1) Holdfast, stipe, and frond constitute the plant body in the case of

Ans) Phaeophyceae

2)Which class of algae is commonly known as brown algae?

Ans) Phaeophyceae

3) Which of the following is the red algae?

Ans) Rhodophyceae

4) The pyrenoids are made up of

Ans)Proteinaceous centre and starchy sheat

5)''Nostoc' is a type of

Ans) Blue green algae

6)Which of the following Alga is a source of Agar?

Ans) Gelidium

7)Kelps are

Ans) Marine algae

8) Heterocysts are found in

Ans) Nostoc

9) What is the storage product of most algae?

Ans) starch and oil

10)In Ulothrix, reduction division takes place at the time of

Ans) germination of zygote

11)Agar, which is the solidifying agent in many bacterial culture media, is part of the cell wall of

Ans) rhodophyta

11)Number of flagella produced by motile cells in

[A] members of the phaeophyta is greater than members of the Oomycota

[B] members of the Oomycota is greater than members of the Phaeophyta

[C] members of the Phaeophyta is approximately equal to members of the Oomycota

[D] none of the above

Ans) members of the Phaeophyta is approximately equal to members of the Oomycota

12) Characteristics used to place algae into divisions include all of the following except

[A] form of storage material

[B] flagella number and location

[C] accessor pigments used in photosynthesis
[D] all of the above
Ans) All of the above

13) Which of the following is correct?
[A] All members of photolithotrophic autotrophs are also members of algae, but not all members of algae are members of photolithotrophic autotrophs
[B] All members of algae are also members of photolithotrophic autotrophs, but not all members of photolithotrophic autotrophs are members of algae
[C] All members of photolithotrophic autotrophs are members of algae, and all members of algae are members of photolithotrophic autotrophs
[D] No member of photolithotrophic autotrophs is a member of algae
Ans) All members of algae are also members of photolithotrophic autotrophs, but not all members of photolithotrophic autotrophs are members of algae

14) Algae is a nonvalid taxinomic term that refers to
[A] eukaryotic organisms that have chlorophyll a and produce O2
[B] well developed cellular structure including a conducting system
[C] Both (a) and (b)
[D] none of the above
Ans) Eukaryotic organisms that have chlorophyll a and produce O2

15) Filaments of Ulothrix are
[A] branched
[B] unbranched
[C] brick-shaped
[D] girdle-shaped
Ans) Unbranched
16) Which is a rich source of protein ?
[A] Nostoc
[B] Anabaena
[C] Spirulitia
[D] Oscillatoria

Ans) Spirulitia
17)Red colour of the red algae is due to
[A] y-phycocyanin
[B] Xanthophyll
[C] Carotene
[D] y-phycoerythrin
Ans) Y-phycoerythrin

18)Cyanobacteria name has been given to
[A] Mycoplasma
[B] Myxophyceae
[C] Myxomycetes
[D] Schizomycetes
Answer: Myxophyceae

19) Simplest type of reproduction in plants is found in
[A] Ulothrix
[B] Nostoc
[C] Chlamydomonas
[D] Spirogyra
Ans) Chlamydomonas

20)Parasitic alga is
[A] Cephaleuros
[B] Ulothrix
[C] Spirogyra
[D] Chlamydomonas
Ans) Cephaleuros

21)The algae Chlamydomonas demonstrates a complex life cycle that switches between haploid and diploid forms. This life cycle is called
[A] the sexual-asexual exchange
[B] the transposition cycle
[C] an alternation of generations
[D] algal transformation
Ans)An alternation of generations
(d) basidiospores

Answer: (a)

22)What is the mode of sexual reproduction in Chlorophyceae?

(a) Oogamous

(b) Anisogamous

© isogamous

(c) All of the above

Answer: (d)

10. What is the shape of chloroplast in Chlamydomonas?

Ans)Cup-shaped

Bryology

1) The female sex organ in Riccia and funaria is

Ans) Archegonium

2) Gemme are present in

Ans) Liverworts

3) Peat moss is the common name of

Ans) sphagnum

4) Protonema is found in life cycle of

Ans) funaria

5) Why are bryophyte called plant amphibians?

Ans) Bryophytes are called as plant amphibians. Although they can manage to grow on land in normal conditions, water is essential for them to transmit male gametes to female gamete in order to facilitate reproduction.

6) Bryophytes are erect with hair like structures called as _____

Ans) Bryophytes are erect with hair like structures called rhizoids. Rhizoids anchor bryophytes to the soil and help in transfer of nutrients from soil to the thallus. They are also called virtual roots of bryophytes.

7) Which among the following are incorrect?
   A) Bryophytes are sub-classified into liverworts and mosses
   B) Bryophytes are mostly found in dry hilly areas
   C) Bryophytes don't contain vascular tissues to transmit water and therefore don't grow tall
   D) Bryophytes follow cryptogamae

Ans) Bryophytes are sub-classified into liverworts and mosses. Bryophytes are mostly found in moist hilly areas. Bryophytes don't contain vascular tissues to transmit water and therefore don't grow tall. Bryophytes follow cryptogamae.

8) The female sex organs in bryophytes are called as

Ans)The female sex organs in bryophytes are called archegonium and they produce female gamete called egg. The male sex organ is called antheridium and produce male gametes called antherozoids.

9) What is the main difference between mosses and liverworts?

Ans)Mosses grow into an intermediary stage from spores called protonema after which they grow into leafy like thallus. Whereas, in liverworts this intermediary stage is absent i.e. the spores develop into thallus without protonema.

10) Which among the following is not an asexual mode in bryophytes?

Ans)In fragmentation, leaves/ stems fall off accidently and grow to form new individuals. Budding is a process in which an outgrowth develops and splits from the parent thallus to produce new individual. Thallus has structures called gemmae cups that contain gemmae which in turn reproduce to form new individual. Sporophyte develops from a developed embryo and results in the formation of spores. Therefore, sporophyte formation is a sexual process that involves two gametes.

11) Sphagnum belongs to _____

Ans)Sphagnum belongs to bryophytes and to the sub-classification of mosses. Sphagnum has a very good commercial importance and is used in the packing of cookery and glass materials

12) Which among the following is also known as bog moss?

(a) Riccia

(b) Sphagnum

(c) Marchantia

Ans) sphagnum

13) The thalloid plant body is found in

Ans) Marchantia

14) In some of the liverworts, spore dispersal is aided by

Ans) elaters

15) Peat moss is used for transporting plants to distant places because

(Ans) it is hygroscopic

Pteridology

16) All the plants like fern and mosses, which produce spores, are grouped under

(Ans) cryptogams

17) In Pteridophytes, the dominant generation is

Ans) diploid

18) Prothallus represents

Ans) gametophytic phase in a fern

19) Pteridophytes and Bryophytes differ in having

Ans) conducting system

20) Which of the following is deemed to be vital in the development of seed habit?

(a) Heterospory
(b) Dependant sporophyte
(c) Free-living gametophyte
(d) Haplontic life cycle

Ans) Heterospory

21) . 'Club moss' belongs to

(a) Fungi

. (b) Algae

©Bryophyta

(d)Pteridophyta

Ans) pteridophyta

22)Phloem is without _____ in pteridophytes

(a) Bast fibres

(b) Companion cells

© Phloem parenchyma

(d)Sieve cells

23) Strobili or cones are found in

(Ans) Strobili or cones are reproductive structures found in the Gymnosperms.

They are found in non-flowering plants.These cones contain sporangia that contain haploid gametes known as spores.Equisetum is commonly known as Horsetail.It is a homosporous pteridophyte.In majority of the pteridophytes, all the spores are of similar kinds; such plants are called homosporous

Gymnosperms

1) Coralloid roots of Cycas possess a symbiotic algae

(Ans) Anabaena- In Cycas small, specialized roots called coralloid roots are present.These roots are associated with Nitrogen-fixing cyanobacteria. The stems are unbranched (Cycas).In Cycas, the pinnate leaves persist for a few years.Citrulline and asparagine, which are two amino acids for plant growth, are produced as a result of nitrogen fixation.Anabaena is one such nitrogen-fixing cyanobacteria that is present in the coralloid roots of Cycas.

2) The first group of terrestrial plants to get rid of the swimming sperm was the

(Ans) Gymnosperms –Gymnosperms are plants in which seeds are not enclosed by an ovary wall or seed coat, that is, seeds formed post-fertilization are naked.In gymnosperms, the male and female gametophytes do not live separately as free-living organisms.They continue to exist inside the sporangia on the sporophytes.From the microsporangium, the pollen grain is released.Pollen grains are carried through the air and encounter the opening of the ovules carried by megasporophylls.In the ovules, the pollen tube containing the male gametes expands toward the archegonia and releases its contentsclose to the archegonia's mouth.A zygote becomes an embryo after fertilization, and ovulesbecome seeds. This crop of seeds is uncovered.

3) Gymnosperms are also called softwood spermatophytes because they lack

(Ans) Xylem vessels –Xylem and phloem are complex tissues made up of different types of cells.In pteridophytes and gymnosperms, the xylem consists mainly of the tracheid, xylem fibers, and xylem parenchyma.Tracheid is the main water-conducting cell.Due to their absence of thick-walled vessels, which makes them softwood plants because vessels provide wood its strength, gymnosperms are also known as “softwood spermatophytes.”Angiosperms on the other hand contain all four types of cells- tracheid, vessels, xylem fibers, and xylem parenchyma.Vessel elements are the main feature distinguishing the hardwood of angiosperms from the softwood of conifers.In Angiosperms, the tracheid, vessels, and fibers are all dead. The only living cell is the xylem parenchyma which stores food in it.

4) Which of the following statements is correct?

   a. Ovules are not enclosed by ovary wall in gymnosperms
   b. Selaginella is heterosporous, while Salvinia is homosporous
   c. Stems are usually unbranched in both Cycas and Cedrus
   d. Horsetails are gymnosperms

(Ans) Ovules are not enclosed by ovary wall in gymnosperms

5) Megasporophyll is the term used in gymnosperms to denote
   (Ans) Carpels
6) The megasporium is also known as
   Ans) Ovule
7) This serves as a connecting link between gymnosperms and angiosperms.
   (Ans) Gnetales
8) Tallest known gymnosperm is

(Ans) sequoia

9) Which of the following is incorrect?
   a. Phanerogams contain specialized reproductive organ and don’t follow cryptogamae
   b. Phanerogams are classified as Gymnosperms and Angiosperms based on the type of seed they produce
   c. Gymnosperms have covered seeds and Angiosperms have naked seeds
   d. Angiosperms bear fruit whereas Gymnosperms don’t

   (Ans) Phanerogams contain specialized reproductive organ and don’t follow cryptogamae. Phanerogams are classified as Gymnosperms and Angiosperms based on the type of seed they produce. Gymnosperms have naked seeds and Angiosperms have covered seeds. Angiosperms bear fruit whereas Gymnosperms don’t.

10) Which among the following are incorrect?

a. Gymnosperms are fruitless plants that are mostly found in hilly areas
b. Gymnosperms are perennial, evergreen and woody trees
c. Gymnosperms have needle-shaped leaves that are well-adapted to withstand extreme weather conditions
d. Gymnosperms are also termed as hard wood trees

(Ans) Gymnosperms are fruitless plants that are mostly found in hilly areas. They are perennial, evergreen and woody trees. They have needle-shaped leaves that are well-adapted to withstand extreme weather conditions. Gymnosperms are also termed as soft wood trees.

11) Which among the following are incorrect?

a. Microsporophylls are spirally arranged to form Strobili to form a cone shaped structures called microsporangiate
b. Microsporangiate is also called as male strobili because they contain microspores that form male gametophyte
c. Gametophytes can't exist independently i.e. free living
d. Microsporangiate and macrosporangiate exists within the same plant

(Ans) Sporophylls are spirally arranged to form strobili. Microsporophylls are spirally arranged to form Strobili to form a cone shaped structures called microsporangiate or male strobili. Microsporangiate is also called as male strobili because they contain microspores that form male gametophyte. Gametophytes can't exist independently i.e. free living. Microsporangiate and macrosporangiate might exists within the same plant or mayn't.

12) Which among the following is incorrect?

a. Some Gymnosperms have algal association in their roots and it is termed as mycorrhiza
b. Leaves of Gymnosperms can be either simple/ compound
c. Gymnosperms have either branched/unbranched stems
d. The roots in Pinus exist in the form of mycorrhiza

(Ans) Some Gymnosperms have algal association in their roots and it is termed as mycorrhiza. Leaves of Gymnosperms can be either simple/ compound. Gymnosperms have either branched/unbranched stems. The roots in Pinus exist in the form of mycorrhiza.

13) Megasporangium in Gymnosperms is also called as _____

a. Macrosporangiate
b. Nucellus
c. Microsporangium
d. Male strobili

(Ans) Megasporangium in Gymnosperms is also called as Nucellus. It contains megaspores or macrospores which gives rise to a female gametophyte or archegonium after mitosis.

Mycology

14) What is Mycology?

(Ans) It is the study of fungi which includes yeasts and molds.

15) Fungi is prokaryotic or eukaryotic?

(Ans) Eukaryotic

16) Example of a unicellular eukaryotic organism?

(Ans) Yeast

17) What are saprophytes?

(Ans) Those organisms which depend on(live on) dead and decaying organism are saprophytes. Example: Fungi

18) What is the difference in the cell membrane of fungi and bacteria?

(Ans) Sterol is present in the cell membrane of fungi i.e ergosterolIn bacteria, there is an absence of sterol except in Mycoplasma

19) What is the cell wall of fungi made up of?

(Ans) Chitin

20) Name symbiotic fungi and it's use.

(Ans) MycorrhizaeHelps root in absorbing minerals and water from the soil

21) Give examples of yeast

(Ans) Saccharomyces cerevisiae

22) What do you mean by polymorphic fungi?

(Ans) Fungi that have more than one independent form or spore stage in their lifecycle are called polymorphic fungi.

23) What are coenocytic hyphae?

(Ans) Hyphae which doesn't contain septa are called coenocytic hyphae.Also called Aseptate or Non-septate hyphae.

24) What is hyaline?

(Ans)It is non-pigmented hyphae.

25)What is dematiaceous?

(Ans)It is darkly pigmented hyphae.

26)What is conidia?

(Ans)Conidia mean asexual spores.

27)What are the types of asexual spores?

(Ans)Arthroconidia or arthrospores

Chlamydospores

Sporangiospores

Conidiospores

Blastospores

Lichenology

1. Name a Crustose lichen

(Ans) Rhizocarpon

2. Most of the scientists deem the algal-fungal relationship in lichens as helotism. Helotism is a

(Ans) master-slave relationship

3. Majorly, lichens are the pollution indicators of

(a) CO

(b) Mercury

© NO2

(d) SO2

(Ans) SO2

4. This lichen is pioneer in xerosere

(Ans) crustose lichen

5. A common phycobiont in lichens are

(Ans) Trebouxia

6. Reindeer moss is a lichen known as

(Ans) Cladonia

Microbiology

1) Who is known as the father of Microbiology?
   Ans) Antoni van Leeuwenhoek
2) Which microorganism(s) among the following perform photosynthesis by utilizing light?
   Ans) Cyanobacteria .
   It require light as a source of energy to perform photosynthesis. Fungi and viruses are unable to perform photosynthesis and are heterotrophic.
3) Which of the following are produced by microorganisms?
   A) Alcoholic beverages
   B) Fermented dairy products
   C) Breads
   D) All of the mentioned
   Ans) All of the above.
   Microorganisms are used in many industries for the production of food we eat, like fermented dairy products (sour cream, yogurt), as well as fermented foods as pickles, breads and alcoholic beverages.
4) What is the approximate size of the bacterial cell
   a. Bacteria are very small, most being approximately 0.5 to 1.0 micrometer in diameter. This is the reason why they cannot be seen by naked eyes and can be observed under the microscope.
5) Which among the following are “Spirochetes”?
   A) Streptomyces sp.
   B) Treponema pallidum
   C) Spirillum volutans
   D) Corynebacterium diphtheriae
   Ans) Spirochetes are flexible and can twist and contort their shape, whereas spirilla are relatively rigid. Treponema palldium belongs to the spirochetes group and Spirillum volutans belong to the spirilla group.
6) Bacteria having clusters of flagella at both poles of cells are known as?
   A) Amphitrichous
   B) Monotrichous
   C) Peritrichous
   D) Lophotrichous
   Ans) Amphitrichous
7) Penicillin causes inhibition of Mycoplasmas.

Ans) The respiratory chain of bacteria is associated with the cytoplasmic membrane and that of eukaryotes is present in the mitochondrial membrane.

8) The bacterium Staphylococcus aureus is which type of bacteria?

Ans) Staphylococcus aureus is a mesophilic bacteria which can grow in the temperature range of 6.5-46 degree Celsius and has an optimum temperature at 30-37 degree Celsius.

9) Protozoa that eat other organisms are known as _____

Ans) Holozoic protozoa are protozoa that eat other organisms. Species of Paramecium are holozoic and they must have a supply of bacteria or other protozoa.

10) Plasmodium divides by which of the following method most commonly?

A) Regeneration

B) Budding
C) Binary fission
D) Multiple fission

Ans) The malarial parasite, Plasmodium divides by the process of multiple fission where it is known as schizogony and serves to spread the parasite quickly in the host.

11) What does a viral DNA becomes after being associated with the bacterial chromosome?

Ans) In lysogeny the viral DNA of the temperate phage, instead of taking over the functions of the cell's genes, is incorporated into the host DNA and becomes a prophage in the bacterial chromosome, acting as a gene.

12) For which viral disease, vaccine has been recently developed through the use of tissue culture?

A) S mallpox
B) Rabies
C) Mumps
D) Measles

Ans) Among the virus diseases for which vaccines have been recently developed through the use of tissue culture is measles (rubeola).

Angiosperm anatomy

1) The waxy substance associated with the wall of the cork cell is

Ans) Suberin

2) A tissue that does not contain lignin

Ans) collenchyma

3. Lateral roots originate in

Ans) Pericycle

4. Which gives rise to the cork tissue?

Ans) Phellogen

5. Which are the external protective tissues of the plant?

Ans) Epidermis and cork

Angiosperm Embryology

In Angiosperms, the functional megaspore gives rise to

(a) ovule

(b) embryo

(c) embryo sac

(d) endosperm

Ans) embryo sac

Which of the following shows double fertilization?

(a) Angiosperms

(b) Gymnosperms

(c) Algae

(d) All of the above

Ans) Angiosperms

Which of the following contains the filiform apparatus?

(a) zygote

(b) synergids

(c) generative cell

(d) egg

Ans) synergids

Which of the following undergoes meiosis?

(a) conidia

(b) gemmules

(c) meiocyte

(d) megaspore

Ans) meiocyte

Perisperm is different from endosperm because

(a) it is haploid

(b) it is diploid

(c) it does not contain reserve food

(d) it is formed by fusion of secondary nucleus and many sperms

Ans) it is diploid

The pollen tube enters the embryo sac through

(a) Central cell

(b) Egg cell

(c) Degenerated synergid

(d) Persistent synergid

Ans) Degenerated synergid

Embryo sac of the angiosperms having eight nuclei is

(a) only tetrasporic

(b) only bisporic

(c) only monosporic

(d) any of the following

Ans) any of the following

Double fertilization is due to the fusion of

(a) male gametes with egg and synergid

(b) male gametes with egg and secondary nucleus

(c) male gametes with egg and polar nuclei

(d) male gametes with two eggs

Ans) male gametes with egg and secondary nucleus

Double fertilization was discovered by

(a) Leeuwenhoek

(b) Hofmeister

(c) Nawaschin and Guignard

(d) Strasburger

Ans) Nawaschin and Guignard

The embryo sac occurs in

(a) endosperm

(b) ovule

(c) axis part of embryo

(d) embryo

Ans) ovule

Semester II

Cell Biology

The term cell was given by

1. Robert Hooke
2. Tatum
3. Schwann
4. De Bary

Ans) Robert Hooke

The cell is not applied for

1. Algae
2. Bacteria
3. Virus
4. Fungi

Ans) Virus

The membrane around the vacuole is known as

1. Tonoplast
2. Elaioplast
3. Cytoplast
4. Amyloplast

Ans) Tonoplast

Microfilaments are composed of a protein called

1. Tubulin
2. Actin
3. Myosin
4. Chitin

Ans) Actin

A plant cell wall is mainly composed of

1. Protein
2. Cellulose
3. Lipid
4. Starch

Ans) Cellulose

Glycolipids in the plasma membrane are located at

1. Inner leaflet of the plasma membrane
2. The outer leaflet of the plasma membrane
3. Evenly distributed in the inner and outer leaflets
4. It varies according to cell types

Ans) The outer leaflet of the plasma membrane

Lysosomes are known as “suicidal bags” because

1. Parasitic activity
2. Presence of food vacuole
3. Hydrolytic activity
4. Catalytic activity

Ans) Hydrolytic activity

The properties of integral membrane proteins can be studied by

1. Atomic force microscopy
2. Cryo-sectioning and electron microscopy
3. Freeze-fracture technique and electron microscopy
4. All of the above

Ans) Freeze-fracture technique and electron microscopy

The fluidity of the plasma membrane increases with

1. Increase in unsaturated fatty acids in the membrane
2. Increase in saturated fatty acids in the membrane
3. Increase in glycolipid content in the membrane
4. Increase in phospholipid content in the membrane

Ans)Increase in unsaturated fatty acids in the membrane

Which among the following defines GPI anchored proteins?

1. Integral proteins of the plasma membrane
2. Peripheral proteins of the plasma membrane
3. Proteins that bind to ion-gated channels in the plasma membrane
4. Proteins which randomly bind to lipids of the plasma membrane

Ans) Peripheral proteins of the plasma membrane

The resting potential membrane is determined by

1. Potassium-ion gradient
2. Sodium-ion gradient
3. Bicarbonate-ion gradient
4. None

Ans) Potassium-ion gradient

The oxygen and carbon dioxide crosses the plasma membrane by the process of

1. Active diffusion
2. Facilitated diffusion
3. Passive diffusion
4. Random diffusion

Ans) Passive diffusion

A cell without a cell wall is termed as

1. Tonoplast
2. Protoplast
3. Symplast
4. Apoplast

Ans) Protoplast

Which is not an example of transmembrane transport between different subcellular compartments?

1. Transport from the stroma into thylakoid space
2. Transport from the cytoplasm into the lumen of the endoplasmic reticulum
3. Transport from the endoplasmic reticulum into the Golgi complex
4. Transport from mitochondrial intermembrane space into the mitochondrial matrix

Ans) Transport from the endoplasmic reticulum into the Golgi complex

Which is correct regarding the peptides in the Ramachandran Plot?

1. The sequence of the peptide can be deduced
2. It is not possible to conclude whether a peptide adopts entirely helix or entirely beta-sheet conformation
3. Peptides that are unstructured will have all the backbone dihedral angles in the disallowed regions
4. The occurrence of a beta-turn conformation in a peptide can be deduced.

Ans) The occurrence of a beta-turn conformation in a peptide can be deduced.

The function of the centrosome is

1. Formation of spindle fibres

2. Osmoregulation
3. Secretion
4. Protein synthesis

Ans) Formation of spindle fibres

Which cell organelle is involved in apoptosis?

1. Lysosome
2. ER
3. Golgi
4. Mitochondria

Ans) Mitochondria

Phosphatidylserine residues in the plasma membrane are located at

1. Inner leaflet of the plasma membrane
2. The outer leaflet of the plasma membrane
3. Evenly distributed in the inner and outer leaflet
4. None

Ans) Inner leaflet of the plasma membrane

Distribution of intrinsic proteins in the plasma membrane is

1. Random
2. Symmetrical
3. Asymmetrical
4. None

Ans) Asymmetrical

Select a foodborne toxin

1. Botulinum toxin
2. Tetanus Toxin
3. Diphtheria toxin
4. Cholera Toxin

Ans) Botulinum toxin

Which of the following is an active cell death process?
a) Apoptosis
b) Necrosis
c) Senescence
d) Lysis

Ans) Apoptosis is an active and regulated cell death process that occurs in the body.

Apoptosis can't kill which of the following?
a) Cell infected with viruses
b) Cell with DNA damage
c) Cancer cells
d) Immune cells

Ans) Cancer cells. Improper regulation of apoptosis is the main cause of proliferative cell growth like cancer. Thus apoptosis can't actually occur in cancer cells.

Which of the following is an anti apoptotic protein?
a) Bcl-Xs
b) Bfl 1
c) Bim
d) NOXA

Ans) Bcl-Xs. Bcl-Xs is a Bcl-2 family protein which is pro-apototic, also bim and NOXA are proapoptotic factors. Bfl 1 is an anti apoptotic member of Bcl-2 family.

Which of the following cell organelle actively participates in animal apoptosis?
a) Vacuoles
b) Chloroplast
c) Nucleus
d) Mitochondria

Ans) Mitochondria

Which of the following can trigger cytochrome release from mitochondria?
a) Bad
b) Bid
c) Akt
d) Smac

Ans) Bid

Which of the following is an inhibitor of apoptosis?
a) Caspase
b) IAP
c) SMAC
d) DIABLO

Ans) Caspases are the effectors of apoptosis. IAP binds to the caspases thus preventing apoptosis from taking place. Smac and Diablo bind to IAP thus inhibiting it so they are also pro-apoptotic.

Caspases belong to the class of _____
a) Serine proteases
b) Cystine proteases
c) Aspertate proteases
d) Hydrolases

Ans) Caspases are cystine proteases which cleave the peptide using an activated cystine amino acid in the catalytic site.

Which of the following is not a characteristic of apoptotic animal cell?
a) Trasglutaminase forms a net like structure
b) Cell membrane blebbing
c) Mitochondria swollen
d) DNA marginization and fragmentation

Ans) In apoptotic cells the mitochondria are either shrunken or remains of the same size. The ER on the other hand may be swollen. Remaining options are correct events happening during apoptosis.

What is the unusual characteristic of cell membrane seen in apoptotic cell?
a) Cell membrane ruptures
b) Cell membrane channels stop working
c) Cell membrane exposes phosphatidyl serine on the outer side
d) Cell membrane exposes the cholesterol and lipid rafts on the outer side

Ans) Phosphatidyl serine is mainly present on the inner side of the cell membrane, this is seen in the outer side of the apoptotic cell membrane that encourages phagocytosis.

MOLECULAR BIOLOGY

Which of the following represent mutual activators

a) Dna B & Dna G

b) Dna A & Dna B

c) Dna B & Dna C

d) Dna C & Dna G

Ans) Dna B & Dna G

Which of the following statements are false?

a) DNA replication in prokaryotes is bidirectional;

b) Eukaryotic DNA contains multiple origin of replication

c) Fork movement in eukayotes is faster than that of prokaryotes

d) Replication in eukayotes is unidirectional;

Ans) Fork movement in eukayotes is faster than that of prokaryotes

Which of the following is true about Telomerase

a) it requires a template

b) it can carry out lagging strand synthesis

c) it can bind to 5' end of DNA

d) it can only extend 3' –OH end od DNA

Ans) it can only extend 3' –OH end od DNA

Which is the helicase loader in prokaryotes

a) Dna B

b) Dna C

c) Cdt 1

d) Cdc 6

Ans) Dna C

Eukaryotic SSBP Is

a) RPA

b) Dna C

c) Cdt 1

d) Cdc 6

Ans)RPA

Telomerase is a .....

a) DNA dependent DNA polymerase

b) DNA dependent RNA polymerase

c) RNA dependent DNA polymerase

d) RNA dependent RNA polymerase

Ans) RNA dependent DNA polymerase

During replication, okazaki fragments elongate

a) leading strand towards the replication fork

b) lagging strand towards the replication fork

c) leading strand away from the replication fork

d) lagging strand away from the replication fork

Ans) lagging strand away from the replication fork

DNA Replication is.....

a) conservative

b) conservative and discontinues

c) semiconservative and discontinues

d) semiconservative and semidiscontinues

Ans) semiconservative and semidiscontinues

Which of the following is not a function of DNA Polymerase?

a) 5′ to 3′ exonuclease activity

b) 5′ to 3′ polymerase activity

c) 3' to 5' exonuclease activity

d) 3' to 5' polymerase activity

Ans) 3' to 5' polymerase activity

The 5′ and 3′ numbers are related to the

a) Length of the DNA strand

b) number of phosphates

c) carbon number in sugar

d) base pair rule

Ans) carbon number in sugar

Which enzyme is used to join nicks in the DNA strand?

a. Primase
b. DNA polymerase
c. DNA ligase
d. Endonuclease

Ans) DNA ligase

Which of the following processes does not occur in prokaryotes?

a. Transcription
b. Splicing
c. Translation
d. Replication

Ans) Splicing

Short strands of ——- primer are used in DNA replication**.**

a. DNA
b. RNA
c. Histone
d. Protein

Ans)RNA

How many RNA polymerases are present in a bacterial system?

a. 4
b. 2
c. 1
d. 3

Ans)1

Which enzyme is used in the unwinding of DNA?

a. Ligase
b. Topoisomerase
c. Helicase
d. Exonuclease

Ans) Helicase

BIOPHYSICS

Who invented mass spectrometers

a) J.J Thompson

b) Goldstein

c) Nikola Tesla

d) Aston

Ans) J.J Thompson

Dynamic property of liquids causing internal friction

a) Impulse

b) Attractive energy

c)Relative energy

d) Viscosity

Ans) Viscosity

Wavelength of light is represented as

a) Lambda

b) Alpha

c) Beta

d) Gamma

Ans) Lambda

The emission of energy in form of emitted particles, the action known to be

a) Emulsification

b) Ionization

c) Reaction

d) Radiation

Ans) Radiation

Phytochrome is a pigment and photoreceptor that plants use to detect

a) Dark

b) Light

c) Temperature

d) Heat

Ans) Light

The absorption of ink by blotting paper involves

a) Viscosity of ink

b) Capillary action phenomenon

c) Diffusion of ink through the blotting

d) Siphon action

Ans) Capillary action phenomenon