BIOLOGY

Worksheet-6

STEP

A PROJECT BY PUNJAB GROUP

Worksheet-6

(The Cell)

Q.1 Nucleus may be _____ or _____ in shape.

A) Irregular, spherical
B) Rectangular, spherical
C) Elongated, spherical
D) Ellipsoidal, square

Q.2 The example of polynucleate cells is:

A) Smooth muscle cells
B) Striated muscle cells
C) Striped muscle cells
D) Skeletal muscle cells

Q.3 In non-dividing phase nucleus contains _____ and soluble sap called _____ respectively.

A) Chromatin network, nucleoplasm
B) Chromosomes, nucleoplasm
C) Nucleoplasm, chromatin network
D) Chromatin network, cytoplasm

Q.4 The hereditary material is in the form of chromosomes, which control:

A) Reproductive activities of the cell
B) Somatic activities of the cell
C) All activities of the cell
D) Physiological activities of the cell

Q.5 The membrane that separates the nuclear material from the cytoplasm is:

A) Plasmalemma
B) Cytoplasmic membrane
C) Plasma membrane
D) Nuclear membrane

Q.6 The outer and inner nuclear membranes are continuous at certain points, resulting in the formation of:

A) Endoplasmic reticulum
B) Nucleolus
C) Nuclear pores
D) Chromosomes

Q.7 The exchange of material between the nucleus and the cytoplasm is carried out through:

A) Endoplasmic reticulum
B) Nuclear pores
C) Vacuoles
D) Nuclear envelope

Q.8 The number of nuclear pores in the nuclei of differentiated cells such as erythrocytes is only:

A) 1-2 nuclear pores/nucleus
B) 2-3 nuclear pores/nucleus
C) 3-4 nuclear pores/nucleus
D) 5-6 nuclear pores/nucleus

Q.9 The example of undiffentiated cells is that of:

A) Leucocytes C) Osteocytes
B) Erythrocytes D) Egg cells

Q.10 Number of nucleoli may be:

A) Many per nucleus
B) One per nucleus
C) One or more per nucleus
D) Zero per nucleus

Q.11 It is the _____ where ribosomes are assembled and then exported to the cytoplasm via nuclear pores.

A) Nucleus
B) Nucleoplasm
C) Nuclear envelope
D) Nucleolus

Q.12 During cell division thread like material is converted into darkly stained structures known as:

A) Nucleoli C) Nucleosomes
B) Nuclear membrane D) Chromosomes

Q.13 The place on chromosomes where spindle fibres are attached during cell division is called:

A) Centromere
B) Chromatid

C) Secondary construction
D) Nucleosome

Q.14 Each chromosome consists of _____ at the beginning of cell division.

A) Two non-sister centromeres
B) Two sister chromatids
C) Two non-sister chromatids
D) Two sister centromeres

Q.15 All the information needed to control the activities of the cell is located on the chromosomes in the form of:

A) Centromeres C) Genes
B) Kinetochores D) Genetic material

Q.16 The number of chromosomes in _____ remains constant generation after generation.

A) All individuals of same species
B) All individuals of different species
C) Few individuals of same species
D) Few individuals of different species

Q.17 In man each cell contains:

A) 23 chromosomes C) 8 chromosomes
B) 46 chromosomes D) 48 chromosomes

Q.18 Number of chromosomes in each cell of fruit fly, *Drosophila melanogaster* is:

A) 46 C) 48
B) 26 D) 8

Q.19 In each cell of Garden pea, the number of chromosomes is:

A) 26 C) 08
B) 16 D) 14

Q.20 The number chromosomes in germ cells is:

A) Tetraploid C) Haploid
B) Triploid D) Diploid

Q.21 Human sperms and eggs have:

A) 23 chromosomes C) 4 chromosomes
B) 46 chromosomes D) 13 chromosomes

Q.22 Number of chromosomes in pollens of onion is:

A) 14 C) 08
B) 16 D) 07

Q.23 Number chromosomes in the sperms of frog is:

A) 26 C) 14
B) 13 D) 16

Q.24 The network of channels which is often continuous with plasma membrane and also appears to be in contact with the nuclear membrane is called as:

A) Endoplasmic reticulum
B) Chromatin network
C) Reticular formation
D) Microtubular network

Q.25 Like intermediate filaments _____ also provides mechanical support to the cell so that its shape is maintained:

A) Microfilaments
B) Microtubules
C) Golgi apparatus
D) Endoplasmic reticulum

Q.26 Two morphological forms of endoplasmic reticulum are:

A) ER with the ribosome and ER without ribosome
B) ER with cisternae and ER without cisternae
C) ER with enzymes and ER without enzymes
D) Rough endoplasmic reticulum and sarcoplasmic reticulum

Q.27 The apparatus, which was found virtually in all eukaryotic cells and consists of stacks of flattened membrane bound sacs is called as:

A) Golgi Apparatus

B) Granum
C) Endoplasmic reticulum
D) Intergranum

Q.28 Inner concave surface of Golgi apparatus is:

A) Maturation face C) Forming face
B) Cis face D) Proximal face

Q.29 The direction of flow of protein products synthesized on ribosomes is as under:

A) Ribosomes → RER → Transport Vesicles of ER → Golgi apparatus → Golgi vesicles → Plasma membrane
B) Ribosomes → SER → Transport vesicles of ER → Golgi apparatus → Golgi vesicles → Plasma membrane
C) Ribosomes → RER → Golgi vesicles → Golgi apparatus → Plasma membrane
D) Ribosomes → RER → Golgi apparatus → Golgi vesicles → Plasma membrane

Q.30 Blebs from tips of SER fuse with Golgi apparatus cisternae at:

A) Forming face C) Trans face
B) Inner face D) Distal face

Q.31 In mammals, the pancreas secretes granules containing enzymes. Such granules are formed by:

A) SER C) Golgi apparatus
B) RER D) Lysosomes

Q.32 The conjugation of proteins and lipids with carbohydrates is carried out in:

A) SER C) Golgi apparatus
B) RER D) Mitochondria

Q.33 Under electron microscope mitochondria appear to be:

A) Vesicles, rods or filaments
B) Stellate, rods or filamentous
C) Vesicles, star like or filamentous
D) Round, rods or triangular

Q.34 The number, shape and internal structure of mitochondria:

A) Vary rarely C) Vary widely
B) Do not vary D) Do not resemble

Q.35 The inner membrane of mitochondrion forms infoldings into the inner chamber called:

A) Mitochondrial cristae
B) Mitochondrial matrix
C) Mitochondrial stroma
D) Mitochondrial sap

Q.36 The inner surface of cristae in the mitochondrial matrix has small knob like structures known as:

A) F_1 particles C) Matrix
B) F_0 particles D) F-ATPase

Q.37 Mitochondrial matrix contains in it a large number of:

A) Enzymes and coenzymes
B) Organic and inorganic salts
C) Enzymes, coenzymes, organic and inorganic salts
D) Enzymes, coenzymes, organic and inorganic salts and DNA with ribosomes

Q.38 Mitochondria extract energy from different components of food and convert it in the form of:

A) Glucose C) NADPH
B) ATP D) ADP

Q.39 Animal cells, and cells of some microorganisms and lower plants contain _____ located near the exterior surface of the nucleus.

A) One centriole

B) Two centrioles

C) Two pairs of centrioles

D) Two mitochondria

Q.40 Just before the cell divides:

A) Chromosomes duplicate

B) Centrioles duplicate

C) Ribosomes duplicate

D) Nucleoli duplicate

Q.41 Centrioles play important role in the:

A) Cytokinesis of plant cell

B) Karyokinesis of plant cell

C) Furrowing during cell division

D) Formation of mitotic apparatus in plants

Q.42 Cell contains many tiny granular structures known as:

A) Ribosomes C) Mitochondria

B) Nuclei D) Golgi Apparatus

Q.43 Ribonucleoprotein particles discovered by Palade in cell are:

A) Ribosomes C) Nucleosomes

B) Lysosomes D) Golgi vesicles

Q.44 Ribosomes exist in two forms in eukaryotic cells, i.e.:

A) Freely scattered in cytoplasm and attached with SER

B) Freely scattered in cytoplasm and attached with RER

C) Freely scattered in nucleoplasm and attached with RER

D) Freely scattered in nucleoplasm and attached with SER

Q.45 Each ribosome consists of:

A) Five subunits C) Three subunits

B) Four subunits D) Two subunits

Q.46 Pick up the choice which is true about subunits of eukaryotic ribosomes:

A) The larger subunits sediments at 60s, while smaller subunits sediments at 40s.

B) The larger subunit sediments at 50s, while smaller subunit sediments at 30s.

C) The larger subunit sediments at 60s, while smaller subunit sediments at 30s.

D) The larger subunit sediments at 50s, while smaller subunit sediments at 40s.

Q.47 Ribosomal subunits are attached to the mRNA string from:

A) 3^- end C) 4^- end

B) 2^- end D) 5^- end

Q.48 New ribosomes are assembled in the:

A) Nucleus C) Mitochondria

B) Nucleolus D) Golgi apparatus

Q.49 The factory of ribosomes is the _____, while that of protein synthesis is the _____.

A) Nucleolus, ribosomes

B) Nucleus, ribosomes

C) Ribosomes, nucleolus

D) Nucleolus, mitochondria

Q.50 Which one of the following is a single membrane enclosed organelle?

A) Mitochondria C) Nucleus

B) Lysosome D) Chloroplast

Q.51 Which one of the following is a congenital disease?

A) Uremia

B) Glycogenosis

C) Myocardial infarction

D) Cerebral infarction

Q.52 Which one of the following is not true about Tay sach's disease?

A) Mental disorder

B) Congenital disorder

C) Lysosomal disorder

D) Cardiovascular disorder

Q.53 Tay sach's disease is due to deficiency of an enzyme associated with:

A) Metabolism C) Catabolism

B) Anabolism D) Catalysis

Q.54 Following organelles are derived from special assemblies of microtubules, EXCEPT:

A) Cilia C) Centrioles

B) Flagella D) Microbodies

Q.55 Cyclosis occurs due to the involvement of:

A) Microtubules

B) Microfilaments

C) Intermediate filaments

D) Myofilaments

Q.56 Intermediate filaments are called so, because they have intermediate:

A) Position in cell C) Length

B) Composition D) Diameter

Q.57 Absence of an enzyme that is involved in the catabolism of lipids may ultimately result in:

A) Glycogenosis

B) Lysosomal disorder

C) Mental retardation

D) Storage disease

Q.58 The most undesirable consequence of Tay Sach's disease is:

A) Accumulation of lipids in brain cells

B) Mental retardation

C) Death

D) Absence of an enzyme involved in catabolism of lipids

Q.59 Following events are associated with a lysosomal disorder called Tay Sach's disease. Arrange them in a specific sequence with respect to their occurrence:

i. Mental retardation
ii. Inheritance of abnormal gene
iii. Accumulation of lipids in brain cells
iv. Lack of catabolism of lipids
v. Absence of an enzyme

A) i, ii, iii, iv, v C) ii, iv, i, iii, v

B) v, iv, iii, ii, i D) ii, v, iv, iii, i

Q.60 Events associated with lysosomal disorders are mentioned here below, arrange them in a sequence with respect to their occurrence:

i. Mutation
ii. Storage diseases
iii. Accumulation of substances within the cells
iv. Deficiency of lysosomal enzymes
v. Metabolic sluggishness

A) i, ii, iii, iv, v C) v, iv, iii, ii, i

B) i, iv, v, iii, ii D) ii, iii, iv, v, i

Q.61 Autophagy in a cell is carried out by:

A) Lysosome C) Glyoxisome

B) Peroxisome D) Mesosome

Q.62 Autophagy is carried out by:

A) Lysosomes

B) Autophagosomes

C) Heterophagosomes

D) Peroxisomes

Q.63 The organelle that protects the cells from invading organisms or any other foreign object is:

A) Lysosome

B) Transport vesicle of endoplasmic reticulum

C) Golgi vesicle

D) Autophagosome

Q.64 The proteins found in muscles are also found in:

A) Cytoskeleton C) Endoskeleton

B) Exoskeleton D) Cartilage

Q.65 Cytoskeletal fabric consists of following structural components EXCEPT:

A) Microtubules

B) Cytosol

C) Microfilament

D) Intermediate filaments

Q.66 Amoeboid movements are because of:

A) Intermediate filaments

B) Microtubules

C) Microfilaments

D) Cytoskeleton

Q.67 Determination of cell shape and integration of cellular compartments is the role of:

A) Microfilaments

B) Cell membrane

C) Intermediate filaments

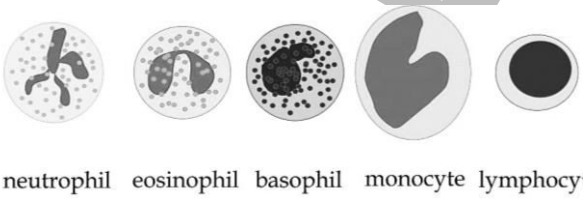
D) Cell wall

ANSWER KEY (Worksheet-6)							
1	A	21	A	41	C	61	A
2	D	22	C	42	A	62	B
3	A	23	B	43	A	63	A
4	C	24	A	44	B	64	A
5	D	25	D	45	D	65	B
6	C	26	A	46	A	66	C
7	B	27	A	47	D	67	C
8	C	28	A	48	B		
9	D	29	A	49	A		
10	C	30	A	50	B		
11	D	31	C	51	B		
12	D	32	C	52	D		
13	A	33	A	53	C		
14	B	34	C	54	D		
15	C	35	B	55	B		
16	A	36	A	56	D		
17	B	37	D	57	C		
18	D	38	B	58	C		
19	D	39	B	59	D		
20	C	40	B	60	B		

EXPLANATION

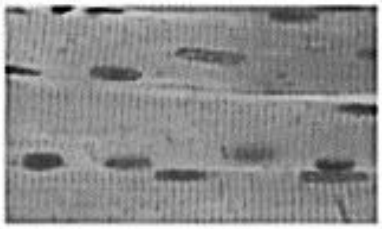
Q.1 Answer is "Irregular, Spherical"

Explanation: Most of the nuclei are spherical in shape, however nuclei of certain cells (like various types of WBCs.) have irregular shapes e.g. the nucleus of neutrophils is two to five lobed and that of Esinophil and Basophil is bilobed.



Q.2 Answer is "Skeletal Muscle cell"

Explanation: Skeletal muscle cells are highly elongated and become unwieldy to be controlled by a single nucleus; thus contain many nuclei per cell.



Q.3 Answer is "Chromatin network, nucleoplasm"

Explanation: In non-dividing cell (interphase) DNA of chromosomes have been decondensed and uncoiled. In this form it is called chromatin network. However, during cell division through recondensation and recoiling this chromatin network is converted into discrete structures called chromosomes. Chromatin network is suspended in a fluid substance called nucleoplasm.

Q.4 Answer is "All activities of cell"

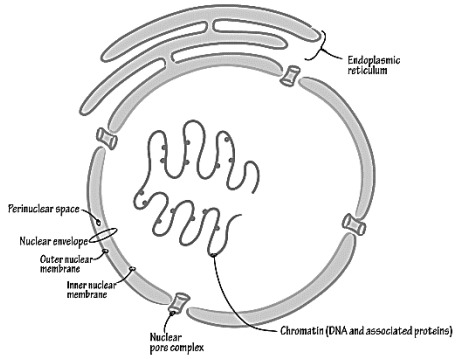
Explanation: All activities of a cell are controlled by its genetic material or DNA, through the genes; called units of inheritance. Genes are located on chromosomes.

Q.5 Answer is "Nuclear membrane"

Explanation: In eukaryotic cells nuclear membrane or nuclear envelope separates the nuclear material from cytoplasm. It is double membrane having pores inside it.

Q.6 Answer is "Nuclear pores"

Explanation: Pores are formed by the fusion of outer and inner nuclear membranes at certain points which are source of communication between cytoplasm and nucleus.



Q.7 Answer is "Nuclear Pores"

Explanation: Nuclear pores are source of communication between nucleus and cytoplasm. Cytoplasm is the centre of metabolism for cell and each metabolic activity is controlled by genetic information located on chromosomes in the nucleus.

Q.8 Answer is "3-4 nuclear pores / nucleus"

Explanation: A differentiated cell which have been assigned a specific role and is not destined to divide further is less active metabolically and need less guidance from chromosomes and genes. Thus have less nuclear pores for communication with nucleus.

Q.9 Answer is "Egg cells"

Explanation: Egg cell is an undifferentiated cell which undergoes repeated mitoses after fertilization for development and remains highly active. That is why it needs much communication with nucleus and as a result much number of nuclear pores. i.e. upto 30,000 per nucleus.

Q.10 Answer is "one or more per nucleus"

Explanation: Number of nucleoli varies in different types of diploid cells, minimum being one and maximum may be in thousands. It depends upon the activeness of cell.

Q.11 Answer is "Nucleolus"

Explanation: Nucleoli are factories of ribosome synthesis whereas, ribosomes are factories of protein synthesis. Ribosomes are synthesized and assembled in nucleoli, then ribosomes synthesize proteins.

Q.12 Answer is "Chromosomes"

Explanation: Nucleus of a non-dividing cell contain chromatin material in form of network which have been obtained by uncoiling and decondensation of chromosomes. As the cell division starts the chromatin material is recoiled/recondensed to acquire the shape of chromosomes. Chromosomes appear as thread like structures in nucleus at that time under microscope.

Q.13 Answer is "Centromere"

Explanation: Centromere or primary constriction is that part of chromosome that links sister chromatids or a dyad. During mitosis, spindle fibers are attached to centromere via the kinetochore.

Q.14 Answer is "Two sister chromatids"

Explanation: Both chromatids of same chromosome are sister to each other whereas they are non-sister to the chromatids of other homologue. During gametogenesis both sister chromatids are separated and each goes to a separate gamete. However, in S phase of cell cycle each chromatid synthesizes its sister chromatid again.

Q.15 Answer is "Genes"

Explanation: Genes are physical units of heredity located on chromosomes.

Q.16 Answer is "All Individuals of same species"

Explanation: The number of chromosomes is fixed for a species and any change in it leaves drastic impact on that individual. Such individuals are usually abnormal e.g. Down's syndrome with 47 chromosomes and Turner's syndrome with 45 chromosomes.

Q.17 Answer is "46 chromosomes"

Explanation: It is normal diploid number of chromosomes in human being, however gametes or germ cells being haploid contain half (23) number of chromosomes.

Q.18 Answer is "08"

Explanation: *Drosophila* have four pairs of chromosomes i.e. four homologous pairs of chromosomes in female *Drosophila* whereas three homologous pairs and one non homologous pair of chromosomes in male *Drosophila*.

Female Male

Q.19 Answer is "14"

Explanation: It is normal diploid number of chromosomes in garden pea.

Q.20 Answer is "Haploid"

Explanation: As germ cells are products of meiosis.

Q.21 Answer is "23 Chromosomes"

Explanation: This is haploid number of human chromosomes as eggs and sperms are meiotic products.

Q.22 Answer is "08"

Explanation: Pollens or microspores are also haploid, formed by meiosis from a diploid microsporocyte or a pollen mother cell. The normal diploid number of chromosomes in onion is 16.

Q.23 Answer is "13"

Explanation: Normal diploid number of chromosomes in frog is 26.

Q.24 Answer is "Endoplasmic reticulum"

Explanation: Endoplasmic reticulum is a source of communication between nucleus of a cell and its external environment.

Q.25 Answer is "Endoplasmic reticulum"

Explanation: Endoplasmic reticulum being a network present all around the nucleus upto cell membrane acts like spokes of a wheel to maintain the shape of the cell.

Q.26 Answer is "ER with ribosomes and ER without ribosomes"

Explanation: ER with ribosomes are called rough endoplasmic reticulum (RER) whereas ER without ribosomes is called smooth endoplasmic reticulum (SER). Sarcoplasmic reticulum is the SER of muscle cells.

Q.27 Answer is "Golgi Apparatus"

Explanation: A Golgi body is flattened membrane bound sac whereas a Golgi apparatus is a stack of Golgi bodies, whereas as Golgi complex is a Golgi apparatus along with transport vesicles of endoplasmic reticulum and Golgi vesicles.

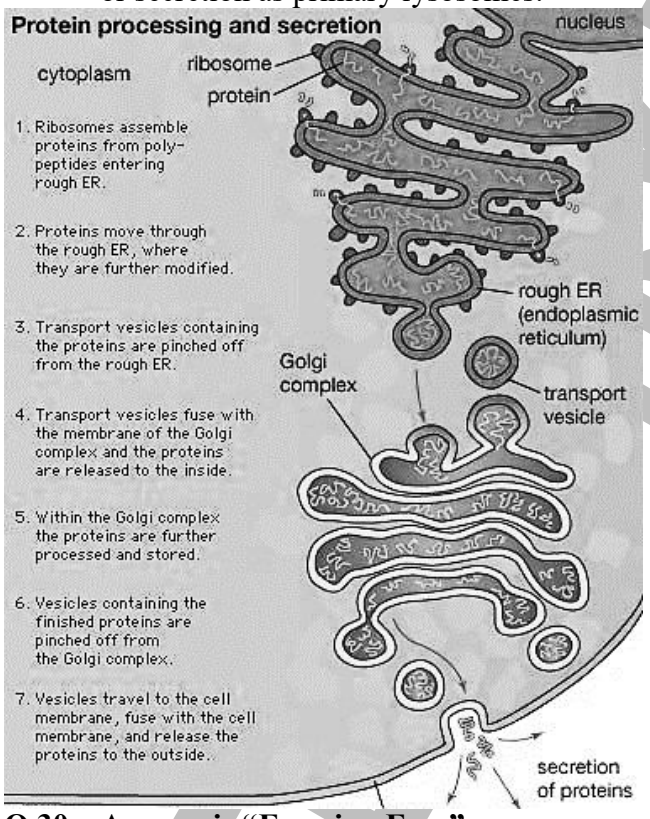
Q.28 Answer is "Maturation face"

Explanation: It is also called trans face being away from the endoplasmic reticulum. From this face transport vesicles of Golgi bodies are pinched off having finished products inside them. That is why it is called maturation face.

Q.29 Answer is "Ribosomes ⟶ RER ⟶ Transport Vesicles of ER ⟶ Golgi

apparatus ⟶ Golgi vesicles ⟶ Plasma membrane."

Explanation: Raw proteins are synthesized by ribosomes on RER and then dumped into cisternae of RER. From RER these raw proteins are pinched off in transport vesicles of RER. These transport vesicles of RER are fused together at forming face of Golgi apparatus to form golgi bodies. During the movement of these golgi bodies from forming face to maturation face these raw proteins are converted into finished products (conjugated molecules). Then these are packed in golgi vesicles which are pinched off from maturation face. These vesicles move to the cell membrane for exocytosis or secretion as primary lysosomes.



Q.30 Answer is "Forming Face"

Explanation: Blebs from tips of SER are actually transport vesicles of endoplasmic reticulum which coalesce together to give rise to a golgi body at the forming face of golgi apparatus.

Q.31 Answer is "Golgi Apparatus"

Explanation: these granules are actually golgi vesicles containing digestive enzymes in inactive form, which are activated after being released into duodenum.

Q.32 Answer is "Golgi Apparatus"

Explanation: All finished products like conjugated molecules are synthesized in golgi apparatus after receiving their raw material from endoplasmic reticulum. That is why golgi apparatus is called finishing, packing and distribution section of the factory of cell. See the figure given at end of the explanation of question # 30.

Q.33 Answer is "Vesicles, rods or filaments"

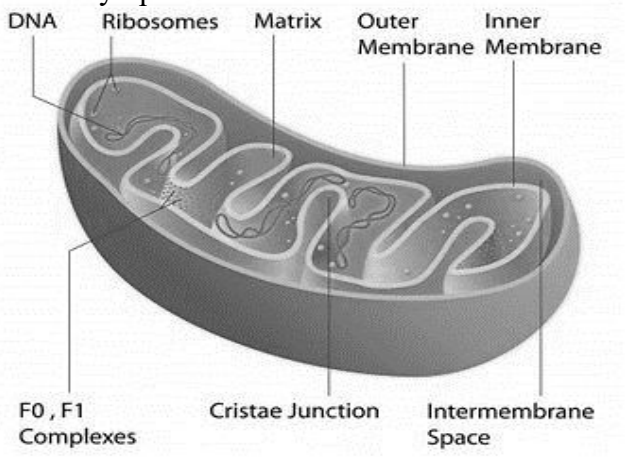
Explanation: Mitochondria may be of rod shape, vesicle shape or filamentous shape.

Q.34 Answer is "Vary widely"

Explanation: Number of mitochondria depends upon the activity of the cell. Similarly shape and internal structure may also be different in different organisms.

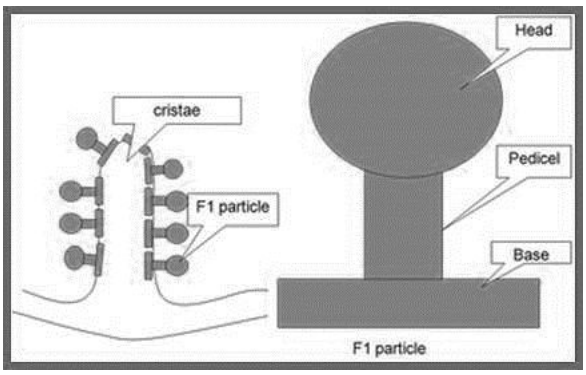
Q.35 Answer is "Mitochondrial matrix"

Explanation: The inner space of mitochondria within the inner membrane in which cristae lie is called matrix. The word matrix indicates that this space is viscous as compared to relatively aqueous cytoplasm.



Q.36 Answer is "F_1 particles"

Explanation: These are the knob like tips of ATP synthase (F. ATPase) embedded in the thylakoid membrane. The embedded part of ATP synthase is called F_0 particle.



Q.37 Answer is "Enzymes, Co-enzymes, Organic and inorganic salts and DNA with ribosomes"

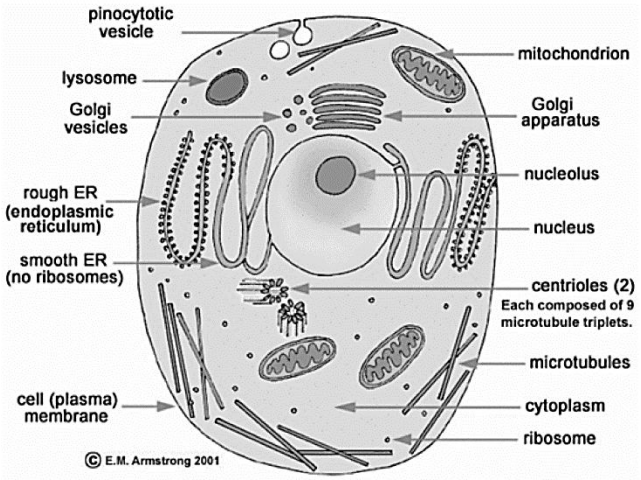
Explanation: Mitochondria are power houses of the cells where two important phases of aerobic respiration are accomplished i.e., Krebs cycle and respiratory electron transport chain. Thus all enzyme, coenzymes and other substances related to these pathways are present in mitochondria. ATPs are synthesized here. However, some extra chromosomal DNA along with ribosomes are also found in mitochondria.

Q.38 Answer is "ATP"

Explanation: Being power house of the cell mitochondria are involved in synthesis of most of the energy in the form of ATP through aerobic respiration i.e. through Krebs cycle and electron transport chain.

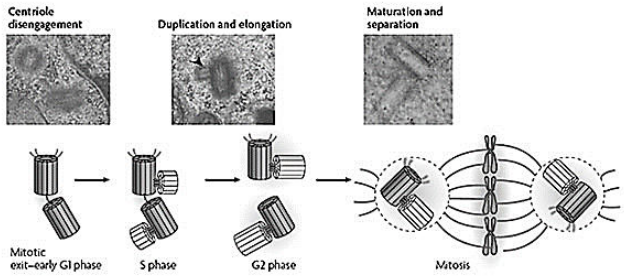
Q.39 Answer is "Two centrioles"

Explanation: Centrioles are located on the outer surface of nucleus making right angle with each other in a non-dividing cell.



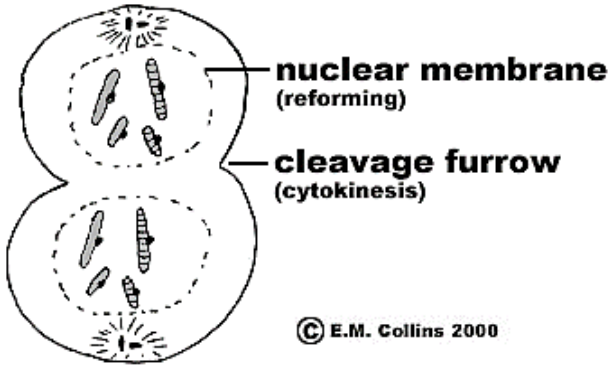
Q.40 Answer is "Centrioles duplicate"

Explanation: Duplication of centrioles is the first indication of initiation of cell division in animal cells.



Q.41 Answer is "Furrowing during cell division"

Explanation: In animal cells cytokinesis occurs through furrowing and it starts at the central point between centriole pairs positioned on opposite poles of the dividing cell.



Q.42 Answer is "Ribosomes"

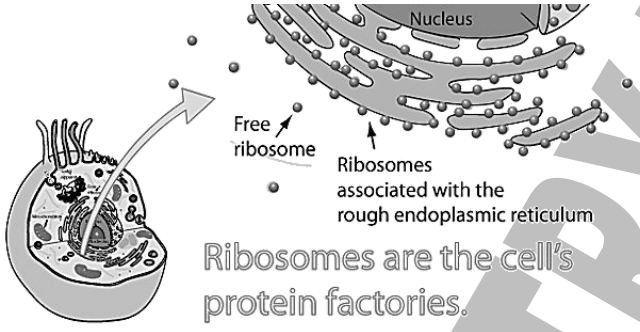
Explanation: Ribosomes are tiny membraneless granular structures of both prokaryotic and eukaryotic cells.

Q.43 Answer is "Ribosomes"

Explanation: Ribosomes are made up of RNA and proteins. Palade discovered the ribosomes.

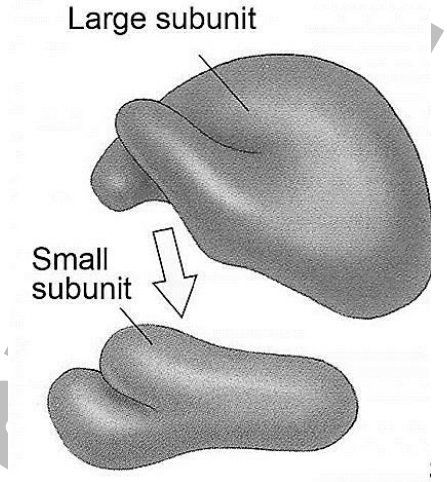
Q.44 Answer is "Freely scattered in cytoplasm and attached with RER"

Explanation: Ribosomes are of two types with respect to their spatial distribution in cell i.e., free and attached with membrane of endoplasmic reticulum. Such endoplasmic reticulum become rough surfaced (RER).



Q.45 Answer is "Two submits"

Explanation: The larger submit and smaller submit.

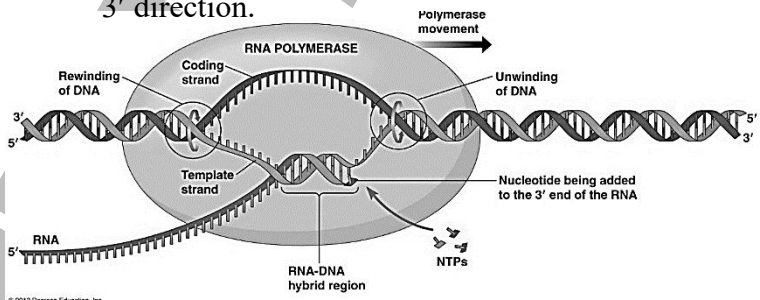


Q.46 Answer is "the larger submit sediment at 60s, while smaller submits sediment at 40s"

Explanation: The larger subunit (60S) have higher rate of sedimentation as compared to smaller one (40S), for eukaryotes.

Q.47 Answer is "5 end"

Explanation: The genetic message, transcribed on mRNA is translated in 5′ to 3′ direction.



Q.48 Answer is "Nucleolus"

Explanation: As nucleolus is the factory of ribosome synthesis.

Q.49 Answer is "Nucleolus, Ribosomes"

Explanation: Nucleoli synthesize the ribosomes and in turn ribosomes synthesize the proteins.

Q.50 Answer is "Lysosomes"

Explanation: Lysosomes have single membrane.

Q.51 Answer is "Glycogenosis"

Explanation: It is a lysosomal disorder which is inherited by birth as a genetic deficiency.

Q.52 Answer is "Cardiovascular disorder"

Explanation: Tay sach's diseases is a congenital disorder due to deficiency of a particular lysosome (enzyme) associated with catabolism of lipids. As a result, lipids accumulate in brain and a mental disorder appears which may lead to death.

Q.53 Answer is "Catabolism"

Explanation: Glyoxisomes contain such enzymes which are associated with conversion of stored fatty acids to carbohydrates in seedlings of oil yielding plants.

Q.54 Answer is "Microbodies"

Explanation: Microbodies are cell organelles like peroxisomes and glyoxisomes.

Q.55 Answer is "Microfilaments"

Explanation: Microfilaments made up of contractile actin proteins contract and relax rhythmically in a cell and generate a pumping pressure which forces the cytoplasm to carry out a mass movement or streaming movement in clockwise manner around the nucleus. It is called cyclosis.

Q.56 Answer is "Diameter"

Explanation: The diameter of intermediate filaments is in-between that of microtubules and microfilaments.

Q.57 Answer is "Mental retardation"

Explanation: Due to the deficiency of such enzymes lipids are accumulated in the brain cells which lead to mental retardation or even death. Disorder is called Tay Sach's disease.

Q.58 Answer is "Death"

Explanation: The worst consequence of the accumulation of lipids in brain is death of human being. Even with the best care, children with infantile Tay Sach's diease usually die at the age of 4.

Q.59 Answer is "ii, v, iv, iii, i"

Explanation: When someone inherits abnormal gene associated with the synthesis of that enzyme required for catabolism of lipids, the person will lack such enzymes. As a consequence there will be no catabolism of lipids and lipids will get accumulated into the brain cells. It will result in mental retardation.

Q.60 Answer is "i, iv, v, iii, ii"

Explanation: When the gene associated with enzyme synthesis is mutated, the enzyme becomes deficient and as a result that metabolic process becomes sluggish and the substrate (substance) starts accumulation. This results in storage disease.

Q.61 Answer is "Lysosome"

Explanation: The lysosomes associated with autophagy or self-eating are called autophagosomes. Such lysosomes engulf some worn out parts of cell and digest it.

Q.62 Answer is "Autophagosomes"

Explanation: Lysosomes associated with self-eating (autophagy) are called autophagosomes.

Q.63 Answer is "Lysosome"

Explanation: Pathogen often hijack endocytic pathway such as pinocytosis in order to gain entery into the cell. The lysosome prevents easy entery into the cell by hydrolyzing the biomolecules of pathogen necessary for their replication strategies. Reduced lysosomal activity is an increase in viral infectivity.

Q.64 Answer is "Cytoskeleton"

Explanation: Actin, myosin and tropomyosin and other proteins which are part of muscles are also part of cytoskeleton.

Q.65 Answer is "Cytosol"

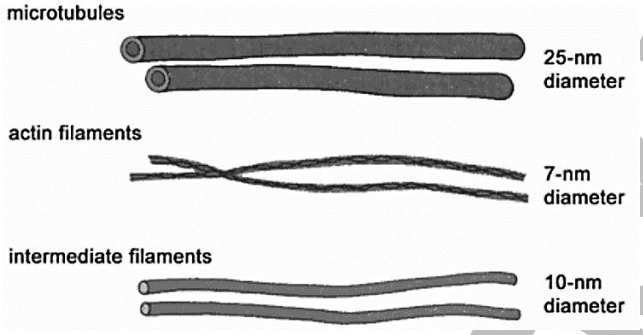
Explanation: Cytosol is the soluble or solution part of cytoplasm whereas cytoskeleton consists of three components i.e. microtubules, microfilaments and intermediate filaments.

Q.66 Answer is "Microfilament"

Explanation: Microfilaments are associated with streaming movement or mass movement of cytoplasm, called cyclosis. Any intracellular movement of cytoplasm is carried out by the rhythmic contraction of microfilaments and for pseudopodial movement intracellular movement of cytoplasm is required.

Q.67 Answer is "Intermediate filament"

Explanation: intermediate filaments are aggregated on the inner surface of cell membrane as well as in the space between cell membrane and nucleus and provide support to the cell membrane to maintain its shape on one hand and other hand maintain the inner compartment of the cell.



STEP

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