

B. Plastid

C. Lysosome

D. Vacuole

Answer: A

 Watch Video Solution

35. Peptide synthesis inside a cell takes place in

A. Mitochondria

B. Chromoplast

C. Ribosomes

D. Chloroplast

Answer: C

 Watch Video Solution

36. which one of the following structures between two adjacent cells is an effective transport pathway?

A. Plasmodesmata

B. Plastoquinones

C. Endoplasmic reticulum

D. Plasma lemma

Answer: A

Watch Video Solution

37. Single-celled eukaryotes are included in:

A. Protista

B. Fungi

C. Archaea

D. Monera

Answer: A

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38. Which among the following has its own DNA?

A. Mitochondria

B. Dictyosome

C. Lysosome

D. Peroxisome

Answer: A

Watch Video Solution

39. The plasma membrane consists mainly of

A. Phospholipids embedded in a protein bilayer

B. Protein embedded in a phospholipid bilayer

C. Proteins embedded in a polymer of glucose molecules

D. Proteins embedded in a carbohydrate bilayer

Answer: B

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40. Algae have cell wall made up of

A. Cellulose, galactans and mannans

B. Hemicellulose, pectins and proteins

C. Pectins, cellulose and proteins

D. Cellulose, hemi cellulose, and pectins

Answer: A

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41. Satellite DNA is useful tool in ;

A. Organ transplantation

B. Sex determination

C. Forensic science

D. Genetic engineering

Answer: C

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42. Plasmodesmata are

A. Locomotory structures

B. Membranes connecting the nucleus with plasmalemma

C. Connections between adjacent cells

D. Lignified cemented layers between cells

Answer: C

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43. Cytoskeleton is made up of

A. Callose deposits

B. Cellulosic microfibrils

C. Proteinaceous filaments

D. Calcium carbonate granules

Answer: C

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44. Middle lamella is composed mainly of

A. Muramic acid

B. Calcium pectate

C. Phosphoglycerides

D. Hemicellulose

Answer: B

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

A. Proplastids

B. Glyoxysomes

C. Peroxisomes

D. Mitochondria

Answer: B

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46. Vacuole in a plant cell

A. Is membrane - bound and contain storage proteins and lipids

B. Is membrane - bound and contains water and excretory substances

C. Lacks membrane and contains air

D. acks membrane and contains water and excretory substances

Answer: B

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47. Keeping in view the fluid mosaic model for the structure of cell membrane which one of the following statement is correct w.r.t. the movement of lipids and proteins from one lipid monolayer to the other (described as flip- flop movement) ?

A. Both lipids and proteins can flip-flop

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

C. While proteins can flip-flop, lipids cannot

D. Neither lipids, nor proteins can flip-flop

Answer: B

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48. The two sub- units of ribosomes remain united at a critical ion level of

A. Copper

B. Manganese

C. Magnesium

D. Calcium

Answer: C

49. The length of DNA molecule greatly exceeds the dimensions of the nucleus in eukaryotic cell. How is this DNA accommodated

A. Super - coiling in nucleosomes

B. DNase - digestion

C. Through elimination of repetitive DNA

D. Deletion of non-essential genes

Answer: A

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50. Select wrong statement.

A. Both chloroplast and mitochondria have an internal compartment, the thylokoid space bounded by the thylokoid membrane

B. Both chloroplast and mitochondria contain DNA

C. The chloroplast are generally much larger than mitochondria

D. Both chloroplast and mitochondria contain an inner and an outer

membrane.

Answer: A

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51. Which one of the following is not a part of cell membrane ?

A. Glycolipids

B. Proline

C. Phospholipids

D. Cholesterol

Answer: B

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52. In the hexaploid wheat, the haploid (n) and basic (x) number of chromosomes are

A. n = 21 and x = 21

B. n = 21 and x = 14

C. n = 21 and x = 7

D. n = 7 and x = 21

Answer: C

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53. What would be number of chromosomes in the cells of aleurone layer in plant species have 8 chromosomes in its synergids

A. 16

B. 24

C. 32

D. 8

Answer: B

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54. Cri-du-chat syndrome in humans is caused by the

A. Fertilization of an xx egg by a normal y-bearing sperm

B. Loss of half of the short arm of chromosome 5

C. Loss of half of the long arm of chromosome 5

D. Trisomy of 21st chromosome.

Answer: B

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55. A major breakthrough in the studies of cells came with the development of electron microscope. This is because .

A. The resolution power of the electron micro scope is much higher than that of the light microscope

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

C. Electron beam can pass through thick materials where as light microscopy requires thin sections.

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

Answer: A

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56. The main organelle involved in modification and routing of newly synthesized proteins to their destinatoins is

A. Mitochondria

B. Endoplasmic reticulum

C. Lysosome

D. Chloroplast

Answer: B

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57. Barophilic prokaryotic

A. Grow Slowly in highly alkaline frozen lakes at high altitudes

B. Occur in water containing high concentrations of barium hydroxide

C. Grow and multiply in very deep marine sediments

D. Readily grows and divides in sea water enriched in any soluble salt of barium.

Answer: C

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58. Protein synthesis in an animal cell occurs

A. Only on the ribosomes present in cytosol

B. On ribosomes present in cytoplasm as well as in mitochondria

C. Only on ribosomes attached to the nuclear envelope and endoplasmic reticulum

D. On ribosomes present in the nucleolus as well as in cytoplasm.

Answer: C

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59. A woman with 47 chromosomes due to three copies of chromosome 21 is characterized by :

A. Down's syndrome

B. Triploidy

C. Turner's syndrome

D. Super femaleness

Answer: A

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60. According to widely accepted "fluid mosai model" cell membranes are semi -fluid , where lipids and integral proteins are diffuse randomly. In recent years, this model has been ,modified in several respects . In this regard , which of the following statements is incorrect?

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

B. Proteins can remain confined within certain domains of the membrane

C. Proteins can also undergo flip-flop movements in the lipid bilayer

D. Many proteins remain completely embedded within the lipid bilayer.

Answer: C

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61. When a freshwater protozoan possessing a contractile vacuole is placed in a glass containing marine watre, the vacuole will

A. Increase in number

B. Disappear

C. Increase in size

D. Decrease in size

Answer: D

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62. Flagella of prokaryotic and eukaryotic cells differ in

A. Type of movement and placement in cell

B. Location in cell and mode of functioning

C. Microtubular organization and type of movement

D. Microtubular organization and function

Answer: C

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63. Extranuclear inheritance is a consequence of presence of genes in

A. Mitochondria and chloroplasts

B. Endoplasmic reticulm and chloroplasts

C. Ribosomes and chloroplast

D. Lysosomes and ribosomes

Answer: A

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64. In chloroplasts, chlorophyll is present in

A. Outermembrance

B. Inner membrane

C. Thylakoids

D. Stroma

Answer: C

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65. If you are provided with root-tips of onion in your class and are asked to count the chromosmes, which of the following stages can you most convenintly look into.

A. Metaphase

B. Telophase

C. Anaphase

D. Prophase

Answer: A

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66. Chromosomes in a bacterial cell can be 1-3 in number and

A. Are always linear

B. Can be either circular or linear, but never both within the same cell

C. Can be circular as well as linear within the same cell

D. Are always circular

Answer: D

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67. Which of the following is a correct match

A. Down syndrome - 21st chromosome

B. Sickel-cell anaemia-x-chromosome

C. Haemophilia-y-chromosome

D. Parkinson's disease-x-and-y-chromosome

Answer: A

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68. If fluid mosaic model of plasma membrane :-

A. Upper layer is non-polar and hydrophilic

B. Polar layer is hydrophobic

C. Phospholipids form a bimolecular layer

D. Protein form a middle layer

Answer: C

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69. Ribosomes are produced ?

A. Nucleus

B. Cytoplasm

C. Mitochondria

D. Golgibody

Answer: A

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70. Which of the following occurs more than one and less than five in a chromosome?

A. Chromatid

B. Chromomere

C. Centromere

D. Telomere

Answer: D

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71. Male XX and female XY sometime occur due to

A. Deletion

B. Transfer of segments in x and y

C. Aneuploidy

D. Hormonal imbalance

Answer: B

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72. In which animal, dimorphic nucleus is found ?

A. Amoeba

B. Trypanosoma gambiense

C. Plasmodium vivax

D. Paramoecium caudatum

Answer: D

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73. No. of Barr bodies in xxx female

A. 1

B. 2

C. 3

D. 4

Answer: C

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74. Extranuclear chromosomes occur in : -

A. Peroxisome, ribosome

B. Chloroplast and mitochondria

C. Mitochondria and ribosome

D. Chloroplast and lysosome

Answer: B

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75. Microtules are absent in

A. Mitochondria

B. Flagella

C. Spindle fibres

D. Centriole

Answer: A

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76. Lysosomes are the reservoirs (store houses) of

A. Hydrolytic enzymes

B. Secretory enzymes

C. RNA and proteins

D. Fats (or sugar or ATP)

Answer: A

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

A. Ribosomes

B. Peroxisomes

C. Mitochondria

D. Endoplasmic reticulum

Answer: D

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78. In an animal cell, protein synthesis takes place

A. On the ribosomes present in the cytosol

B. On the ribosomes attached to nuclear envelop and endoplasmic reticulum

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

D. On ribosomes present in the cytosol as well as in the mitochondria.

Answer: B

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79. Extra nuclear DNA are located in

A. Lysosomes and chloroplast

B. Golgi complex and ribosomes

C. Chloroplasts and mitochondria

D. Ribosomes and mitochondria

Answer: C

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80. During karyokinesis, the spindle fibres get attached to condensing chromosome at a highly differentiated region. This region is called as

A. Chromomere

B. Chromocentre

C. Centriole

D. Kinetochore

Answer: D

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81. Mongoloid idiocy in human beings - caused by the trisomy of chromosome 21 is also known

A. Down's syndrome

B. Turner's syndrome

C. Klinefelter's syndrome

D. Tay - sachs disease

Answer: A

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