Biology

Sure shot 360 (Botany)

1. Which of the following options gives the correct sequence of events during meiosis ?
(A) DNA replication - Nuclear membrane Disassembly - crossing over- Arrangement at equator
(B) Synapsis- crossing over - chiasmata- disintegration of nuclear membrane
(C) Crossing over-chiasmata- Synapsis- Metaphasic plate
(D) Chiasmata- Crossing over - Synapsis- Nuclear membrane disappear

2. Anaphase Promoting Complex (APC) is a protein degradation machinery necessary for proper mitosis of animal cell. APC is functional to promote
(A) homologus Chromosomes seperate
(B) Sister chromatid separate
(C) Non-sister chromatid separate
(D) Chromosomes will not condense.

3. During cell growth, DNA synthesis takes place in plant cells
(A) S-phase (B) G 1 phase
(C) G 2 phase (D) S-phase in cytoplasm

4. When cell has stalled DNA replication fork, which checkpoint should be predominantly activated?
(A) G 1 /S (B) G 2 /M
(C) M (D) Both G 2 /M and M

5. Match the stages of meiosis in column I to their characteristic features in column II and select the correct option using the codes given below.

Column I	Column II
A. Pachytene	(i) tetrad visible
B. Metaphase I	(ii) ER, golgi body disappear
C. Diakinesis	(iii) Recombination nodule visible
D. Zygotene	(iv) Chromosomes align at equatorial plate

(A) A(iii), B(iv), C(ii), D(i)
(B) A(i), B(iv), C(ii), D(iii)
(C) A(ii), B(iv), C(iii), D(i)
(D) A(iv), B(iii), C(ii), D(i)

6. Spindle fibres in metaphase I attach on to……from opposite pole
(A) centromere of the chromosome
(B) kinetochore of the homologus chromosomes
(C) telomere of the chromosome
(D) kinetochore of one chromosome.

7. Which of the following is not a characteristic feature during mitosis in somatic cells?
(A) Chromosome pairing
(B) genetically identical cell form
(C) Spindle fibres
(D) Disappearance of nucleolus

8. In meiosis crossing over is completed in
(A) zygotene
(B) diplotene
(C) pachytene
(D) leptotene.

9. Arrange the following events of meiosis in correct sequence
(i) Crossing over
(ii) Pairing of chromosome
(iii) Dissolution of synaptonemal complex
(iv) Disappearance of nucleolus
(A) (i), (ii), (iii), (iv)
(B) (ii), (iii), (iv), (i)
(C) (ii), (i), (iv), (iii)
(D) (ii), (i), (iii), (iv)

10. A somatic cell that has just completed the M phase of its cell cycle, as compared to gamete of the same species, has
(A) twice the number of chromosomes and four times the amount of DNA
(B) four times the number of chromosomes and twice the amount of DNA
(C) twice the number of chromosomes and twice the amount of DNA
(D) same number of chromosomes but twice the amount of DNA.

11. Select the correct option.

Column I	Column II
A. Tetrad visible	(I)leptotene
B. Amount of DNA is 4c	(ii) Zygotene
C. Action of enzyme recombinase	(iii) G 2 phase
D. Centromeres do not separate but chromatids move towards opposite poles	(iv) Anaphase I
	(v) Pachytene

(A) A(ii), B(iii), C(v), D(iv)
(B) A(ii), B(iii), C(iv), D(v)
(C) A(ii), B(i), C(iii), D(iv)
(D) A(ii), B(i), C(v), D(iv)

12. During which phase(s) of cell cycle, amount of DNA in a cell remains at 4C level if the initial amount is denoted as 2C?
(A) G0 and G 1 (B) G 1 and S
(C) Only G2 (D) M

13. Which of the following cell organelles is responsible for protein and Sugar synthesis ?
(A) Ribosome
(B) Chloroplast
(C) Mitochondrion
(D) Lysosome

14. Select the mismatch.
(A) Chromatophore – Blue Green algae
(B) Food vacuoles – Protist
(C) Diatoms – Eukaryotes
(D) Methanogens – True bacteria

15. Select the wrong statement.
(A) Fungi cell wall is made up of Chitin
(B)fimbriae are mainly involved in attachment
(C) Cyanobacteria lack flagellated cells.
(D)Mycoplasma is parasitic in plants not in Animals

16. A cell organelle containing ribonucleo protein
(A) lysosome (B) microsome
(C) ribosome (D) mesosome.

17. Mitochondria and chloroplast are
(A) Double membrane organelle having single circular DNA
(B) Have 70s ribosome for protein synthesis
Which one of the following options is correct?
(A) (A) is true but (B) is false.
(B) Both (A) and (B) are false.
(C) Both (A) and(B) are correct.
(D) (B) is true but (A) is false.

18. Microfilaments are the constituents of
(A) centrioles
(B) centrosome
(C) cilia
(D) Actin filament

19. Which one of the following cell organelles is enclosed by a single membrane?
(A) Centriole
(B) Nuclei
(C) Mitochondria
(D) Golgi

20. Match the columns and identify the correct option.

Column I	Column II
A. Svedberg constant	(i) Non-staining
B. Centriole	(ii) Condensed structure of DNA
C. Satellite	(iii) measure of size and density
D. Chromatin	(iv) Form basal body

(A)A(iii), B(i), C(iv), D(ii)
(B)A(iii), B(iv), C(ii), D(i)
(C)A(iv), B(iii), C(i), D(ii)
(D)A(iii), B(iv), C(i), D(ii)

21. Which of the following structures is not found in a prokaryotic cell?
(A) Cell wall (B) Plasma membrane
(C) Cillia (D) Flagella

22. Cellular organelles without membranes are
(A) endoplasmic reticulum, ribosomes and nuclei
(B) lysosomes, Golgi apparatus and mitochondria
(C) nuclei, ribosomes and mitochondria
(D) Centriole , Ribosome and nucleolus

23. Which of the following are not present in Cell with true nucleus?
(A) Lysosomes (B) Mesosomes
(C) Vacuoles (D) Ribosomes

24. RNA is not present in
(A) Peroxisome
(B) mitochondria and chloroplast
(C) Nucleus
(D) ribosomes.

25. The structures that are formed by stacking of organised flattened membranous sacs in the chloroplasts are
(A) stroma lamellae (B) stroma
(C) cristae (D) grana.

26. Select the incorrect matching in the following pairs.
(A) Rough ER – Synthesis of Protein
(B) Rough ER – Secretion
(C) Smooth ER – Packaging of vesicles
(D) Smooth ER – Synthesis of Steroids

27. The solid linear cytoskeletal elements having a diameter of 10 nm are
(A) microtubules (B) microfilaments
(C) intermediate filaments
(D) lamins.

28. The osmotic expansion of a cell kept in water is chiefly regulated by
(A) mitochondria (B) Sap vacuoles
(C) plastids (D) Food vacuole

29. Match the following and select the correct answer.

(A) Centriole	(i) F0-F1 in mitochondria
(B) Chlorophyll	(ii) Thylakoids
(C) Cristae	(iii) Nucleic acids
(D) Ribozymes	(iv) basal body

	A	B	C	D
(A)	(iv)	(ii)	(i)	(iii)
(B)	(i)	(ii)	(iv)	(iii)
(C)	(i)	(iii)	(ii)	(iv)
(D)	(iv)	(iii)	(i)	(ii)

30. Identify the basic amino acid from the following.
(A) Glutamic acid and aspartic acid
(B) Lysine , arginine and histidine
(C) Valine and tryptophan
(D) Tyrosine and tryptophan

31. Match the following. Choose the correct option from the following: (2020)

Column-I	Column-II
1. Inhibitor of enzyme	(i) Ricin
2. Possess peptide bonds	(ii) Malonate
3. Wood, cotton and paper	(iii) Cellulose
4. Secondary metabolite	(iv) Collagen

	(A)	(B)	(C)	(D)
(A)	(iii)	(i)	(iv)	(ii)
(B)	(iii)	(iv)	(i)	(ii)
(C)	(ii)	(iii)	(i)	(iv)
(D)	(ii)	(iv)	(iii)	(i)

32. Identify the substances having glycosidic bond and peptide bond, respectively in their structure: (2020)
(A) Glycerol, trypsin
(B) Cellulose, lecithin
(C) Inulin, Collagen
(D) Chitin, Palmitic acid

33. Identify the statement which is incorrect.
(A) Chitin and inulin is an example of lipids
(B) Lecithin contains phosphorus atom and fatty acids
(C) Tyrosine and tryptophan possesses aromatic ring
(D) Sulphur is an integral part of cysteine and methionine

34. Match the following:

1. Auxin	(i) Amide
2. Asparagine	(ii) Polysaccharide
3. Abscisic acid	(iii) Indole compound
4. Chitin	(iv) Carotenoids

Select the correct option:

	(A)	(B)	(C)	(D)
(A)	(ii)	(iii)	(iv)	(i)
(B)	(ii)	(i)	(iv)	(iii)
(C)	(iii)	(i)	(ii)	(iv)
(D)	(iii)	(i)	(iv)	(ii)

35. Concanavalin A is
(A) An alkaloid and primary metabolite
(B) An essential oil
(C) A lectin and secondary metabolite
(D) A pigment

36. Consider the following statement :
(A) Coenzyme or metal ion that is tightly bound to enzyme protein is called prosthetic group.
(B) A complete catalytic active enzyme with its bound prosthetic group is called Holoenzyme .
Select the correct option.
(A) Both (A) and (B) are true.
(B) (A) is true but (B) is false.
(C) Both (A) and (B) are false.
(D) (A) is false but (B) is true.

37. The two functional groups characteristic of Amino acids are:
(A) Hydroxyl and methyl
(B) Carbonyl and methyl
(C) Carboxyl and Amino
(D) Carbonyl and hydroxyl

38. Which of the following are not polymeric?
(A) Nucleic acids and Cellulose
(B) Proteins and Starch
(C) Polysaccharides and Collagen
(D) Lecithin and Palmitic acid

39. Which of the following statements regarding enzyme inhibition is correct?
(A) Non-competitive inhibitors often bind to the Enzyme active site
(B) Competitive inhibition is seen when a substrate competes with an enzyme for binding to an inhibitor protein

(C) Competitive inhibition is seen when the substrate and the inhibitor compete for active site
(D) Non-competitive inhibition of an enzyme can be overcome by adding large amount of substrate

40. A fat molecule is formed from:
(A) Three glycerol molecules and one fatty acid molecule
(B) One glycerol molecule and three fatty acid Molecule link by ether linkage
(C) Three glycerol molecules and three fatty acid molecules
(D) One glycerol molecule and three fatty acid

41. Which of the following is the least likely to be involved in stabilising the three–dimensional folding of most proteins?
(A) Hydrophobic interaction
(B) Glycosidic bond
(C) Hydrogen bonds
(D) Electrostatic interaction

42. Mark the correct
(A) Ligase involve in introducing double obnd in substrate
(B) Deoxyribonuclease break glycosidic bond
(C) Starch and cellulose both have helical structure to trap iodine
(D) Ribozyme is non-proteinaceous enzyme

43. Which one of the following statements is wrong?
(A) Sucrose is a disaccharide and non-reducing
(B) Cellulose, starch and inulin is a polysaccharide
(C) Uracil and thymine is a pyrimidine
(D) Percentage of carbohydrate is greater in cell than protein

44. Match column I with column II for human classification and select the correct option using the codes given below.

Column I	Column II
A. Family	(i) Primata
B. Order	(ii) Chordates
C. Class	(iii) Homonidae
D. Phylum	(iv) Mammalia

(A) A(iii), B(i), C(iv), D(ii)
(B) A(iii), B(ii), C(iv), D(i)
(C) A(iv), B(iii), C(ii), D(i)
(D) A(iv), B(ii), C(i), D(iii)

45. Nomenclature is governed by certain universal rules. Which one of the following is wrong to the rules of nomenclature?
(A) The names are written in Latin and are italicised.
(B) When written by hand the names are to be underlined.
(C) Biological names can be written in any language.
(D) The first word in a biological name represents the genus name and the second is a specific epithet.

46. ICBN stands for
(A) International Code of Botanical Nomenclature
(B) International Congress of Biological Names
(C) Indian Code of Botanical Nomenclature
(D) Indian Congress of Biological Names.

47. Mark the incorrect –
(A) Species is less general in characters as compared to genus
(B) Cat and dog belong to same Family Mammalia
(C) Housefly belong to order Diptera and Class insecta
(D) In descending order from kingdom to species, species number increase in taxonomic category

48. Linnaeus is not credited with
(A) binomial nomenclature
(B) Book species plantarum
(C) Artificial system of classification
(D) Biological concept of species

49. Which of the following are found in extreme salt condition conditions?
(A) Eubacteria
(B) Cyanobacteria
(C) Methanogens
(D) Halophiles

50. Viroids and TMV in having common
(A) DNA molecules without protein coat
(B) RNA molecules double strand
(C) RNA molecules single strand
(D) DNA molecules with protein coat.

51. Mark the incorrect-
(A) Mycoplasma is smallest living cells, known without a definite cell wall, pathogenic to plants as well as animals and can survive without oxygen
(B) *Nostoc and Anabena* have chlorophyll a and form heterocyst
(C) Yeast is non-filamentous belong to ascomycetes
(D) Pellicle is protein layer in amoeboid protist and help in movement

52. Mark the incorrect –
(A) Sexual reproduction in bacteria occurs Primitive method of DNA transfer
(B) Aspergillus and penicillium have asexual spore exogenous
(C) plant virus is mostly single strand DNA
(D) Stanley give 'contagum vivum fuidum' for virus

53. Which one of the following is wrong for fungi?
(A) They are eukaryotic and have well defined nucleus
(B) fungi possess Chitin cell wall and produce spore or asexual reproduction
(C) They are heterotrophic and mainly saprophytic
(D) Lichen form by fungi of genus glomus mainly

54. Mark the incorrect
(A) Eubacteria - 80 s ribosome
(B) archaebacteria –cell wall different to eubacteria
(C) dinoflagellates – Red tide
(D) slime moulds – spore with true wall

55. Select the wrong statement.
(A) The walls of diatoms are indestructible and they form diatomaceous earth
(B) Euglenoids are predator in absence of light
(C) Gullet present in paramecium
(D) Diatoms are microscopic and float Actively in water.

56. The primitive prokaryotes responsible for the production of biogas from the dung of ruminant animals, include the
(A) methanogens (B) eubacteria
(C) halophiles (D) thermoacidophiles.

57. Which one of the following statements is wrong?
(A) Eubacteria are also called True bacteria.
(B) Phycomycetes having Rhizopus, albugo and mucor
(C) Cyanobacteria form blooms in polluted water .
(D) Golden algae are also called dinoflagellates

58. Which of the following statements is wrong for viroids?
(A) They cause infections.
(B) Their RNA is of low molecular weight.
(C) They lack a protein coat.
(D) They are larger than Prions and virus

59 Chrysophytes, Euglenoids, Dinoflagellates and Slime moulds are
(A) Same class phycomycetes
(B) Relatives of animal as all lack cell wall
(C) Nucleus like cyanoabateria
(D) Same kingdom Protista.

60. Which one is a wrong statement?
(A) Venus fly trap and bladderwort are in plant kingdom .
(B) Brown algae have chlorophyll *a* and *c* and fucoxanthin.
(C) Archegonia are found in Bryophyta, Pteridophyta and Gymnosperms.
(D) Puff ball and Agaricus have asexual spores

61. The imperfect fungi which are decomposers of litter and help in mineral cycling also have feature
(A) Dikaryon hyphae when somatic hyphae fuse
(B) Conidia
(C) Aspetate hyphae
(D) perfect stage like ascocarp present.

62. Select the wrong statement.
(A) The term '*contagium vivum fluidum*' was coined by M. W. Beijerinck.
(B) Mosaic disease in tobacco and AIDS in human being are caused by viruses.
(C) The viroids were discovered by Diener
(D) Ivanovsky showed that viruses could be crystallised.

63 Pick up the wrong statement.
(A) Some fungi are edible.
(B) Nuclear membrane is absent in Monera.
(C) Cell wall is absent in Animalia.
(D) Protists are phtosynthetic and saprophytic not parasite.

64. Choose the wrong statement.
(A) Morels and truffles are Edible mushrooms.
(B) Yeast is unicellular and useful in fermentation.
(C) *Penicillium* is multicellular and produces antibiotics.
(D) *Neurospora is aseptate fungi and* is used in the study of biochemical and genetics.

65 Which of the following pairs is of unicellular algae?
(A) Gelidium and Gracilaria
(B) Anabaena and Volvox
(C) Chlorella and Chlamydomonas
(D) Laminaria and Sargassum

66. Mark the incorrect –
(A) Floridean starch has structure similar to Amylopectin and glycogen
(B) Mannitol and algin present in Red algae
(C) Unequal flagella present in zoospore of ectocarpus
(D) Laminaria and sargassum are edible marine algae

67 Mark the incorrect statement –
(A) Strobili or cones are found in Equisetum and Seleginella
(B) Salvinia and seleginella are heterosporus
(C) Horsetail and fern , dominant plant body is gametophyte
(D) Bryophytes and pteridophytes require water for fertilization

68 Male and female gametophytes do not have an independent free living existence in
(A) Red algae (B) Gymnosperm
(C) Moss (D) Pteridophytes

69 .Fucoxanthin is the major pigment in:
(A) Nostoc and anabena
(B) Volvox and chlorella
(C) Kelp and fucus
(D) Polysphonia and porphyra

70. Which of the following statements is correct about gymnosperms ?
(A) Male and female gametophytes are free living and double fertiliation present
(B) Most of them have ovary with covered seeds
(C) Their seeds are not covered and cone present
(D) Sequoia is tallest herb in gymnosperm

71. From evolutionary point of view, retention of the female gametophyte with developing young embryo on the parent sporophyte for some time, is first observed in
(A) Liverworts
(B) Homosporus pteridophyte
(C) Hetrosporus Pteridophytes
(D) Gymnosperms

72. Which of the following statement is correct?
(A) Pinus is monoecious and cycas is dioecious
(B) Selaginella is heterosporous, while Salvinia is homosporous
(C) Cycas have mycorrhizae and pinus with coralloid roots
(D) Stems are usually branched in both Pinus and Cycas

73. Which one is wrongly matched?
(A) Uniflagellate spore - Polysiphonia
(B) Biflagellate zoospores - Brown algae
(C) Gemma cups - Marchantia
(D) Unicellular organism - Chlorella

74. Which one is wrongly matched?
(A) Double fertilization - Porphyra
(B) Oogamous - Fucus
(C) Protonema - Moss
(D) Anisogamous - Eudorina

75. Select the mismatch:
(A) Pinus – Neeedle shape leaf
(B) Cycas – Pinnate compound leaf
(C) Salvinia – Heterosporous
(D) Equisetum – gametophyte non green

76. Life cycle of Peat moss and Pinus respectively are:
(A) Haplontic, Diplontic
(B) Diplontic, Haplodiplontic
(C) Haplo-diplontic, Diplontic
(D) Haplo-diplontic, Haplontic

77. Mark the incorrect statement –
(A) Wolfia is smallest gymnosperm
(B) Zygotic meiosis not occur in Haplodiplontic plant And Diplontic plants
(C) An example of colonial alga is Volvox
(D) Spirogyra example of alga with non-motile stage

78. Which one of the following statements is wrong?
(A) Agar-agar is obtained from Gelidium and Gracilaria
(B) Laminaria and Sargassum are used as food by space traveller
(C) Algae increase the level of dissolved oxygen in the immediate environment
(D) Algin is obtained from brown algae, and carrageen from Red algae.

79. Select the incorrect statement
(A) Gymnosperms are heterosporous and non-flowering plants
(B) Ulothrix is isogamous motile
(C) Unicelluar rhizoids in sphagnum
(D) The leaves of gymnosperms are well adapted to extremes of climate

80. Mark the incorrect –
(A) Ray florets have Inferior ovary
(B) The roots that originate from the base of the stem are Fibrous roots
(C) The ovary is half inferior in Plum
(D) Axile placentation present in pea

81. Mark the correct statement
(A) Vexillary aestivation is characteristic of the family Fabaceae
(B) Mango and Coconut fruits have Endocarp is edible in both
(C) pea and cassia is actinomorphic
(D) Calotropis with twisted aestivation

82. Placentation in which ovules develop on the inner wall of the ovary or in peripheral part is
(A) Basal
(B) Axile
(C) Parietal
(D) Free central

83. Mark the incorrect statement-
(A) Root hairs develop from the region of Maturation
(B) Leaf develop in acropetal manner
(C) Silkcotton show palmateley compound leaf
(D) Guava with whorled phyllotaxy

84. Consider the following statement –
(I) The morphological nature of the edible part of coconut is Endosperm
(II) Opposite type of phyllotaxy is present in Guava and *Calotropis*
(III) In infloresence younger flowers at the base and the older ones at its apex is known as Racemose
Mark the correct –
(A) Only I
(B) Both I and II
(C) All three
(D) Both II and III

85. Free-central placentation is found in:
(A) *Brassica* (B) *Citrus*
(C) *Dianthus* (D) *Argemone*

86. Mark the incorrect-
(A) Radial symmetry is found in the flowers of *Brassica*
(B) *Salvia* unequal length stamen
(C) Rose and lotus are apocarpus
(D) Cucumber and sunflower have superior ovary

87. Mark the incorrect –
(A) Tricarpellary, syncarpous gynoecium is found in flowers of Liliaceae
(B) Solanaceae show epipealtous condition
(C) Fabaceae show valvate aestivation in petals
(D) Poaceae with basal placentation and racemose

88. Mark the incorrectly matched -
(A) Standard petal -Vexillum in pea
(B) Endospermous – Castor
(C) Drupe – mango and coconut
(D) Twisted aestivation – Cassia

89. Perigynous flowers are found in:
(A) China rose and mustard
(B) Rose and plum
(C) Guava and sunflower
(D) Cucumber and watermelon

90. Mark the correct –
(A) Flowers are unisexual in Cucumber
(B) China rose show Monadelphous condition
(C) Onion is monocot and trimerous
(D) Pea fruit is dehiscent and seed endospermous

91. Axile Placentation is present in:
(A) Lemon (B) Pea
(C) *Argemone* (D) *Dianthus*

92. The transverse section of a plant shows following anatomical features: (2020)
1. Large number of scattered vascular bundles surrounded by bundle sheath.
2. Large conspicuous parenchymatous ground tissue.
3. Vascular bundles conjoint and closed
4. Phloem parenchyma absent.

Identify the category of plant and its part:
(A) Monocotyledonous root
(B) Dicotyledonous stem
(C) Dicotyledonous root
(D) Monocotyledonous stem

93. Mark the incorrect .-
(A) Large, empty colourless cells of the adaxial epidermis along the veins of grass leaves are Bulliform cells
(B) Dicot stem starch sheath is endodermis layer
(C) Hypodermis in dicot stem is collenchyma
(D) Scattered bundle present in dicot root

94. Consider the following statement –
(I) Secondary xylem and phloem in dicot stem are produced by Vascular cambium by de differentiation
(II) Casparian strips occur in Endodermis of root
(III) Stomata in grass leaf are Dumb-bell shaped
Mark the correct –
(A) Only I
(B) Both I and II
(C) All three
(D) Both II and III

95. Which of the following is made up of dead cells?
(A) Xylem parenchyma and endodermis of root
(B) Phloem parenchyma
(C) Pericycle of dicot stem and hypodermis of monocot stem
(D) Hypodermis of dicot stem

96. Which of the following statements is not true
(A) Phloem fibres are made up of Sclerenchyma cells
(B) Trichome are muticellualar , branch and unbranch
(C) Ground tissue have cortex, pericycle and pith
(D) Phloem parenchyma is abundantly present in monocots

97. Consider the following statement –
(I) Cortex is the region found between Pericycle and endodermis
(III)Specialised epidermal cells surrounding the guard cells are called Subsidiary cells
(III)Vascular bundles in monocotyledons are considered closed because Cambium is absent
(IV) Stele is all tissue inner to cortex in root
How many are correct-
(A) One
(B) two
(C) Three
(D) four

98. Mark the incorrect statement –
(A) The oxygenation activity of RuBisCo enzyme in photorespiration leads to the formation of 1 molecule of 3-C compound and 1 molecule of 2-c compound
(B) In light reaction, plastoquinone facilitates the transfer of electrons from Cytb6f complex to PS-I
(C) First action spectrum discovered by T.W Engleman
(D) Granal thylakoid have PS I not PS II

99. Consider the statement and mark the incorrect -
(A) During non-cyclic photophosphorylation, when electrons are lost from the reaction centre at PS II, water is the source of these electrons
(B) In C4 plants, the site of RuBisCO activity is Bundle sheath cell
(C) RuBisCO action requires ATP and NADPH for reduction step
(D) Internal CO2 concentration and leaf surface area are internal factors which affect rate of photosynthesis

100. Mark the correct statement –
(I) ATP, NADPH and oxygen is product of light reaction in cyclic flow of electron
(II) The process which makes major difference between C3 and C4 plants is Photorespiration
(III) In a chloroplast the highest number of protons are found in Lumen of thylakoid
(IV) Anthocyanin a proteinaceous and water soluble photosynthetic pigment
Mark the correct statement –
(A) Only I correct
(B) Both I and II
(C) All four correct
(D) IV , II and III are correct

101. Mark the incorrect matched –
(A) Emerson's enhancement effect and Red drop have been instrumental in the discovery of Two photosystem operating simultaneously
(B) In photosynthesis, the light-independent reactions take place at Stromal
(C) Chemiosmotic hypothesis valid for mitochondria and chloroplast
(D) In low light intensity, C-3 plant show photorespiration

102. With reference to factors affecting the rate of photosynthesis which of the following statements is not correct?
(A) Light saturation for CO2 fixation occurs at 10% of full sunlight
(B) Increasing atmospheric CO2 concentration upto 0.05% can damage plant
(C) C3 plants responds to higher temperatures with enhanced photosynthesis while C4 plants have much lower temperature optimum
(D) Tomato is a greenhouse crop which can be grown in CO2- enriched atmosphere for higher yield

103. Mark the correct match in C-4 plant –
(A) RUBISCO – mesophyll cell – C-4 plant
(B) PEP - primary CO2 acceptor in – Bundle sheath cell
(C) Maize and sorghum – C-4 plant
(D) To fix one CO2 – 3 ATP – in C-4 plant

104. Mark the incorrect statement –
(A) The number of substrate level phosphorylations in one turn of citric acid cycle is one
(B) Pyruvate dehydrogenase activity during aerobic respiration requires Magnesium
(C) Respiratory Quotient (RQ) value of tripalmitin is 0.7
(D) Conversion of glucose to glucose-6-phosphate, the first irreversible reaction of glycolysis, is catalysed by Phosphofructokinase

105. Consider the statement –
(I) NAD+ in cellular respiration It functions as an coenzyme
(II) Enzymes of TCA cycle are present in mitochondrial matrix.
(III) Oxidative phosphorylation takes place in outer mitochondrial membrane.
(IV) Cytochorme c oxidase is complex IV and have four copper centre
Mark the correct statement –
(A) Only I
(B) Both I and II
(C) All four correct
(D) I , II and III are incorrect

106. Which statement is wrong for Krebs' cycle?
(A) There are three points in the cycle where NAD+ is reduced to NADH + H+
(B) There is one point in the cycle where FAD+ is reduced to FADH2
(C) During conversion of succinyl CoA to succinic acid, a molecule of GTP is synthesised
(D) The cycle starts with condensation of acetyl group (acetyl CoA) with OOA without water

107. Mark the correct match –
(A) Oxidative phosphorylation - Formation of ATP by energy released from electrons removed during NADH oxidation.
(B) Complex III in ETS- take electron directly from Complex I
(C) Link reaction – Oxidation occur no decarboxylation
(D) Lactic acid fermentation- One CO2 released

108. Mark the incorrect statement –
(A) biomolecules is common to respiration-mediated breakdown of fats, carbohydrates and proteins is Acetyl CoA
(B) In glycolysis tow ATP form by substrate level phosophorylation
(C) Cytochromes are found in Cristae of mitochondria
(D) CO2 is not released Alcoholic fermentation

109. Mark the correct –
(A) In mitochondria, protons accumulate in the Inter membrane space
(B) Stroma of mitochondria show reduction of acetyl coA by kreb cycle
(C) Kreb cycle number of NADH form is four
(D) Protein RQ is equal to RQ of fat

110 Consider the following statement –
(A) The process of growth is maximum during Log phase
(II) Fruit and leaf drop at early stages can be prevented by the application of Gibberlic acid
(III) term 'Kinetin' coined by Skoog and Miller
(IV) The Avena curvature is used for bioassay of IAA
Mark the correct statement –
(A) Only I
(B) Both I and II
(C) All four correct
(D) I , II and III are incorrect

111. Name the plant growth regulator which upon spraying on sugarcane crop, increases the length of stem, thus increasing the yield of sugarcane crop.
(A) Gibberellin (B) Ethylene
(C) Abscisic acid (D) Cytokinin

112 Match the following concerning the activity/function and the phytohormone involved. (2020 Covid Re-NEET)
1. Female flower cucumber (i) Abscisic acid
2. Herbicide (ii) GA3
3. Malting in barley (iii) 2, 4-D
4. Stress hormone (iv) Ethephon
Select the correct option from following:
(A) (B) (C) (D)
(A) (iii) (iv) (ii) (i)
(B) (iv) (iii) (ii) (i)
(C) (iv) (ii) (i) (iii)
(D) (ii) (iii) (iv) (i)

113. Mark the correct statement -
(A) Auxin and Ethylene promote flowering in cucumber
(B) Cytokinin and auxin require for callus development and adventitious shoot formation
(C) Gibberellin and Abscisic acid and antagonist
(D) Cytokinin and Abscisic acid both close stomata and promote cell division

114. Match Column - I with Column - II and select the correct option using codes give below.

Column-I	Column-II
(A) Cytokinin	(i) Stimulates closure of stomata
(B) Ethylene	(ii) Increases stem length
(C) Gibberellin	(iii) overcome apical dominance
(D) Abscisic acid	(iv) root hair growth

Codes:
(A) A-iii B-iv C-ii D-i
(B) A-iii B-ii C-iv D-i
(C) A-iv B-i C-iii D-ii
(D) A-ii B-iv C-i D-iii

115. mark the correct statement –
(A) Growth hormone Auxin was isolated by F.W. Went from tips of seeding coleoptile of Oat
(B) Typical growth curve in plants is Sigmoid in most plant part
(C) Hedge making and branches in tea plantation promoted by decapitation
(D) all are correct

116. Mark the incorrect matched –
(A) Kurosawa- Gibberlic acid – fungi
(B) Skoog – Cytokinin- fish DNA
(C) went – Auxin – Oat coleoptile
(D) Cousins- ABA – oranges

117. Consider the following –
(I) Growth regulators is known as 'stress hormone Abscisic acid
(II) Ethylene promote climacteric ripening
(III) Auxin like 2,4-D act weedicide against grass
(D) Gibberellic acid obtain from plants not from fungi
Mark the correct statement –
(A) Only I
(B) Both I and II
(C) All four correct
(D) I , II and III are incorrect

118. The plant parts which consist of two generations one within the other: (2020)
1. Pollen grains inside the anther
2. Germinated pollen grain with two male gametes
3. Seed inside the fruit
4. Embryo sac inside the ovule
(A) (A), (B) and (C) (B) (C) and (D)
(C) (A) and (D) (D) (A) only

119. Mark the incorrect -
(A) In water hyacinth and water lily, pollination takes place by Insects and wind
(B) The body of the ovule is fused within the funicle at Hilum
(C) Pollen grains can be stored for several years in liquid nitrogen having a temperature of –160°C
(D) Sporopollenin Has proved helpful in preserving pollen as fossils

120, Which of the following is incorrect for pollination
(A) wind-pollinated plants Pollen grains are light and non-sticky
(B) A dioecious flowering plant prevents Autogamy and geitonogamy
(C) Flowers which have single ovule in the ovary and are packed into inflorescence are usually pollinated by Bee
(D) Attractants and rewards are required for Entomophily

121 Mark the incorrect match
(A) Double fertilisation - Syngamy and triple fusion
(B) Functional megaspore – Embryosac
(C) Persistent nucellus – Perisperm
(D) Continued self-pollination – lead to heterosis

122. Mark the correct statement –
(A) The ovule of an angiosperm is technically equivalent to Megaspore
(B) Cotyledon of maize grain is called Plumule
(C) The hollow foliar structure in a wheat embryo that encloses the shoot apex and a few leaf primordia is called Coleoptile
(D) Plants in which thalamus contributes to fruit formation termed as aggregate fruit

123. Consider the statement -
(I) Ovary develops into fruit and ovule into seed is post fertilization event
(II) Some amount of endosperm form before embryogeny starts
(III) Central cell develops into endosperm by free nuclear division
(III) Proximal end of the filament of stamen is attached to Thalamus
Mark the correct statement –
(A) Only I
(B) Both I and II
(C) All four correct
(D) I , II and III are incorrect

124. Choose the correct sequence representing the ploidy of Nucellus; Megaspore mother cell; Megaspore; Egg cell; Zygote; A polar nucleus of embryo sac; Secondary nucleus and Primary endosperm nucleus.
(A) n; 2n; 2n; n; 2n; n; 2n; and 2n
(B) 2n; 2n; n; 2n; n; 2n; 3n; and 2n
(C) 2n; 2n; n; n; 2n; n; 2n; and 3n
(D) 2n; n; n; 2n; 3n; n; and 3n

125. In angiosperms which is incorrect -
(A) Reduction division occurs in the megaspore mother cell and only one megaspore functional
(B) A large central cell is present in the embryo Sac later develop into PEC
(C) Synergids has a filiform apparatus guide entry of pollen tube
(D) Pollination mostly by water in angiosperm

126. Which of the following statements is not correct?
(A) Pollen grains of all species can germinate on the stigma of a flower, but only one pollen tube of the same species grows into the style.
(B) Insects that consume pollen or nectar without bringing about pollination are called pollen/nectar robbers.
(C) Pollen germination and pollen tube growth are regulated by chemical components of pollen interacting with those of the pistil.
(D) Some reptiles have also been reported as pollinators in some plant species.

127. Mark the incorrect -
(A) Tapetum helps to provide nourishment to developing pollen
(B) Exine of pollen grains is made up of sporopollenin
(C) Pollen grains of many species cause severe Allergies
(D) Stored pollen in liquid nitrogen can for horses and athletes

128. Mark the incorrect-
(A) Thalassemia and sickle cell anaemia are caused due to a problem in globin molecule synthesis but Thalassemia is due to less synthesis of globin molecules.
(B) PKU is inborn error of metabolism , hydroxylase enzyme deficient
(C) In sickle cell anemia a single amino acid GAG is replaced by GUG in alpha chain of haemoglobin
(D) Down's syndrome is trisomy of 21st chromosome

129. The genotypes of a husband and wife are $I^A I^B$ and $I^A i$. Among the blood types of their children mark the correct -
(A) A , B and AB blood group possible
(B) A blood group have possible two genotype
(C) Blood group O is not possible
(D) it is\ possibility that 50 percent child with AB blood group

130 Mark the incorrect –
(A) A disease caused by an autosomal primary non disjunction is Klinefelter's syndrome
(B) Tall ,round seed and Axial flower is dominant trait
(C) Mendel perform hybridisation experiment for 7 years and work rediscovered in 1900
(D) Sturtevant is student of Morgan linkage map

131. Consider the following statement –
(I) The mechanism that causes a gene to move from one linkage group to another is called translocation
(II) A pleiotropic gene controls multiple traits in an individual
(III) Unmodified allele is dominant and produce functional enzyme
(IV) If a colourblind man marries a Carrier woman then chance of 50 percent son to colour blind
Mark the correct statement –
(A) Only I
(B) Both I and II
(C) All four correct
(D) I , II and III are incorrect

132. Pick out the correct statements.
(A) Haemophilia is a sex linked recessive disease and PKU and SCA is autosomal recessive
(B) XO sex determination present in most insect where male heterogametic
(C) Chromosomal aberration main cause of cancer
(D) Eye colour and body colour character present on Y-chromosome in drosophila
(A) (A), (C) and (D) are correct.
(B) (A), (B) and (C) are correct.
(C) (A) and (D) are correct.
(D) (B) and (D) are correct.

133. A Round seed true breeding garden pea plant is crossed with a wrinkled true breeding garden pea plant. Mark the correct
(A) 3 : 1 ratio in F1
(B) 3 : 1 genotypic ratio in F2
(C) 1 : 2 : 1 Genotypic ratio in F2
(D) all of the above

134. Match the terms in column I with their description in column II and choose the correct option.

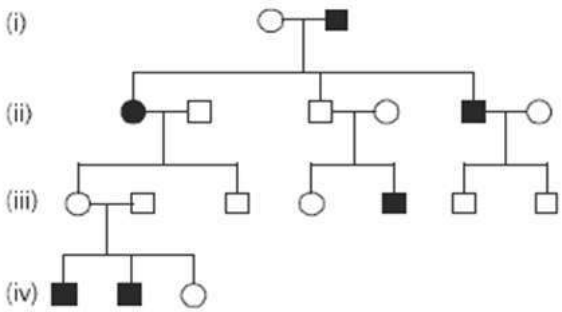
Column I	Column II
A. Dominance	(i) Many genes govern a single character
B. Codominance	(ii) One allele express
C. Pleiotropy	(iii) In a heterozygous organism both alleles express themselves fully
D. Polygenic	(iv) A single gene influences inheritance many characters

	A	B	C	D
(A)	(iv)	(i)	(ii)	(iii)
(B)	(iv)	(iii)	(i)	(ii)
(C)	(ii)	(i)	(iv)	(iii)
(D)	(ii)	(iii)	(iv)	(i)

135. Mark the incorrect statement -
(A) Chromosomal theory proposed by Sutton and boveri
(B) ZW sex determination present in birds and female heterogametic
(C) Alpha thalassemia involve chromosome number 16 and two genes HBA1 and HBAII
(D) Queen Victoria was haemophilic and all son show haemophilia

136. Mark the correct –
(A) A gene showing co-dominance has both alleles independently expressed in the heterozygote
(B) In case of multiple allele , more than two allele of one character in individual
(C) Recombinant between body colour and eye colour is 37.2 percent in drosophila
(D) Non-disjunction of sister chromatid lead to aneuploidy

137 In the following human pedigree, the filled symbols represent the affected individuals. Mark the correct about pedigree



(A) In third generation marriage between affected parents shown in pedigree
(B) In second generation , affected mother not have affected son in 3rd generation and it is sex linked
(C) Autosomal dominant is possible
(D) Since normal parents have affected progeny in fourth generation so it is autosomal recessive

138. Consider the statement and mark the correct –
(A) enzyme that facilitates opening of DNA –helix during transcription. DNA helicase
(B) Adenine pairs with thymine through one H-bond in DNA
(C) Soluble RNA is most stable RNA
(D) The first phase of translation is Aminoacylation of tRNA

139. Consider the following statement and mark incorrect –
(A) A typical mammalian cell is 6.6×10^9 bp, then the length of the DNA is approximately 2.2 meter
(B) DNA polymerase require primer and lagging strand show repeated primer synthesis
(C) RNA polymerase not require primer and helicase
(D) DNA open at promoter in DNA replication

140. Mark the correctly matched –
(A) Nuclein – 1869- meicher
(B) Double helix model- 1953- Watson and crick
(C) Transformation experiment-1928- Griffith
(D) Semiconservative- Hershey and chase – 1958

141, Mark the incorrect –
(A) In the polynucleotide chain of DNA, a nitrogenous base is linked to the –OH 1'C pentose sugar
(B) E. Coli has only 4.6×10^6 base pairs and completes the process of replication 2000 base pairs/second
(C) YAC and BAC use in DNA fingerprinting
(D) 5-methyl uracil is thymine

142. Consider the following statement -
(I) Purines found both in DNA and RNA is Adenine and guanine
(II) Lac I is part of transcription unit of lac operon
(III) The experimental proof for semiconservative replication of DNA was first shown bacterium
(IV) Nucleosome have 200 base pair DNA wrap or 68 nm
Mark the correct statement –
(A) Only I
(B) Both I and II
(C) All four correct
(D) I , III and IV are correct

143. Mark the incorrect –
(A) Genetic code first decipher was phenylalanine
(B) Nearly universal feature of genetic code does allow bacteria to produce human insulin by recombinant DNA technology
(C) RNA is more reactive due to uracil, 2'OH on sugar and catalytic ability
(D) Meselson and Stahl use radioactive DNA for semiconservative replication experiment

144. Under which of the following conditions will there be no change in the reading frame of following mRNA?
5′AACAGCGGUGCUAUU3′
(A) Insertion of G at 5th position
(B) Deletion of G from 5th position
(C) Insertion of A and G at 4th and 5th positions respectively
(D) Addition of CCA from 7th, 8th and 9th positions

145. Mark the incorrect –
(A) Expressed Sequence Tags (ESTs) refers to Genes expressed as RNA
(B) Polypeptide expression is control at two level in prokaryote
(C) DNA polymorphism is more in coding than non-coding
(D) Less than two percent of genome code for protein

146. Match the following genes of the Lac operon with their respective products :

(A) i gene	i. β-galactosidase
(B) z gene	ii. Permease
(C) a gene	iii. Regulator protein
(D) y gene	iv. Transacetylase

Select the correct option.

(A)	(B)	(C)	(D)
(A) (i)	(iii)	(ii)	(iv)
(B) (iii)	(i)	(ii)	(iv)
(C) (iii)	(i)	(iv)	(ii)
(D) (iv)	(ii)	(iii)	(i)

147. Select the correct match:
(A) Alec Jeffreys – Streptococcus pneumoniae
(B) Alfred Hershey and Martha Chase – Pneumonococcus
(C) Matthew Meselson and F. Stahl – Vicica faba
(D) Francois Jacob and Jacques Monod – Lac Operon

148. Select the incorrect match
(A) Ribozyme – 23s rRNA
(B) Most stable RNA - rRNA
(C) RNA polymerase III - tRNA
(D) Promoter – downstream at 3'end coding strand

149. Mark the incorrect statement –
(A) The association of histone H1 with a nucleosome indicates DNA is condensed into a chromatin fibre
(B) Lysine and arginine are basic amino acids present in histones
(C) Beads on string is basic unit of chromatin
(D) Heterochromatin is transcriptionally active and light stain

150. Consider the statement and mark the correct
(A) The final proof for DNA as the genetic material came from the experiments of harshey and chase
(B) During DNA replication, Okazaki fragments are used to elongate the leading strand towards replication fork
(C) Splicing occur in bacteria in hnRNA
(D) DNA and histone both are negative charge

151. Select the mismatch.
(A) DNA double helix – Stacking of base pair
(B) Central dogma – flow of information in living
(C) Jacob and monod – Lac operon
(D) Untranslated region – present on hnRNA

152. Mark the incorrect –
(A) Sewage treatment removes suspended solids are Primary treatment
(B) Secondary treatment lso known as biological treatment
(C) Activated sludge is present in settling tank
(D) BOD level high in secondary effluent compare to sewage

153. Which of the following is incorrectly matched for the product produced by them?
(A) Lactobaccilus -Lactic acid
(B) Penicillium notatum- Antibiotics
(C) Sacchromyces cerevisiae - Ethanol
(D) Acetobacter aceti – Butyric acid

154. Match column I with column II)and select the correct option using the codes given below.

Column I	Column II
A. Citric acid	(i) Trichoderma
B. Cyclosporin A	(ii) Clostridium
C. Statins	(iii) Aspergillus
D. Butyric acid	(iv) Monascus

(A) A(iii), B(i), C(ii), D(iv)
(B) A(iii), B(i), C(iv), D(ii)
(C) A(i), B(iv), C(ii), D(iii)
(D) A(iii), B(iv), C(i), D(ii)

155. Which of the following is wrongly matched in the given table?

Microbe	Product	Application
(A) Streptococcus	Streptokinase	Removal of Clot from blood vessel
(B) Clostridium	Lipase	Removal of oil stains
(C) Trichoderma Polysporum	Cyclosporin A	Immuno-suppressive drug
(D) Monascus Purpureus	Statins	Lowering of blood cholesterol

156. Match the following list of microbes and their importance.

Column I	Column II
A. Lady bird	(i) Production of immunosuppressive agent
B. Monascus purpureus	(ii) Ripening of Swiss cheese
C. Trichoderma polysporum	(iii) Biocontrol agent
D. Propionibacterium sharmanii	(iv) Production of blood cholesterol lowering agents

(A) A(iv), B(ii), C(i), D(iii)
(B) A(iii), B(i), C(iv), D(ii)
(C) A(iii), B(iv), C(i), D(ii)
(D) A(iv), B(iii), C(ii),D(i)

157. Mark the incorrect statement –
(A) The guts of cow and buffalo possess Methanogens
(B) Cyanobacteria and mycorhizzae is biofertilizers
(C) Bacillus thuringiensis produce toxins in spores
(D) Dragon fly are biofertilizer

158. Mark the incorrect statement –
(A) anaerobic sludge Digesters Methane, Hydrogen sulphide and O_2
(B) A good producer of citric acid Aspergillus
(C) Microbe used for biocontrol of pest butterfly caterpillars is Streptococcus sp.
(D) Monascus purpureus is a yeast used commercially in the production of blood cholesterol lowering statins.

159. The domestic sewage in large cities is treated in sewage treatment plant-
Mark the correct
(A) has a high BOD in primary effluent
(B) is processed by aerobic and then anaerobic bacteria in the secondary treatment in Sewage Treatment Plants (STPs)
(C) Aeration tand reduced BOD significantly
(D) All are correct

160. Mark the incorrectly matched-
(A) Yucca plant and moth – Mutualsim
(B) Goat and Abingdon tortoise – Competition
(C) Crow and cuckoo bird- Brood parasitism
(D) Whale and barnacle – Ammensalism

161. Mark the correct matched –
(A) In a growing population of a country Pre-reproductive individuals are more than the reproductive individuals.
(B) Lichen ,pollination and wasp with fig is example of mutaualism
(C) In logistic growth curve , when K=N then cureve is asymptote
(D) In exponential growth curve 'r' is rate of natural increase by birth rate only

162. Consider the statement and mark the incorrect
(A) The principle of resource partioning was stated by MacArthur
(B) Competitive exclusion proposed by Gause
(C) Removal of inferior species will lead to competitive release
(D) Behaviour of predator is prudent

163. When does the growth rate of a population following the logistic model equal to exponential ? The logistic model is given as dN/dt = rN (1-N/K)
(A) When N/K is exactly one
(B) When N nears the carrying capacity of the habitat
(C) When N/K equals zero
(D) When death rate is greater than birth rate

164. Mark the incorrect-
(A) Vertical distribution of different species occupying different levels in a biotic community is known as Stratification
(B) In the equation GPP – R = NPP.
R represents respiration loss
(C) Gross primary productivity is always more than net primary productivity.
(D) There is no relationship between Gross primary productivity and net primary productivity

165. Mark the correct –
(A) Pyramid of biomass for grassland is inverted
(B) Pyramid of number for forest is upright
(C) Pyramid of biomass for aquatic is upright
(D) PAR is 50 percent of total sunlight

166. Mark the incorrect statement
(A) According to Robert May, the global species diversity is about 7million
(B) Species richness increases with increasing area, but only up to limit
(C) There is no relationship between species richness and area explored
(D) India have 2.4 percent area and 8.1 percent of total biodiverdity

167. Match the following , mark incorrect matched
(A) Alexander Von Humboldt - Species area relationships
(B) Paul Ehrlich – rivet popper hypothesis
(C) Evil quartet- Habitat loss
(D) Hot spot – ex situ conservation

168. Consider the following statement and makr incorrect
(A) maximum number of species among global biodiversity in plants is angiosperm
(B) Out of every 10 animals five are insects
(C) Equador, Colombia and amazon forest rich in biodiversity
(D) Tropical area show niche specialization

169. Consider the following stamtent and mark the incorrect –
(A) Most important cause for animals and plants being driven to extinction Habitat loss and fragmentation
(B) lantana, Eichhornia and African cat fish are alien species and responsible for native species extinction in India
(C) Pollination , oxygen and aesthetic pleasure is broadly utilitarian
(D) Drugs, food ,timber are another example of broadly utilitarian

170. Mark the correct match
(A) Earth summit – Johannesburg
(B) Sacred groove – national park
(C) India – 23 hot spot
(D) Protected area- biosphere reserve

171. Given below are four statements:
Statement I: Decomposition is a process convert organic into simple inorganic
Statement II: Decomposition is faster if the detritus is rich in lignin and chitin.
Statement III Humus is black ,amorphous and microbial resistant
Statement IV Low temperature and anaerobic condition lead to buildup of organic matter
Mark the correct –
(A) Only I
(B) Both I and III and IV
(C) I , II and III
(D) All four

172. Which of the following is statement is wrong
(A) Over-exploitation and Alien species invasion lead to extinction
(B) Wild life safari park are ex situ conservation
(C) IUCN threatened species list mammals are most threatened than amphibian
(D) Cryopreservation and seed bank are ex situ conservation

173. Match column I with column II and select the correct option from the codes given below.

Column I		Column II	
A.	Lambda phage	(i)	5386 nucleotide
B.	Φ x 174	(ii)	48502 base pair
C.	Human haploid	(iii)	3.3×10^9 bp
D.	E.coli	(iv)	4.6×10^6 base pair

(A) A-(ii), B-(i), C-(iii), D-(iv)
(B) A-(ii), B-(iii), C-(iv), D-(i)
(C) A-(ii), B-(i), C-(iv), D-(iii)
(D) A-(iii), B-(ii), C-(i), D-(iv)

174. Match column I with column II and select the correct option from the codes given below.

Column I		Column II	
A.	Deoxyribose	(i)	DNA
B.	Adenosine	(ii)	Pentose
C.	Adenylic acid	(iii)	*Nucleoside*
D.	Nucleic acid	(iv)	Nucleotide

(A) A-(ii), B-(iii), C-(i), D-(iv)
(B) A-(ii), B-(iii), C-(iv), D-(i)
(C) A-(iii), B-(ii), C-(iv), D-(i)
(D) A-(iii), B-(ii), C-(i), D-(iv)

175. Match column I with column II and select the correct option from the codes given below.

Column I		Column II	
A.	Guanosine	(i)	N-glycosidic linkage
B.	Thymidylic acid	(ii)	*Phosphoester linkage*
C.	Polynucleotide chain	(iii)	Phosphodiester linkage
D.	DNA	(iv)	H-bond

(A) A-(i), B-(ii), C-(iii), D-(iv)
(B) A-(ii), B-(iii), C-(iv), D-(i)
(C) A-(iii), B-(ii), C-(iv), D-(i)
(D) A-(i), B-(ii), C-(iv), D-(iii)

176. Match column I with column II and select the correct option from the codes given below.

Column I		Column II	
A.	Miescher	(i)	1953
B.	Griffith	(ii)	*1928*
C.	Harshey and chase	(iii)	*1869*
D.	Watson and crick	(iv)	1952

(A) A-(ii), B-(iii), C-(i), D-(iv)
(B) A-(ii), B-(iii), C-(iv), D-(i)
(C) A-(iii), B-(ii), C-(iv), D-(i)
(D) A-(iii), B-(ii), C-(i), D-(iv)

177. Match column I with column II and select the correct option from the codes given below.

Column I		Column II	
A.	Octamer	(i)	Unit of chromatin
B.	Nucleosome	(ii)	*200 bp*
C.	Beads on string	(iii)	*Eight histone*
D.	NHCs	(iv)	Higher level packaging

(A) A-(iii), B-(i), C-(ii), D-(iv)
(B) A-(ii), B-(iii), C-(iv), D-(i)
(C) A-(iii), B-(ii), C-(iv), D-(i)
(D) A-(iii), B-(ii), C-(i), D-(iv)

178. Match column I with column II and select the correct option from the codes given below.

Column I		Column II	
A.	Chargaff's rule	(i)	Stacking of base pair give stability
B.	Watson and crick	(ii)	Flow of genetic information
C.	Central dogma	(iii)	Harshey and chase
D.	Unequivocal proof	(iv)	Ratio of A/T is equal to 1

(A) A-(iv), B-(i), C-(ii), D-(iii)
(B) A-(ii), B-(iii), C-(iv), D-(i)
(C) A-(iii), B-(ii), C-(iv), D-(i)
(D) A-(iii), B-(ii), C-(i), D-(iv)

179. Match column I with column II and select the correct option from the codes given below.

Column I		Column II	
A.	Heterochromatin	(i)	Virulent
B.	S-strain of streptococcus	(ii)	*Transcriptionally inactive ,dense stain*
C.	DNAse	(iii)	*Prevent transformation*
D.	R-strain of streptococcus	(iv)	Non-virulent

(A) A-(ii), B-(iii), C-(i), D-(iv)
(B) A-(ii), B-(i), C-(iii), D-(iv)
(C) A-(iii), B-(ii), C-(iv), D-(i)
(D) A-(iii), B-(ii), C-(i), D-(iv)

180. Match column I with column II and select the correct option from the codes given below.

Column I		Column II	
A.	Taylor	(i)	P^{32} and S^{35}
B.	Harshey and chase	(ii)	*N^{15} From NH_4Cl*
C.	Meselson and Stahl	(iii)	*Radioactive thymidine*
D.	Calvin	(iv)	C^{14} in photosynthesis

(A) A-(ii), B-(iii), C-(i), D-(iv)
(B) A-(iii), B-(i), C-(iv), D-(ii)
(C) A-(iii), B-(ii), C-(iv), D-(i)
(D) A-(iii), B-(i), C-(ii), D-(iv)

181. Match column I with column II and select the correct option from the codes given below.

Column I		Column II	
A.	George Gamow	(i)	Polynucleotide phosphorylase
B.	Severo Ochoa	(ii)	*Triplet genetic code*
C.	Nirenberg	(iii)	*Deciphering of genetic code*
D.	H.G Khorana	(iv)	Co polymer or homopolymer

(A) A-(ii), B-(iii), C-(i), D-(iv)
(B) A-(ii), B-(iii), C-(iv), D-(i)
(C) A-(ii), B-(i), C-(iii), D-(iv)
(D) A-(iii), B-(ii), C-(i), D-(iv)

182. Match column I with column II and select the correct option from the codes given below.

Column I		Column II	
A.	Jacob and Monod	(i)	Lac operon
B.	Alec Jeffrey	(ii)	DNA fingerprinting
C.	Avery McCarty andMacLeod	(iii)	*Trsnsforming principle is DNA*
D.	Wilkins and franklin	(iv)	X-ray diffraction structure of DNA

(A) A-(i), B-(ii), C-(iii), D-(iv)
(B) A-(ii), B-(iii), C-(iv), D-(i)
(C) A-(iii), B-(ii), C-(iv), D-(i)
(D) A-(iii), B-(ii), C-(i), D-(iv)

183. Match column I with column II and select the correct option from the codes given below.

Column I		Column II	
A.	RNA polymerase	(i)	28 s rRNA
B.	RNA Polymerase I	(ii)	*5 s rRNA*
C.	RNA polymerase III	(iii)	*hnRNA*
D.	RNA polymerase II	(iv)	mRNA

(A) A-(ii), B-(iii), C-(i), D-(iv)
(B) A-(ii), B-(iii), C-(iv), D-(i)
(C) A-(iv), B-(i), C-(iii), D-(ii)
(D) A-(iv), B-(i), C-(ii), D-(iii)

184. Match column I with column II and select the correct option from the codes given below.

Column I		Column II	
A.	Lac z	(i)	transacetylase
B.	Lac y	(ii)	*permease*
C.	Lac i	(iii)	*β galactosidase*
D.	Lac a	(iv)	Repressor

(A) A-(ii), B-(iii), C-(i), D-(iv)
(B) A-(ii), B-(iii), C-(iv), D-(i)
(C) A-(iii), B-(ii), C-(iv), D-(i)
(D) A-(iii), B-(ii), C-(i), D-(iv)

185. Match column I with column II and select the correct option from the codes given below.

Column I		Column II	
A.	Split gene	(i)	Mucus coat
B.	Polycistronic	(ii)	*E.coli*
C.	S-strain	(iii)	*Yeast cell*
D.	Lytic cycle	(iv)	Bacteriophage

(A) A-(ii), B-(iii), C-(i), D-(iv)
(B) A-(ii), B-(iii), C-(iv), D-(i)
(C) A-(iii), B-(ii), C-(iv), D-(i)
(D) A-(iii), B-(ii), C-(i), D-(iv)

186. Study the statements (a-c) given below and select the correct
(a) Phenylalanine is first decipher genetic code
(b) DNA is catalytically inactive and lack reactive base like uracil
(c) RNA virus mutate faster then DNA
(A) Only a and c (B) Only a
(C) Only a and b (D) all three

187. Study the statements (a-c) given below and select the correct
(a) Prokaryotes DNA replication is faster then Eukaryotes
(b) According to Griffith Transforming principle is DNA
(c) In harshey and chase experiment , radioactivity come from supernatant when virus containing radioactive DNA is taken
(A) Only a and c (B) Only a
(C) Only a and b (D) Only c

188. Read the following statements (1-3) and answer the question which follows them:
1. Promoter is located at 5' end upstream of coding strand
2. if Both strand of one structural gene transcribed at same time then double strand RNA form
3. lac operon is negative regulation , inducible operon and control by substrate

How many of the above statements are correct?
(A) Only 1 and 2 (B) Only 2 and 3
(C) Only 3 and 1 (D) All correct

189. Read the following statements (1-4) and answer the question which follows them:
1. methyl guanosine tri phosphate added at 5' end in capping and poly A tail in tailing during modification of hn RNA into mRNA
2. Adaptor hypothesis, Central dogma and double helix model given by crick
3. 23s rRNA present in large subunit is ribozyme in 80 s ribosome
4. In presence of lactose, repressor not able to bind on terminator and operon open

How many of the above statements are correct?
(A) Only 1 and 2 (B) Only 2 and 3
(C) Only 1, 2 and 3 (D) All correct

190. Read the following statements (1-4) and answer the question which follows them:
1. Functional structure of tRNA is inverted L-shape and its secondary structure is clover leaf
2. UTR is present on mRNA and it is for efficient translation
3. During translation , charge tRNA in elongation step comes at P-site

4. lac I gene of lac operon always express and are constitutive

How many of the above statements are correct?
(A) Only 1 and 2 (B) Only 2 and 3
(C) Only 1, 2 and 3 (D) All correct

191. Read the following statements (1-4) and answer the question which follows them:
1. Most gene present on chromosome I and least on chromosome X
2. Minisatellite use for DNA fingerprinting and it is non coding DNA
3. Transfer of DNA from Agarose gel to nitrocellulose paper is southern blot
4. Allele is not an example of polymorphism

How many of the above statements are correct?
(A) Only 1 and 2 (B) Only 2 and 3
(C) Only 1, 2 and 3 (D) All correct

192. Read the following statements (1-4) and answer the question which follows them:
1. AUG is start codon and UAA,UAG and UGA is stop codon
2. Deletion in one nucleotide lead to frame shift mutation
3. 80 type of protein present in ribosome of eukaryotes , whose subunit in cytoplasm always found in combine form
4. Release factor help in termination step in protein synthesis and release polypeptide

How many of the above statements are correct?
(A) Only 1 and 2 (B) Only 2 and 3
(C) Only 1, 2 and 4 (D) All correct

193. Read the following statements (1-5) and answer the question which follows them:
1. In messelson and stahl experiment , in fouth generation 50 percent hybrid DNA obtain
2. Okazaki fragments form in leading strand which show continuous DNA synthesis
3. RNA polymerase can open DNA and not require any primer
4. Coupled transcription and translation occur in prokaryotes not in Eukaryotes
5. tRNA is most stable RNA and most abundant in amount

How many of the above statements are correct?
(A) Only 3 and 2 (B) Only 3 and 4
(C) Only 1, 2 and 3 (D) All correct

194. Read the following statements (1-5) and answer the question which follows them:
1. YAC and BAC is cloning vector use in HGP
2. Scientists have identified about 1.4 million locations where singlebase DNA differences
3. The functions are unknown for over 50 per cent of the discovered genes.
4. tRNA read code with anticodon loop and during charging amino acid attach at 3' end
5. 5-methyl uracil is chemical name of thymine

How many of the above statements are correct?
(A) Only 1 and 2 (B) Only 2 and 3
(C) Only 1, 2 and 3 (D) All correct

195. Read the following statements (1-5) and answer the question which follows them:
1. RNA polymerase II transcribe hnRNA and RNA polymerase I transcribe 28s, 5.8 s and 18 s rRNA
2. Capping , splicing and tailing occur in mRNA to give premature RNA
3. Deoxyribonucleoside tri phosphate provide energy and also act as substrate for replication
4. Genetic code is nearly universal with exception in mitochondria and some protist
5. methionine and tryptophan have more than one code

How many of the above statements are correct?
(A) Only 1 and 2 (B) Only 2 and 3
(C) Only 1, 3 and 4 (D) All correct

196. Read the following statements (1-5) and answer the question which follows them:
1. Exons are said to be those sequence that appear in mature or processed RNA.
2. The codon is triplet. 61 codons code for amino acids and 3 codons do not code for any amino acids, hence they function as stop codons
3. The RNA polymerase is only capable of catalysing the process of elongation. It associates transiently with initiation-factor (σ) and termination-factor (ρ) to initiate and terminate the transcription
4. In lac operon , product of lac Z is enzyme to break peptide bond
5. Lactose and allolactose act as inducer and promote transcription even in presence of glucose in medium

How many of the above statements are correct?

(A) Only 1 and 2 (B) Only 2 and 3
(C) Only 1, 2 and 3 (D) All correct

197. A double strand DNA of 200 base pair , if percentage of A= 20 then select the correct statement
1. percentage of guanine is 30 percent
2. number of phosphodiester bond is 398
3. Number of A is 80 and G is 120
4. Number of H -bond is 520

How many of the above statements are correct?
(A) Only 1 and 2 (B) Only 2 and 3
(C) Only 1, 2 and 3 (D) All correct

198. Polypeptide chain of 300 amino acid present in Cytoplasm and deletion occur at 202 position of in mRNA then which is not correct –
(A) frame shift mutation occur
(B) after 66 amino acid all amino acid can change
(C) after 67 amino acid all amino acid change
(D) more lethal then substitution

199. Match column I with column II and select the correct option from the codes given below.

Column I		Column II	
A.	Concanavalin A	(i)	Lectins
B.	Alkaloids	(ii)	*Morphine*
C.	Drugs	(iii)	*Curcumin,vinblastin*
D.	Polymeric	(iv)	Cellulose , rubber

(A) A-(ii), B-(iii), C-(i), D-(iv)
(B) A-(i), B-(ii), C-(iii), D-(iv)
(C) A-(iii), B-(ii), C-(iv), D-(i)
(D) A-(iii), B-(ii), C-(i), D-(iv)

200. Match column I with column II and select the correct option from the codes given below.

Column I		Column II	
A.	Acid Soluble pool	(i)	Glucose, amino acid, nucleotide and nucleoside
B.	Ash wt	(ii)	Carbonate
C.	Acid Insoluble pool	(iii)	*Rubisco*
D.	Most Abundant protein	(iv)	Polysaccharide, protein, nucleic acid and lipid

(A) A-(ii), B-(iii), C-(i), D-(iv)
(B) A-(i), B-(iii), C-(iv), D-(ii)
(C) A-(i), B-(ii), C-(iv), D-(iii)
(D) A-(iii), B-(ii), C-(i), D-(iv)

201. Match column I with column II and select the correct option from the codes given below.

Column I		Column II	
A.	Basic amino acid	(i)	Aspartic acid and glutamic acid
B.	Aromatic amino acid	(ii)	Histidine, lysine and arginine
C.	Acidic amino acid	(iii)	Tryptophan , tyrosine and phenylalanine
D.	Neutral amino acid	(iv)	Valine

(A) A-(ii), B-(iii), C-(i), D-(iv)
(B) A-(ii), B-(i), C-(iii), D-(i)
(C) A-(iii), B-(ii), C-(iv), D-(i)
(D) A-(iii), B-(ii), C-(i), D-(iv)

202. Match column I with column II and select the correct option from the codes given below.

Column I		Column II	
A.	Inulin	(i)	Fructose
B.	Chitin	(ii)	*NAG*
C.	Cellulose	(iii)	*Beta Glucose*
D.	Glycogen	(iv)	Alpha glucose

(A) A-(ii), B-(iii), C-(i), D-(iv)
(B) A-(i), B-(ii), C-(iii), D-(iv)
(C) A-(iii), B-(ii), C-(iv), D-(i)
(D) A-(iii), B-(ii), C-(i), D-(iv)

203. Match column I with column II and select the correct option from the codes given below.

Column I		Column II	
A.	Phospholipid	(i)	Fat and gingley oil
B.	Triglyceride	(ii)	*lechithin*
C.	Heterocyclic	(iii)	*Purine and pyrimidine*
D.	Quatenary	(iv)	Haemoglobin

(A) A-(ii), B-(iii), C-(i), D-(iv)
(B) A-(ii), B-(i), C-(iii), D-(iv)
(C) A-(iii), B-(ii), C-(iv), D-(i)
(D) A-(iii), B-(ii), C-(i), D-(iv)

204. Match column I with column II and select the correct option from the codes given below.

Column I		Column II	
A.	Cotton, wood, pulp	(i)	Sucrose
B.	Estrogen And progestrone	(ii)	*Cholesterol*
C.	Non reducing	(iii)	*Cellulose*
D.	Ribozyme	(iv)	RNA

(A) A-(ii), B-(iii), C-(i), D-(iv)
(B) A-(ii), B-(iii), C-(iv), D-(i)
(C) A-(iii), B-(ii), C-(iv), D-(i)
(D) A-(iii), B-(ii), C-(i), D-(iv)

205. Read the following statements (1-5) and answer the question which follows them:
1. Lipids are non-polymeric, for aggregation and come in acid insoluble pool
2. Active sites are Crevise , in which substrate fit and form product by physical and chemical change
3. Haem is prosthetic group of Peroxidase and catalse which break hydrogen peroxide into water and oxygen
4. Zinc is activator of caroboxypeptidase as inorganic cofactor and form coordination bond
5. Carbonic anhydrase have highest turn over number 6lakh per second where H_2O and CO_2 is combine with carbonic acid

How many of the above statements are correct?
(A) Only 1 and 2 (B) Only 2 and 3
(C) Only 1, 2 and 3 (D) All correct

206. Read the following statements (1-5) and answer the question which follows them:
1. Secondary structure of protein have peptide and hydrogen bond
2. At isoelectric PH ,Amino acid form zwitter ion
3. Palmitic acid is 16c saturated and arachidonic acid is 20 c and unsaturated
4. Glycerol, suberin, cutin and cholesterol all are lipids
5. Arginine and valine is essential amino acid

How many of the above statements are correct?
(A) Only 1 and 2 (B) Only 2 and 3
(C) Only 1, 2 and 3 (D) All correct

207. Read the following statements (1-5) and answer the question which follows them:
1. In living cell percentage of protein is higher then nucleic acid and lipids
2. Substrate energy is higher then product then it is exothermic
3. Activation energy is average energy difference between substrate energy and transition stage
4. Enzyme substrate complex is reversible and enzyme product complex is irreversible
5. starch and cellulose both form helix in which Iodine can be trap to give blue colour

How many of the above statements are correct?
(A) Only 1 and 2
(B) Only 2 and 3
(C) Only 1, 2, 3and 4
(D) All correct

208. Read the following statements (1-5) and answer the question which follows them:
1. DiHAP and glycine are optically inactive
2. Ribulose and fructose are ketose
3. α (1-4) and α (1-6) linkage present in starch and glycogen
4. Chitin is polymer of NAG which is link by α (1-4)
5. Ribose and deoxyribose both are of five carbon but different in structure not formualae

How many of the above statements are correct?
(A) Only 1 and 2
(B) Only 2 and 3
(C) Only 1, 2 and 3
(D) All correct

209. Study the statements (a-c) given below and select the incorrect
(a) Vmax is achieved when all active site is occupied
(b) Km is substrate concentration when velocity is half of Vmax
(c) Malonate compete with succinate for enzyme binding on succinate dehydrogenase
(A) Only a and c
(B) Only a
(C) Only a and b
(D) Only c

210. Read the given statements and select the correct option.
Statement-A: Oxidoreductase transfer hydrogen from one substrate to other
Statement-B: Lyase introduce double bond between carbon
(A) Both statements A and B are correct
(B) Statement A is correct but statement B is incorrect
(C) Statement A is incorrect but statement B is correct
(D) Both statements 1 and 2 are incorrect

211. Read the given statements and select the correct option.
Statement-A: Niacin is vitamin which give coenzyme like NAD and NADP
Statement-B: Apoenzyme is protein part in enzyme which not have any cofactor
(A) Both statements A and B are correct
(B) Statement A is correct but statement B is incorrect
(C) Statement A is incorrect but statement B is correct
(D) Both statements 1 and 2 are incorrect

212. Read the following statements (1-5) and answer the question which follows them:
1. Acid soluble pool have organic , inorganic and polymeric substance
2. Secondary metabolite present in plant cell, fungi and bacteria
3. Adenosine have purine and sugar like ribose link by N-glycosidic linkage
4. At 5' end of sugar phosphate form ether bond in nucleotide
5. Adenylic acid ,guanidylic acid and cytidylic acid are nucleoside

How many of the above statements are correct?
(A) Only 1 and 2 (B) Only 2 and 3
(C) Only 1, 2 and 3 (D) All correct

213. Read the following statements (1-5) and answer the question which follows them:
1. Amino acids are substituted methane and also amino, carboxyl and R group decide chemical and physical properties
2. In polynucleotide chain phosophodiester bond present and in double helix two chain link by hydrogen bond
3. Ribose, uracil and uridine present in RNA not in DNA
4. Maltose , lactose and sucrose are disaccharides and all are reducing
5. After denaturation of protein primary structure are intact

How many of the above statements are incorrect?
(A) Only 4 (B) Only 2 and 3
(C) Only 3 and 4 (D) All incorrect

214. Read the following statements (1-5) and answer the question which follows them:
1. Lecithin is phospholipid having choline attach to phosphate
2. R group is CH_3 in alanine and CH_3OH in serine amino acid
3. Rubisco is most abundant protein in biosphere and animal it is collagen
4. Glut 4 is channel and Immunoglobulin are antibodies and both are protein
5. Enzymes are classified into six classes and 4-13 subclasses for nomenclature

How many of the above statements are correct?
(A) Only 1 and 2 (B) Only 2 and 3
(C) Only 1, 2 and 3 (D) All correct

215. Read the following statements (1-5) and answer the question which follows them:
1. Low temperature make enzyme temporarily inactive and high temperature denature enzyme
2. temperature lower then optimum temperature show maximum activity
3. all enzyme have same optimum PH
4. Initial binding of substrate to enzyme is tight binding and shape of enzyme change then loose biniding occur
5. Enzyme decrease activation energy of reaction in both exothermic and endothermic reaction

How many of the above statements are correct?
(A) Only 1 and 5
(B) Only 2 and 3
(C) Only 1, 2 and 3
(D) All correct

216. Read the following statements (1-5) and answer the question which follows them:
1. Holoenzyme have protein part apoenzyme and non-protein part can be organic and inorganic

2. In Competitive inhibition , malonate and succinate have similar shape and compete for active site of succinate dehydrogenase
3. In competitive inhibition Vmax unchanged and Km increase
4. Non competitive inhibition km unchanged Vmax decrease
5. Enzyme substrate complex and enzyme product complex are transition stages

How many of the above statements are correct?

(A) Only 1 and 2 (B) Only 2 and 3
(C) Only 1, 2 and 3 (D) All correct

217. Read the following statements (1-5) and answer the question which follows them:

1. DNA is double helix where distance between two base pair is 0.34 nm
2. Distance between two polynucleotide chain in DNA is 2nm
3. Histones are rich in Lysine and arginine
4. In basic amino acid number of NH_2 group is similar to neutral amino acid
5. Glycerol is soluble in water

How many of the above statements are correct?

(A) Only 1 and 2 (B) Only 2 and 3
(C) Only 1, 2 and 3 (D) All correct

218. Match column I with column II and select the correct option from the codes given below.

Column I		Column II	
A.	Leptotene	(i)	Chromatin condense
B.	Zygotene	(ii)	Synaptonemal complex form
C.	Pachytene	(iii)	*Recombination nodule*
D.	Diplotene	(iv)	Chiasmata appear

(A) A-(ii), B-(iii), C-(i), D-(iv)
(B) A-(i), B-(ii), C-(iv), D-(iii)
(C) A-(i), B-(ii), C-(iii), D-(iv)
(D) A-(iii), B-(ii), C-(i), D-(iv)

219. Match column I with column II and select the correct option from the codes given below:

Column I		Column II	
I.	Synaptonemal Complex dissolve	a.	Diakinesis
II.	ER,nucleolus And Golgi disappear	b.	Pachytene
III.	Exchange of genetic material	c.	*Zygotene*
IV.	Tetrad and bivalent form	d.	Diplotene

	I	II	III	IV
(A)	a	b	c	d
(B)	a	d	c	b
(C)	d	a	b	c
(D)	d	a	c	b

220. Match column I with column II and select the correct option from the codes given below:

Column I		Column II	
I.	Sister chromatid separate	a.	Anaphase
II.	Chromsome Fully condensed	b.	Metaphase
III.	Spindle fibre form	c.	*Prophase*
IV.	*Chromosme loose identity*	d.	*Telophase*

	I	II	III	IV
(A)	a	b	c	d
(B)	a	d	c	b
(C)	a	c	b	d
(D)	a	c	d	b

221. Match column I with column II and select the correct option from the codes given below.

Column I		Column II	
A.	Go phase	(i)	Quiescent phase
B.	G1 phase	(ii)	Cell growth
C.	S phase	(iii)	*Centriole double*
D.	G2 phase	(iv)	Amount 4c

(A) A-(ii), B-(iii), C-(i), D-(iv)
(B) A-(i), B-(ii), C-(iii), D-(iv)
(C) A-(i), B-(ii), C-(iii), D-(iv)
(D) A-(iii), B-(ii), C-(i), D-(iv)

222. Match column I with column II and select the correct option from the codes given below.

Column I		Column II	
A.	Interphase	(i)	24 hour in culture
B.	Yeast cell	(ii)	95 percent time
C.	Human cell	(iii)	*90 min cell cycle*
D.	Anaphase	(iv)	Shortest in karyokinesis

(A) A-(ii), B-(iii), C-(i), D-(iv)
(B) A-(i), B-(ii), C-(iv), D-(iii)
(C) A-(i), B-(ii), C-(iii), D-(iv)
(D) A-(iii), B-(ii), C-(i), D-(iv)

223. Match column I with column II and select the correct option from the codes given below.

Column I		Column II	
A.	Anaphase I	(i)	Sister chromatid separate which is identical
B.	Anaphase II	(ii)	Sister chromatid separate which is non identical
C.	Anaphase	(iii)	*Homologous pair separate*
D.	Interkinesis	(iv)	Between meiosis I and Meiosis II

(A) A-(ii), B-(iii), C-(i), D-(iv)
(B) A-(i), B-(ii), C-(iv), D-(iii)
(C) A-(i), B-(ii), C-(iii), D-(iv)
(D) A-(iii), B-(ii), C-(i), D-(iv)

224. Match column I with column II and select the correct option from the codes given below.

Column I		Column II	
A.	Cytokinesis in plants	(i)	Cell plate method
B.	Cytokinesis in animals	(ii)	Furrow in cell membrane
C.	Interphase	(iii)	Between two M-phase
D.	Interkinesis	(iv)	Between telophase I and prophase II

(A) A-(ii), B-(iii), C-(i), D-(iv)
(B) A-(i), B-(ii), C-(iv), D-(iii)
(C) A-(i), B-(ii), C-(iii), D-(iv)
(D) A-(iii), B-(ii), C-(i), D-(iv)

225. Match column I with column II and select the correct option from the codes given below.

Column I		Column II	
A.	Diakinesis	(i)	Recombinase
B.	Diplotene	(ii)	Oocyte of vertebrate arrest
C.	pachytene	(iii)	Pairing of chromosome
D.	Zygotene	(iv)	Chromosome fully condensed

(A) A-(ii), B-(iii), C-(i), D-(iv)
(B) A-(i), B-(ii), C-(iv), D-(iii)
(C) A-(i), B-(ii), C-(iii), D-(iv)
(D) A-(iv), B-(ii), C-(i), D-(iii)

226. Match column I with column II and select the correct option from the codes given below.

Column I		Column II	
A.	Metaphase	(i)	Two chromatid on one chromosome
B.	Telophase	(ii)	Nucleolus reappear
C.	Anaphase	(iii)	*Each Chromosome give two daughter chromosome*
D.	Prophase	(iv)	Centrosome move to opposite pole

(A) A-(ii), B-(iii), C-(i), D-(iv)
(B) A-(i), B-(ii), C-(iv), D-(iii)
(C) A-(i), B-(ii), C-(iii), D-(iv)
(D) A-(iii), B-(ii), C-(i), D-(iv)

227. Read the following statements (1-5) and answer the question which follows them:
1. In G1 phase , growth occur and Amount of DNA is 2c
2. In G2 phase , tubulin protein form and amount of DNA is 4c
3. In S-phase DNA double in nucleus and Centrioles in Cytoplasm of animal cell
4. In Go phase, cell not proliferate and not divide but enter into Quiescent phase
5. Nuclear membrane completely break into metaphase

How many of the above statements are correct?
(A) Only 1 and 2 (B) Only 2 and 3
(C) Only 1, 2 and 3 (D) All correct

228. Read the following statements (1-5) and answer the question which follows them:
1. Chromosome come in cytoplasm in metaphase and get fully condensed
2. In anaphase, centromere directed towards pole and arms trailing behind
3. In telophase, nucleolus ,ER and Golgi reappear and chromosome decondense
4. In Plant cell ,cell wall is not extensible and middle lamella is deposited inner to outer
5. When cytokinesis not occur, then syncytium form like nuclei of coconut water

How many of the above statements are correct?
(A) Only 1 and 2 (B) Only 2 and 3
(C) Only 1, 2 and 3 (D) All correct

229. Read the following statements (1-5) and answer the question which follows them:
1. tetrad and bivalent form in zygotene and clearly visible in pachytene
2. In pachytene , exchange of DNA occur between non-sister chromatids of homologous pair
3. In Diplotene , synaptonemal complex dissolve and chiasmata appear
4. In diakinesis , nuclear membrane not break
5. In leptotene , spindle fibre attach to chromosome

How many of the above statements are correct?
(A) Only 1 and 2 (B) Only 2 and 3
(C) Only 1, 2 and 3 (D) All correct

230. Read the following statements (1-5) and answer the question which follows them:
1. Meiosis II occur in haploid cell and Mitosis can occur in both haploid and diploid cell
2. In animals , mitosis occur in diploid and in plants occur in both haploid and diploid
3. Mitosis decrease nucleus to cytoplasmic ratio
4. Aneuploidy is due to non-disjunction in anaphase II
5. After meiosis I , tetrad of cell form

How many of the above statements are correct?
(A) Only 1 and 2 (B) Only 2 and 3
(C) Only 1, 2 and 3 (D) All correct

231. Read the following statements (1-5) and answer the question which follows them:
1. Meiosis keep chromosome number constant in species by reducing it as fertilization can double the number
2. Synaptonemal complex visible in electron microscope
3. Kinetochore a disc shape structure , appear on centromere in metaphase
4. Double metaphasic plate visible in Metaphase I
5. Anaphase promoting complex promote separation of centromere

How many of the above statements are correct?
(A) Only 1 and 2 (B) Only 2 and 3
(C) Only 1, 2 and 3 (D) All correct

232. Read the following statements (1-5) and answer the question which follows them:
1. Haploid cell with 10 chromosome would have 20 chromosomes in G2 of somatic cell of same organism
2. In Meiosis II and Mitosis chromosome number not change
3. Mitotic apparatus involve spindle fibre and two aster
4. Spindle fibres are made up of tubulin protein
5. In social insects , mitosis occur in haploid cell to form drone

How many of the above statements are correct?
(A) Only 1 and 2 (B) Only 2 and 3
(C) Only 1, 2 and 3 (D) All correct

233. Which is incorrect sequence of events-
(A) Cell cycle – G1-DNA replication - G2- Cell division
(B) Prophase I- chromosome visible – pairing-crossing over – chiasmata – terminalization of chiasmata
(C) Karyokinesis – Chromatin condense – nuclear membrane disappear – metaphasic plate – sister chromatid separate
(D) M-phase – karyokinesis – Prophase – metaphase – telophase – Anaphase – Cytokinesis

234. Read the following statements (1-5) and answer the question which follows them:
1. Mendel's experiment year 1856 to 1863
2. 14 true breeding variety selected by mendel
3. use mathematical logic and statistical analysis
4. mendel work published in 1865
5. Correns, de vries and Tschermark rediscovered Mendel's work

How many of the above statements are correct?
(A) Only 1 and 2 (B) Only 2 and 3
(C) Only 1, 2 and 3 (D) All correct

235. Read the following statements (1-5) and answer the question which follows them:
1. test cross phenotypic and genotypic ratio is 1:1
2. 50 percent gamete receive one allele out of pair is proposed in law of segregation
3. law of dominance explain why phenotypic ratio is 3:1 in f2 generation
4. Segregation of one pair of factor is independent to other pair is law of independent assortment

5. Test cross is type of back cross

How many of the above statements are correct?

(A) Only 1 and 2 (B) Only 2 and 3
(C) Only 1, 2 and 3 (D) All correct

236. Read the following statements (A-E) and answer the question which follows them:

A. Mirabilis and snapdragon is example of incomplete dominance with phenotypic and genotypic ratio 1:2:1 in F2
B. AB blood group is example of co-dominance where different sugar polymer for both A and B antigen expressed
C. Blood group is an example of dominance, co dominance and multiple allele
D. One gene control many trait is example of pleiotropy seen in Gene B for starch synthesis in pea
E. More than one gene control single character is polygenic ,example is skin colour

How many of the above statements are correct?

(A) Four (B) Five
(C) Two (D) Three

237. Read the following statements (1-5) and answer the question which follows them:

1. Trait in polygenic inheritance is control by dominant allele with contributive effect
2. Henking in 1891 observe X-body in 50 percent sperm
3. Non-disjunction in Anaphase I lead to polyploidy
4. Sutton an Boveri discovered linkage map
5. Experimental verification of chromosomal theory by Sutton and Boveri

How many of the above statements are correct?

(A) Only 1 and 2 (B) Only 2 and 3
(C) Only 1, 2 and 3 (D) All correct

238. Mark the incorrect statement -

(A) number of mitochondria is variable in cells according to physiological activity
(B) chromosome is also nucleoprotein
(C) perinuclear space is part of nucleus
(D) primary wall gradually not diminished as cell matures

239. Read the following statements (1-5) and answer the question which follows them:

1. In PKU hydroxylase absent and phenylalanine become excess to form ketone bodies
2. Extra X-chromosome present in Kleinfelter's syndrome lead to Gynaecomastia
3. Down's syndrome is trisomy of 21st chromosome lead to round face ,open mouth, low IQ
4. In sickle cell anaemia GUG -Glutamic acid replaced by GAG- Valine
5. Thalassemia is Quantitative where less amount of Globin chain and in Sickel cell anaemia is Qualitative where abnormal globin

How many of the above statements are correct?

(A) Only 1 and 2
(B) Only 2 and 3
(C) Only 1, 2 and 3
(D) All correct

240. Match column I with column II and select the correct option from the codes given below:

Column I		Column II	
I.	XO type	a.	Most insect
II.	*haplodiploidy*	b.	*Honey bee*
III.	*XY type*	c.	*Drosophila*
IV.	*ZW type*	d.	*Bird*

	I	II	III	IV
(A)	a	b	c	d
(B)	a	d	c	b
(C)	a	c	b	d
(D)	a	c	d	b

241. Read the following statements (1-5) and answer the question which follows them:

1. Queen Victoria was carrier for haemophilia and some of her son were haemophilic
2. 8 percent male and 0.4 percent female show colour blindness
3. Eye colour, body colour and wing size character located on X-chromosome in drosophila
4. Eye colour and body colour gene are tightly linked and give 1.3 percent recombinant only
5. White eye and miniature wing is loosely linked with recombinant 37.2 percent

How many of the above statements are correct?

(A) Only 1 and 2 (B) Only 2 and 3
(C) Only 1, 2 and 3 (D) All correct

242. Match column I with column II and select the correct option from the codes given below.

Column I		Column II	
A.	Thalassemia	(i)	Trisomy of 21st
B.	Turner's syndrome	(ii)	Chr 16 and Chr 11
C.	Down' syndrome	(iii)	One X-Chromosome less
D.	Kleinfelter's syndrome	(iv)	Extra X-chromosome

(A) A-(ii), B-(iii), C-(i), D-(iv)
(B) A-(i), B-(ii), C-(iv), D-(iii)
(C) A-(i), B-(ii), C-(iii), D-(iv)
(D) A-(iii), B-(ii), C-(i), D-(iv)

243. Read the following statements (1-5) and answer the question which follows them:
1. De Vries, Correns and Tschermak rediscovered Mendel's work in 1900
2. Number of gamete by double heterozygous tall round is four type
3. Drone in honey bee develop from egg by mitosis and it is haploid
4. Chromosomal aberration is main cause of cancer
5. Failure of telophase lead to polyploidy

How many of the above statements are correct?
(A) Only 1 and 2 (B) Only 2 and 3
(C) Only 1, 2 and 3 (D) All correct

244. Read the following statements (1-5) and answer the question which follows them:
1. Felidae is family of Felis and Panthera and belong to class Mammalia
2. 1.7-1.8 million species discovered and named
3. Solanum ,petunia and Datura belong to solanaceae having order Polymoniales
4. Mango belong to family anacadiaceae and order Sapindales
5. Hominidae is family of human and have order Primata

How many of the above statements are correct?
(A) Only 1 and 2 (B) Only 2 and 3
(C) Only 1, 2 and 3 (D) All correct

245. Read the following statements (1-5) and answer the question which follows them:
1. lower the taxa more are characteristics that members within share
2. Systematics involve identification, nomenclature and Classification along with evolutionary relationship
3. Each name with two component ,the generic name and specific epithet given by Carolus Linnaeus
4. Name of Author appears after specific epithet in abbreviated form
5. Ernst Mayr give accepted definition of biological species and also been called Darwin of 20th century

How many of the above statements are correct?
(A) Only 1 and 2 (B) Only 2 and 3
(C) Only 1, 2 and 3 (D) All correct

246. Match column I with column II and select the correct option from the codes given below.

Column I		Column II	
A.	Mangifera indica	(i)	Dicotyledonae
B.	Homo sapiens	(ii)	Mammalia
C.	Musca domestica	(iii)	*Insecta*
D.	Triticum aestivum	(iv)	Monocotyledonae

(A) A-(ii), B-(iii), C-(i), D-(iv)
(B) A-(i), B-(ii), C-(iv), D-(iii)
(C) A-(i), B-(ii), C-(iii), D-(iv)
(D) A-(iii), B-(ii), C-(i), D-(iv)

247. Mark the incorrect-
(A) Solanum- Solanaceae- Poylmonales- Dicotyledonae
(B) Musca – Muscidae – Diptera – Insecta- Arthropoda
(C) Triticum – Poaceae – Poales – Monocotyleodnae
(D) Panthera -Canidae – Carnivora – mammalia

248. Match column I with column II and select the correct option from the codes given below.

Column I		Column II	
A.	Scientific term for cateogry	(i)	Ernst mayer
B.	Binomial nomenclature	(ii)	Linnaeus
C.	The Darwin of the 20th century	(iii)	*Taxa*
D.	'mammals' and 'dogs'	(iv)	represent taxa at different levels

(A) A-(ii), B-(iii), C-(i), D-(iv)
(B) A-(ii), B-(iii), C-(iv), D-(i)
(C) A-(iii), B-(ii), C-(iv), D-(i)
(D) A-(iii), B-(ii), C-(i), D-(iv)

249. Match column I with column II and select the correct option from the codes given below.

Column I		Column II	
A.	Anacardiaceae	(i)	Wheat
B.	Polymoniales	(ii)	*Mango*
C.	Primata	(iii)	*Datura*
D.	Poaceae	(iv)	Monkey

(A) A-(ii), B-(iii), C-(i), D-(iv)
(B) A-(ii), B-(iii), C-(iv), D-(i)
(C) A-(iii), B-(ii), C-(iv), D-(i)
(D) A-(iii), B-(ii), C-(i), D-(iv)

250. Match column I with column II and select the correct option from the codes given below.

Column I		Column II	
A.	Canis	(i)	Mammalia
B.	Mosquito	(ii)	*Insecta*
C.	Datura	(iii)	Monocotyledonae
D.	Canary grass	(iv)	Dicotyledonae

(A) A-(ii), B-(iii), C-(i), D-(iv)
(B) A-(ii), B-(iii), C-(iv), D-(i)
(C) A-(i), B-(ii), C-(iv), D-(iii)
(D) A-(iii), B-(ii), C-(i), D-(iv)

251. Match column I with column II and select the correct option from the codes given below.

Column I		Column II	
A.	Datura and Solanum	(i)	Solanaceae
B.	Felis and Canis	(ii)	Carnivora
C.	Felis and Panthera	(iii)	*Felidae*
D.	Rice and maize	(iv)	Poaceae

(A) A-(i), B-(ii), C-(iii), D-(iv)
(B) A-(i), B-(ii), C-(iv), D-(iii)
(C) A-(iii), B-(ii), C-(iv), D-(i)
(D) A-(iii), B-(ii), C-(i), D-(iv)

252. Match column I with column II and select the correct option from the codes given below.

Column I		Column II	
A.	Systema naturae	(i)	Diptera
B.	Panthera	(ii)	Linnaeus
C.	Convulvulaceae	(iii)	lion
D.	Housefly	(iv)	Polymoniales

(A) A-(ii), B-(iii), C-(i), D-(iv)
(B) A-(ii), B-(iii), C-(iv), D-(i)
(C) A-(iii), B-(ii), C-(iv), D-(i)
(D) A-(iii), B-(ii), C-(i), D-(iv)

253. Match column I with column II and select the correct option from the codes given below.

Column I		Column II	
A.	Mango	(i)	Taxon
B.	Family	(ii)	*Group of species*
C.	Genus	(iii)	*aceae*
D.	Class	(iv)	opsida

(A) A-(i), B-(iii), C-(ii), D-(iv)
(B) A-(ii), B-(iii), C-(iv), D-(i)
(C) A-(iii), B-(ii), C-(iv), D-(i)
(D) A-(iii), B-(ii), C-(i), D-(iv)

254. Match column I with column II and select the correct option from the codes given below.

Column I		Column II	
A.	Class	(i)	Phyceae
B.	Order	(ii)	*No suffix*
C.	Family	(iii)	*ales*
D.	Genus	(iv)	aceae

(A) A-(i), B-(iii), C-(ii), D-(iv)
(B) A-(i), B-(iii), C-(iv), D-(ii)
(C) A-(iii), B-(ii), C-(iv), D-(i)
(D) A-(iii), B-(ii), C-(i), D-(iv)

255. Taxon is –
(A) scientific term for category
(B) Rank in taxonomic hierarchy
(C) Insecta is taxon
(D) all of the above

256. Which is most correct scientific name –
(A) Mangifera indica linn.
(B) Mangifera indica
(C) Homo sapiens
(D) Musca domestica

257. Mark the incoreectly matched-
(A) Aristotle- First scientific Classification – herb, shrub and tree
(B) Whittaker- Five kingdom – Unicellular eukaryotes in protista
(C) Carl woes – Three kingdom – Six domain
(D) Linnaeus – two kingdom- Fungi in plant kingdom

258. Protista mainly have -
(A) Chamydomonas, chlorella, Marchantia, Agaricus

(B) Lactobaccilus, chlamydomonas ,chlorella, Spirogyra
(C) Chlamydomonas, Chlorella, Euglena and Amoeba
(D) Paramoecium, Amoeba, Fucus , Hydra

259. Select the options in which all members show Cell wall is presence
(A) PPLO, Chalymodomonas and Agaricus
(B) Yeast, Nostoc, Diatom, Psilotum and Methanogen
(C) Amoeba, Plasmodium, Gonylaux and Diatom
(D) Euglena, Diatom ,Slime mould and Nostoc

260. Heterocyst and chl a present in ……. And also have feature –
(A) Nostoc, chl b
(B) Anabena, Sap vacuole
(C) all Cyanobacteria and Chrometophore
(D) Some cyanobacteria and Chromatophore , Gas vacuole

261. Most complex metabolic diversity present in –
(A) Monera
(B) Methanogen
(C) Saprophytic bacteria
(D) Mycoplasma

262. Consider the following statement mark the correct
(A) Phycomycetes are asepetate and Conidia present
(B)Ascomycetes are septate ,conidia present and sexual spore is basidiospore
(C) Basidiomycetes are septate , asexual spore and sex organ absent and sexual spore exogenous
(D) Deuteromycetes are septate, conidia present and ascospore

263. Consider the following statement mark the correct
(A) Sac fungi- Aspergillus, Claviceps, Alternaira and Yeast
(B) Basidiomycetes- Shelf fungi, agaricus, Ustilago and puccinia
(C) Phycomycetes- Albugo , rhizopus, Alternaria and Mucor
(D) Deuteromycetes- Alternaria, Aspergillus, Trichoderma and Colletotrichum

264. Match column I with column II and select the correct option from the codes given below.

Column I		Column II	
A.	Conidia	(i)	Sexual spore of aspergillus
B.	Ascospore	(ii)	*Neurospora*
C.	Basidiospore	(iii)	*Mucor*
D.	Zygospore	(iv)	Agaricus

(A) A-(ii), B-(iii), C-(i), D-(iv)
(B) A-(ii), B-(iii), C-(iv), D-(i)
(C) A-(ii), B-(i), C-(iv), D-(iii)
(D) A-(iii), B-(ii), C-(i), D-(iv)

265. Consider the following statement mark the correct
(A) Diatom- chief producer, syrup making, Polishing, silica in wall and pellicle
(B) Euglenoids- Chl a and chl b, Pellicle, apical equal flagella and marine
(C) Dinoflagellates- Red tide, toxins , marine, stiff cellulose plates
(D) Slime mould- main stage plasmodium, cell wall absent , Spore with cell wall, spore disperse by water

266. Match column I with column II and select the correct option from the codes given below.

Column I		Column II	
A.	Amoeba	(i)	Sleeping sickness
B.	Sporozoans	(ii)	*Spore stage in life cycle*
C.	Paramoecium	(iii)	*Marine from silica*
D.	Trypanosoma	(iv)	Gulletes present

(A) A-(ii), B-(iii), C-(i), D-(iv)
(B) A-(ii), B-(iii), C-(iv), D-(i)
(C) A-(iii), B-(ii), C-(iv), D-(i)
(D) A-(iii), B-(ii), C-(i), D-(iv)

267. Consider the following statement mark the correct
(A) Virus- intracellular parasite, obligate parasite, DNA and RNA both present , nucleoprotein
(B) Viroids- only nucleic acid, PSTD , T.O diener and single strand RNA
(C) Prions- Only protein, size same to virus , mad cow disease and have genetic material
(D) Lichens- fungi give mineral and shelter, algae give food, fungi genus glomus

268. Consider the following statement mark the correct
(A) Mycoplasma- smallest,70 s ribosome, disease in plant and animal , can not survive without oxygen

(B) Trichoderma- conidia, septate, no sexual spore, only perfect stage present
(C) TMV- plant virus, single strand RNA, pass through bacterial filter , first virus
(D) Nostoc- chl a, chromatophore, biofertilizer, gas vacuole, 80 s ribosome

269. Match column I with column II and select the correct option from the codes given below.

Column I		Column II	
A.	Ascopore	(i)	Albugo
B.	Basidiospore	(ii)	*Clavicpes and Neurospore*
C.	Zoospore	(iii)	*Agaricus and ustilago*
D.	Sexual reproduction absent	(iv)	Alternaria and trichoderma

(A) A-(ii), B-(iii), C-(i), D-(iv)
(B) A-(ii), B-(iii), C-(iv), D-(i)
(C) A-(iii), B-(ii), C-(iv), D-(i)
(D) A-(iii), B-(ii), C-(i), D-(iv)

270. Consider the following statement mark the correct
(A) Morels, truffles , laminaria and agaricus are edible
(B) PPLO, lactobaccilus, albugo, Ustilago and puccinia are parasitic
(C) Methanogen, PPLO , nostoc , chlamydomonas can survive without oxygen
(D) Virus, viroids, prions, pellicle , aleurone layer all have protein

271. Consider the following statement mark the correct
(A) Fucus, laminaria, sargassum and porphyra have mannitol as storage
(B) Polysiphonia, porphyra, gelidium and Gracilaria all are oogamous and have floridean starch
(C) Chlorella, chlamydomonas, spirogyra, cladophora all are isogmaous
(D) Chl a and chl b present in chlorella, chlamydomonas, spirogyra and kelp

272. Match column I with column II and select the correct option from the codes given below.

Column I		Column II	
A.	Chl c , mannitol and lateral flagella	(i)	Fucus,Dictyota and Sargassum
B.	Pyrenoid	(ii)	*Volvox, focus and red algae*
C.	Oogamous	(iii)	*Spirogyra and ulothrix*
D.	Agar	(iv)	Gelidium and gracilaria

(A) A-(i), B-(iii), C-(ii), D-(iv)
(B) A-(ii), B-(iii), C-(iv), D-(i)
(C) A-(iii), B-(ii), C-(iv), D-(i)
(D) A-(iii), B-(ii), C-(i), D-(iv)

273. Consider the following statement mark the correct
(A) Most pteridophytes are homosporus and dominant stage is gametophyte
(B) In Gymnosperm seed present , ovary absent and mostly triploid endosperm
(C) Angiosperm show double fertilization and triploid endosperm
(D) Cycas show Mycorhizae and unbranched stem

274. Match column I with column II and select the correct option from the codes given below.

Column I		Column II	
A.	Unbranched stem	(i)	Cycas
B.	Needle shape leaf and mycorrhizae	(ii)	*Pinus*
C.	Tallest tree with fruit	(iii)	*Sequoia*
D.	Tallest tree without ovary	(iv)	Eucalyptus

(A) A-(ii), B-(iii), C-(i), D-(iv)
(B) A-(ii), B-(iii), C-(iv), D-(i)
(C) A-(i), B-(ii), C-(iv), D-(iii)
(D) A-(i), B-(ii), C-(iii), D-(iv)

275. Match column I with column II and select the correct option from the codes given below.

Column I		Column II	
A.	Haplontic algae	(i)	Fucus and volvox
B.	Haplodiplonitc	(ii)	*Kelp, Ectocarpus and polysiphonia*
C.	Diplontic	(iii)	*Banayan and pinus*
D.	Diplontic seed plants	(iv)	Spirogyra and Ulothrix

(A) A-(iv), B-(ii), C-(i), D-(iii)
(B) A-(ii), B-(iii), C-(iv), D-(i)
(C) A-(iii), B-(ii), C-(iv), D-(i)
(D) A-(iii), B-(ii), C-(i), D-(iv)

276. Match column I with column II and select the correct option from the codes given below.

Column I		Column II	
A.	Laminaria and Sargassum	(i)	Horsetail
B.	Sphagnum	(ii)	*Edible marine algae*
C.	Equisetum	(iii)	*Fuel and transhipment of living material*
D.	Seleginella	(iv)	Heterosporus and cone and microphyll

(A) A-(ii), B-(iii), C-(i), D-(iv)
(B) A-(ii), B-(iii), C-(iv), D-(i)
(C) A-(iii), B-(ii), C-(iv), D-(i)
(D) A-(iii), B-(ii), C-(i), D-(iv)

278. Mark the incorrect statement –
(A) Artificial system based on morphology give equal weightage to reproductive and vegetative character
(B) Natural system of classification cosider morphology, embryology, cytology and biochemisty and involve bentham and hooker
(C) Numerical taxononmy involve providing codes to character
(D) Cytotaxonomy involve cell wall not chromosome number and behavior

279. Mark the incorrect statement –
(A) Seleginella and lycopodium belong to class lycopsida
(B) Cycas have corraloid root, unbranch stem Pinnate compound leaf
(C) Pinus branch stem, needle shape leaf, Mycorrhizae and Dioceious
(D) In cycas male and female cone present on same tree

280. Chl a , zoospore , equal flagella and filamentous , isogamous is feature of –
(A) Fucus (B) Ulothix
(C) Gelidium (D) pinus

281. Not an Example of homosporus are –
(A) Green alagae and brown algae
(B) Fern and Moss
(C) Gynosperm and angiosperm
(D) Liverwort and Red algae

282. Mark the incorrect –
(A) Volvox, focus and marchantia all have chl a
(B) yeast is non filamentous fungi
(C) tricohderma species use as biocontrol agent and source of bioactive molecule
(D) Prothallus is free living ,green and sporophytic in nature

283. Match column I with column II and select the correct option from the codes given below.

Column I		Column II	
A.	Hpyogynous	(i)	Canna
B.	Actinomorphic	(ii)	*Chilli and lily*
C.	Asymmeteric flower	(iii)	*Plum and peach*
D.	Perigynous	(iv)	Mustard and china rose

(A) A-(iv), B-(ii), C-(i), D-(iii)
(B) A-(ii), B-(iii), C-(iv), D-(i)
(C) A-(i), B-(ii), C-(iv), D-(iii)
(D) A-(i), B-(ii), C-(i), D-(iv)

284. Mark the incorrect matched –
(A) Racemose- mustard and pea
(B) Cymose- Solanum and lily
(C) Tetramerous- mustard
(D) Pentamerous- wheat and onion

285. Mark the incorrect-
(A) Solanaceae- Epipetalous, gamopetalous, bicrpellary , axile placentation and hypogynous
(B) Asteraceae- Hypogynous, monodelphous and racemose
(C) Fabaceae- vexillary, racemose, hypogynous, monocarpellary, diadelhphous and legume fruit
(D) Poaceae- Monocot, trimerous and racemose

286. Mark the incorrectly matched-
(A) Axile placentation- tomato,lemon and china rose
(B) Parietal- mustard and argemone
(C) Free central – Dianthus and Primerose
(D) Basal – pea and sunflower

287. Examples of monodelphous anther-
(A) China rose, cotton and ladyfinger
(B) Calotropis
(C) pea, bean and soyabean
(D) solanum and petunia

288. Mark the incorrect matched-
(A) Epipetalous- Solanum and petunia
(B) Epiphyllous – Lily and onion
(C) Unequal stamen – salvia and Mustard
(D) Polydelphous – Pea and bean

289. Mark the correct statement –
(A) leaf is lateral ,flat develop from apical bud
(B) Palmate compound leaf present in Silkcotton and alstonia
(C) Base of stem of dicot ,fibrous root develop
(D) Mango and coconut is drupe develop from monocarpellary inferior ovary

290. Mark the correct statement –
(A) Puvinus present in grasses and pea
(B) Stipule present in flower base
(C) Leaf sheath present in Grass and maize
(D) opposite phylloataxy present in Guava ,Calotropis and Alstonia

291. Mark the correctly matched-
(A) Cashew,strawberry and apple- false fruit
(B) maize- coloptile, coleorhizae and scutellum
(C) China rose- twisted aestivation, hypogynous and monodelphous
(D) Mustard- unequal stman, parietal placentation and perigynous

292. Find the incorrect statement –
(A) Mustard show alternate and calotropis show opposite phyllotaxy
(B) Wholed phyllotaxy present in alstonia
(C) Root cap is thimble shape and zone of elongation have root hair
(D) Monstera, grass and maize have adventitious root

293. Read the following statements (1-5) and answer the question which follows them:
1. Stabilizing population implies Pre Reproductive is greater than Reproductive
2. In logistic growth of population Growth can be exponential when K very larger then N
3. Competition decrease 'r' of each other
4. Immigration and natality increase population density and Emigration and Mortality decrease
5. Carrying capacity is equal to population density then graph become asymptote
How many of the above statements are correct?
(A) Only 1 and 2 (B) Only 2 and 3
(C) Only 1, 2 and 3 (D) 2,3,4 and 5 correct

294. Read the following statements (1-5) and answer the question which follows them:
1. Prickly pear cactus population bring under control by predator moth
2. Monarch butterfly acquire poison when larvae feed on poisonous weed
3. Orchid Ophrys flower resemble like female bee and example of sexual deceit
4. Commensalism one species benefited and in Ammensalism one species get harm
5. Whale - barnacle , mango -orchid , Sea anemone- clown fish are example of commensalism
How many of the above statements are correct?
(A) Only 1 and 2
(B) Only 2 and 3
(C) Only 1, 2 and 3
(D) All correct

295. Read the following statements (1-5) and answer the question which follows them:
1. Cuscuta , lice and ticks are ectoparasite
2. Cuckoo lay egg in nest of crow is brood parasitism
3. Goat presence lead to extinction of Abingdon tortoise is example of Interferecne competition
4. Inferior species get extinct due to competition is Gause exclusion principle
5. Macarthur suggest different feeding habit of birds is resource partitioning
How many of the above statements are correct?
(A) Only 1 and 2
(B) Only 2 and 3
(C) Only 1, 2 and 3
(D) All correct

296. Read the following statements (1-5) and answer the question which follows them:
1. Tiger- pug marks , fish-single catch and bacteria number is counted by colonies
2. Biotic potential or intrinsic rate of natural increase in difference of birth and death rate
3. Presence of penicillium killed staphylococcus in Fleming experiment is example of Ammensalism
4. In stabilising age pyramid pre reproductive is equal to reproductive
5. Wasp and fig is an example of mutualism
How many of the above statements are correct?
(A) Only 1 and 2
(B) Only 2 and 3
(C) Only 1, 2 and 3
(D) All correct

297. Read the following statements (1-5) and answer the question which follows them:
1. competition show most effect on first trophic level
2. Secondary consumer are at fourth trophic level
3. PAR is 100 pecent of total sunlight
4. Fragmentation ,leaching and Catabolism occur on detritus and humification and mineralization in soil
5. NPP is available for next trophic level

How many of the above statements are correct?
(A) Only 1 and 2 (B) Only 2 and 3
(C) Only 1, 4 and 5 (D) All correct

298. Read the following statements (1-5) and answer the question which follows them:
1. plant use 2-10 percent of PAR
2. Ecological pyramid is drawn for GFC not for DFC
3. On land GFC is major conduit of energy
4. Primary Productivity of land is lesser than oceans
5. Unit of NPP and GPP is not same

How many of the above statements are correct?
(A) Only 1 and 2 (B) Only 2 and 3
(C) Only 1, 2 and 3 (D) All correct

299. Read the following statements (1-5) and answer the question which follows them:
(A) A.V Humboldt give species richness variation with area
(B) David Tilman proved plot with more species show most variation in annual productivity
(C) IUCN 2004 list give detail of threatened species in which most threatened are amphibians
(D) Fibre , timber, food and drugs are narrow utilitarian
(D) species richness increased with increasing explored area but only upto a limit

How many of the above statements are correct?
(A) Only 1 and 2 (B) Only 2 and 3
(C) Only 1, 2 and 3 (D) All correct

300. Read the following statements (1-5) and answer the question which follows them:
1 More than 25 percent drug being sold in the market derived from plant
2. Pollination ,oxygen and aesthetic pleasure are narrow utilarian
3. Ex-situ conservation is Conserve on site as urgent need of conservation
4. In india total 3 hot spot ,these hotspots – Western Ghats and Sri Lanka, Indo-Burma and Himalaya
5. Initially 25 biodiversity hotspots were identified but now it is 34 in

How many of the above statements are correct?
(A) Only 1 and 2 (B) Only 2 and 3
(C) Only 1, 2 and 3 (D) 1,4 and 5

301. Read the following statements (1-5) and answer the question which follows them:
1. Hot spot ,sacred groove and wild life sanctuary are ex-situ conservation
2. Aravali hills ,garo khasi and Jaintia hills are sacred groove
3. Cryopreservation , seed bank ,botanical graden and zoological park is ex-situ conservation
4. Amazon forest was cleared for soyabean cultivation and example of Co-extinnction
5. Dodo -Mauritius , Thylacine- Australia and Quagga- Africa get extinct

How many of the above statements are correct?
(A) Only 1 and 2 (B) Only 2 ,3 and 5
(C) Only 1, 2 and 3 (D) All correct

302. Read the following statements (1-5) and answer the question which follows them:
1. LAB check disease causing microbe and produce vit B12
2. Fermented drink toddy obtain from fermentation of palm sap
3. Whisky and brandy are distilled and beer and wine are undistilled
4. Ernst chain and howard florey establish role of antibiotics
5. KVIC and IARI develop biogas plant

How many of the above statements are correct?
(A) Only 1 and 2
(B) Only 2 and 3
(C) Only 1, 2 and 3
(D) All correct

303. Read the following statements (1-5) and answer the question which follows them:
1. Streptokinase act as clot buster and lipase use in laundry formulation
2. IPM is for ecologically sensitive area
3. Baculovirus is biocontrol agent which not kill mammals ,birds and fish
4. Azatobactor and rhizobium fix nitrogen
5. Biogas plant have methnaboacterium which produce methane, Hydrogen and carbon dioxide gas

How many of the above statements are correct?
(A) Only 1 and 2 (B) Only 2 and 3
(C) Only 1, 2 and 3 (D) All correct

304. Read the following statements (1-5) and answer the question which follows them:
1. collenchyma cells can be photosynthetic present as hypodermis of dicot stem
2. unequal size vascular bundle present in dicot leaf and monocot stem
3. Trichome is branched and unbranched ,soft and stiff and can be secretory
4. Sclerenchyma present in pericycle of dicot stem and hypodermis of monocot stem
5. Bulliform cells are non -green present in adaxial surface of grass leaf
How many of the above statements are correct?
(A) Only 1 and 2 (B) Only 2 and 3
(C) Only 1, 2 and 3 (D) All correct

305. Read the following statements (1-5) and answer the question which follows them:
1. Monocot root also have Conjoint vascular bundle and root branch develop from endodermis in dicot stem
2. Casparian strip present in dicot root and monocot root endodermis layer
3. Radia and exarch bundle present in root
4. Stele is all tissue inner to pericycle
5. Guard cell, stomatal pore and subsidiary cell is stomatal apparatus
How many of the above statements are correct?
(A) Only 1 and 2
(B) Only 2 and 3
(C) Only 2, 3 and 5
(D) All correct

306. Read the following statements (1-5) and answer the question which follows them:
1. Pith small in dicot root and large in monocot root
2. Starch sheath is endodermis of dicot stem
3. Water filled cavity present in monocot stem with scattered conjoint bundle of unequal size
4. Mesophyll cell is differentiate into palisade and spongy parenchyma in dicot leaf with more stomata on abaxial surface
5. Ground tissue can have parecnhyma, collenchyma and sclerenchyma
How many of the above statements are correct?
(A) Only 1 and 2
(B) Only 2 and 3
(C) Only 1, 2 and 3
(D) All correct

307. Mark the incorrectly matched-
(A) Conjoint endarch bundle – Sunflower Stem
(B) Conjoint close scattered bundle – monocot stem
(C) Dumbell shape guard cell – mango leaf
(D) Semilunar patch – pericycle dicto stem

308. Consider the following statement A to E –
(A) PS II and PSI both present in mesophyll cell in C-3 plant
(B) Mesophyll cell of C-4 plant lack rubisco
(C) Bundle sheath cell in C-4 plant lack PEPcase
(D) In C-4 plant calvin cycle is absent
(E) law of limiting factor by Blackman
How many are correct-
(A) A, C and D
(B) A,B , C and E
(C) B , C and D
(D) C and D

309 Which of the following statement is not true -
(A) 10 percent light is enough for saturation of photosynthesis
(B) More number of chloroplast is present in mesophyll cell as compare to bundle sheath cell in C-4 plant
(C) Plastoquinone is hydrogen carrier between PS I and PSII on which bring electron from stroma ti lumen
(D) In maize, sorghum and sugarcane plant , kranz anatomy present in leaf

310. Mark the incorrect statement
(A) high PH present in lumen of thylakoid involve in ATP synthesis
(B) Breakdown of proton Gradient occur with the help of channel of proton F0 and head F1 , which release energy stored in ATP
(C) Biosynthetic phase occur in stroma of chloroplast discovered by calvin by using C14
(D) biosynthetic phase require product of light reaction like NADPH, ATP

311. Which of the following is not true
(A) OAA- 4c -acid-first product-C-4 cycle – mesophyll cell
(B) PGA- 3c – acid-first product - C-3 cycle - mesophyll cell
(C) PEP- 3c -acid-primary acceptor in C-4 cycle
(D) RUBP- 5c acid -Primary acceptor of C-3 cycle

312. Consider the statement and mark correct -
(A) PS I and PS II both present in grana thylakoid
(B) P700 and P680 is reaction center in PS I and PSII respectively
(C) C-3 plant show saturation at higher CO2 concentration then C-4 plants
(D) Water indirectly affect rate of synthesis as in water stress closing stomata
(A) A, B and C (B) A, B and D
(C) A and B (D) all four

313. Mark the correct-
(A) Nucleolus present in nucleus of nostoc and site for rRNA synthesis
(B) RNA Pol II synthesis 5s rRNA
(C) Mitosis restore nucleus and cytoplasmic ratio
(D) DNA replication occur in interkinesis

314. Mark the correct match -
(A) Dihybrid-phenotypic ratio- 9:3:3
(B) Incomplete dominance- phentoypic- 3:1
(C) Test cross - genotpyic - 1:2:1
(D) Test cross -phenotypic - 1:1

315. Mark the incorrect –
(A) Non cyclic flow of electron – PS II - phaeophytin- plastoquinone-cytochrome b6f- plastocyanin -PSI
(B) Cyclic – PS I- Fes - phaeophytin- plastoquinone-cytochrome b6f- plastocyanin -PSI
(C) C-3 cycle – Carboxylation- reduction - regeneration
(D) C-4 cycle – Carboxylation -transport – Decarboxylation-regeneration-

316. Mark the correct statement –
(A) Photorespiration – occur at low light intensity, high CO2, low Oxygen conc. And low temperature
(B) RUBISCO have more affinity for oxygen then Carbon dioxide
(C) To fix one Carbon dioxide in C-4 plant total 5 ATP require but in C-3 plant total Three ATP require
(D) ATP use in Calvin cycle in Reduction step only

317. Which of the following is /are example is incorrectly matched –
(A) Glucose-6- phosphate synthesis - Pyrivate dehydrogenase
(B) acetyl coA condensation with OAA - citrate synthetase
(C) pyruvate decarboxylation but no oxidation – Pyruvate decarboxylase
(D) Succinate to Fumarate - Succinate dehydrogenase

318. Read the following statements (1-5) and answer the question which follows them:
1. Glycolysis, 2 ATP form in step 7^{th} and 10^{th} by substrate level phosphorylation by partial oxidation of glucose
2. Invertase break sucrose into glucose and fructose both enter into glycolysis
3. Kreb cycle give 12 ATP out of which 11 are in ETS and one direct ATP
4. Pyruvate undergo three oxidative decarboxylation in link reaction and kreb cycle to form four NADH
5. Respiration is catabolic and respiratory pathway are amphibolic

How many of the above statements are correct?
(A) Only 1 and 2
(B) Only 2 and 3
(C) Only 1, 2 and 3
(D) All correct

319. Read the following statements (1-5) and answer the question which follows them:
1. All carbohydrate enter into glycolysis and fatty acid into acetyl coA for respiration
2. NADH dehydrogenase complex receive electron from NADH
3. Complex II receive electron from FADH2 and reduce Ubiquinone
4. Final electron acceptor is Oxygen receive electron from complex IV
5. Inner membrane of mitochondria have Electron transport system

How many of the above statements are correct?
(A) Only 1 and 2 (B) Only 2 and 3
(C) Only 1, 2 and 3 (D) All correct

320. Read the following statements (1-5) and answer the question which follows them:
1. Auxin promote parthenocarpy, apical dominance and rooting in stem cutting
2. Auxin like 2,4 D act as weedicide against dicot and Help in tea plantation
3. Ethylene and auxin promote female flower in cucumber
4. GA can promote bolting and malting
5. GA can hastens juvenile phase in conifers

How many of the above statements are correct?
(A) Only 1 and 2 (B) Only 2 and 3
(C) Only 1, 2 and 5 (D) All correct

321 Read the following statements (1-5) and answer the question which follows them:
1. Avena coleoptile test is of auxin and dwarf pea plant is of gibberellic acid
2. GA can be isolated from fungi and Higher plants
3. Cytokinin promote lateral shoot, adventitious shoot and division in chloroplast
4. Apical dominance promoted by ethylene
5. Kinetin is cytokinin from animal source and zeatin from plant source

How many of the above statements are correct?
(A) Only 1 and 2
(B) Only 2 and 3
(C) Only 1, 2 3 and 5
(D) All correct

322. Read the following statements (1-5) and answer the question which follows them:
1. F.w went isolated auxin form oat was IAA
2. Auxin promote xylem differentiation ,parthenocarpy and delay senescence in young leaf and fruit
3. Sugarcane internode length and length of axis of grapes increase by Gibberellic acid
4. Cytokinin promote shoot and auxin root in callus
5. 2,4-D and NAA are synthetic auxin

How many of the above statements are correct?
(A) Only 1 and 2 (B) Only 2 and 3
(C) Only 1, 2 and 3 (D) All correct

323. Read the following statements (1-5) and answer the question which follows them:
1. Ethephon is aqueous form of ethylene , readily absorb and slowly diffuse
2. Ethylene break seed dormancy in peanuts and bud dormancy in potato tuber
3. Kurosawa discovered gibberlic acid from fungus Gibberella fujikuroi
4. ABA is stress horomone responsible for closure of stomata and also promote seed dormancy
5. Climacteric ripening promoted by Auxin

How many of the above statements are correct?
(A) Only 1 and 2 (B) Only 2 and 3
(C) Only 1, 2 ,4and 3 (D) All correct

324. Which of the following is true for composition of cell wall in plant cell-
(A) Protein, lignin and hemicelluloses
(B) protein, hemicelluloses, cellulose, chitin
(C) protein, hemicelluloses, cellulose and pectin
(D) cellulose , hemicellulose and pectin

325. Mark the incorrect statement-
(A) ER bind to 60 s subunit of ribosome'
(B) ribosome assembly occur during protein synthesis
(C) microtubule is component of cillia and flagella
(D) Svedberg constant is direct measure of density and size

326. Which of the following is absent in Eukaryotes-
(A) 70 s ribosome (B) gas vacuole
(C) both 1 and 2 (D) sap vacuole

327. Which of the following structure similar in role to lysosome-
(A) Spherosome (B) glyoxisome
(C) peroxisome (D) food vacuole

328. Consider the following statement –
(A) scheilden observed that all plants are composed of different kinds of cells which form plant tissue
(B) Schwann proposed the hypothesis that the bodies of animals and plants are composed of cells and products of cell
How many correct-
(A) only A (B) only B
(C) both correct (D) both wrong

329. Which of the following is single membrane bound organelle-
(A) Ribosome (B) centriole
(C) nucleolus (D) none

330. Match the following –
(A) Pilli- tubular
(B) Mesosome- respiration and secretion
(C) Gas vacuole- cyanobacteria
How many correct-
(A) A and C (B) only B
(C) all three (D) both Band C

331. Which of the following is Endomembrane system-
(A) ER, golgi complex, lysosome and peroxisome
(B) ER, golgi complex, lysosome and vacuoles
(C) mitochondria, ER, golgi complex, lysosome
(D) ER, golgi complex, lysosome and ribosome

332. Consider the following statement –
(A) Golgi apparatus is important site for synthesis of lipid and proteins
(B) lysosome have enzymes which can digest carbohydrate, nucleic acid,lipid and cellulose
How many correct-

(A) only A (B) only B
(C) both correct (D) both wrong

333. Centromere is present close to end are-
(A) Acrocentric
(B) telocentric
(C) metacentric
(D) submetacentric

334. Nuclear pore complex involve in movement of –
(A) 18 s rRNA (B) ribosome subunit
(C) protein (D) tRNA

335. Interdoublet bridge is made up of protein-
(A) tubulin (B) Nexin
(C) Dyein (D) flagellein

336. Which is incorrect about flagella of eukaryotes-
(A) Axoneme show 9+2 arrangement of microtubule
(B) flagella move cell
(C) basal body show 9+0 arrangement
(D) present in mulicellular organism

337. Which of the following present in bacteria but absent in mitochondria-
(A) 80 s ribosome (B) circular DNA
(C) mRNA (D) plasmid

338. Which type of rRNA is common in both prokaryotes and Eukaryotes cytoplasmic Ribosome-
(A) 5 s rRNA (B) 16 s rRNA
(C) 23s rRNA (D) 18s rRNA

339. Consider the following -
(a) meta-centric chromosome have unequal arm
(b) kinetochore located on centromere
how many correct-
(A) only a
(B) only b
(C) both correct
(D) both wrong

340. Mark the incorrect -
(A) Gram-staining Is on the basis feature of envelop
(B) loose sheath is also known as slime layer in bacteria
(C) average size of PPLO is 0.1 micrometer
(D) average size of eukaryotic cell is 1-2 micrometer

341. Read the following statements and identify the correct options given
(A) Sap vacuoles contain digestive enzymes with the help of which nutrients are digested
(B) Contractile vacuoles take part in osmoregulation and excretion
(C) Food vacuoles store and concentrate mineral salts as well as nutrients
(D) Gas vacuoles present in cyanobacteria and green bacteria
(A) A and B are correct
(B) A and C are correct
(C) A and D are correct
(D) B and D are correct

342. Select the correct statement from the following regarding cell membrane :
(A) Lipids are arranged in bilayer with polar heads towards the inner part
(B) Fluid mosaic model of cell membrane was proposed by Singer and Nicolson
(C) Na+ and K+ ions move across cell membrane by passive transport
(D) Proteins make up 60 to 70% of the cell membrane

343. (A) Primary wall is capable of growth.
(B) Cell wall is semipermeable.
(C) Primary wall diminishes as the cell matures.
(D) Secondary wall is formed on the outerside of the existing cell wall.
(E) Cytoplasm of neighbouring plant cells are connected by plasmodesmata.
Choose the correct option for correct statements for cell wall :
(A) A, C and D (B) A, B, C and D
(C) A, CandE (D) A, C, D and E

344. Which one of the following statements is incorrect?
(A) The presence of the competitive inhibitor decreases the Km of the enzyme for the substrate
(B) A competitive inhibitor reacts reversibly with the enzyme to form an enzyme-inhibitor complex
(C) In competitive inhibition, the inhibitor molecule is not chemically changed by the enzyme
(D) Rate get double or hslf with 10 degree change

345. Study the following statements :
(a) The substrate binds to the active site of the enzyme
(b) Enzymes isolated from thermophile organisms get denatured at 80°C

(c) The active site of enzyme breaks the chemical bonds of the product
(d) Prosthetic groups are tightly bound to the apoenzyme
Select the option which includes all correct statements :
(A) (a) & (c)
(B) (c) & (d)
(C) (b)&(c)
(D) (a)&(d)

346. Sequence of N-base in one strand of DNA is :
3' - TAC CAC TCC ATG ATT - 5'
then how many phosphate molecules will be present in this DNA ?
(A) 16 (B) 146
(C) 15 (D) 30

347. How many of the following events occur in the meiosis atleast twice?
I. Karyokinesis II. Cytokinesis
III. DNA duplication IV. Centriole duplication
V. Condensation of chromatin VI. Bivalent formation
(A) Four (B) Five
(C) Three (D) Six

348. In Drosophila 37.2% of recombinants were obtained while making a cross between **w** and **m** (colour of eye and size of wings). This indicates that
(A) The two genes are on different non homologous chromosomes
(B) The two genes are close to each other
(C) The two genes are strongly linked
(D) The two genes are located away from each other on same chromosome

349. A, B and C are three genes on a chromosome, the Percentage of recombination is as follows, A and B = 40%, A and C = 15 %, C and B = 25% what could be the correct sequence of their arrangement.
(A) ABC
(B) ACB
(C) BCA
(D) B and C

350. Which of the following diseases are caused by organism that obey the 'cell theory'
(A) Mumps, cholera
(B) Influenza, small pox
(C) Herpes, plague
(D) Diphtheria and leprosy

351. Mark the incorrect statement-
(A) Cholesterol is lipid present in plasma membrane of animal cell
(B) Primary cell wall have henicellulose and cellulose both
(C) Golgi body is organelle with fix polarity
(D) microbodies present in plant cell and not in animal cell

352. Organelle which is precursor of lysosome is -
(A) SER
(B) Golgi bodies
(C) RER
(D) nucleus

353. 9+0 arrangement of ..... is present in centriole
(A) microfilaments
(B) microtubule
(C) tubulin
(D) actin filament

354. Few statements are given-
(A) Schwann studied only animal cell not plant tissue
(B) Amount of protein is higher than lipid in membrane of RBC
(C)SER involve in detoxification of toxic substance
how many are correct-
(A) only A (B) only A and B
(C) all three (D) only B and C

355. Collagen triple helical structure discovered by-
(A) Schwann (B) G.N ramachanran
(C) Porter (D) Fischer

356. Which of the following is not role of golgi apparatus-
(A) cell plate formation (B) sorting vesicles
(C) Nissl granule (D) lysosome formation

357. Material of nucleus given name chromatin by-
(A) Flemming (B) Porter
(C) Robert brown (D) Mendel

358. Few shapes are given -
(A) kinetochore- disc shape
(B) Nucleoli- ellipsoid
(C) Mitochondria- sausage shape
how many shapes are correctly matched-
(A) only B (B) both A and C
(C) both B and C (D) A,B and C

359. Vesicle which contain glycoprotein generally release from
(A) RER
(B) Cis face of golgi tubule
(C) tran face of golgi tubule
(D) trans face of golgi cisternae

360. One shorter arm and one longer arm present in chromosome which is-
(A) telocentric (B) acrocentric
(C) submetacentric (D) metacentric

Answer Keys

1.	(B)	48.	(D)	93.	(D)	137	(D)	181.	(C)	226.	(C)	271.	(B)	318.	(D)
2.	(B)	49.	(D)	94.	(D)	138.	(D)	182.	(A)	227.	(D)	272.	(A)	319.	(D)
3.	(A)	50.	(C)	95.	(C)	139.	(D)	183.	(D)	228.	(D)	273.	(C)	320.	(D)
4.	(A)	51.	(D)	96.	(D)	140.	(D)	184.	(C)	229.	(C)	274.	(C)	321	(C)
5.	(A)	52.	(C)	97.	(C)	141,	(C)	185.	(D)	230.	(A)	275.	(A)	322.	(D)
6.	(B)	53.	(D)	98.	(D)	142.	(D)	186.	(D)	231.	(D)	276.	(A)	323.	(C)
7.	(A)	54.	(A)	99.	(C)	143.	(D)	187.	(B)	232.	(D)	278.	(D)	324.	(C)
8.	(C)	55.	(D)	100.	(D)	144.	(D)	188.	(D)	233.	(D)	279.	(D)	325.	(D)
9.	(D)	56.	(A)	101.	(D)	145.	(C)	189.	(A)	234.	(D)	280.	(B)	326.	(B)
10.	(C)	57.	(D)	102.	(C)	146.	(C)	190.	(D)	235.	(D)	281.	(C)	327.	(A)
11.	(A)	58.	(D)	103.	(C)	147.	(D)	191.	(B)	236.	(B)	282.	(D)	328.	(C)
12.	(C)	59	(D)	104.	(D)	148.	(D)	192.	(C)	237.	(A)	283.	(A)	329.	(D)
13.	(B)	60.	(D)	105.	(B)	149.	(D)	193.	(B)	238.	(D)	284.	(D)	330.	(C)
14.	(D)	61.	(B)	106.	(D)	150.	(A)	194.	(D)	239.	(D)	285.	(B)	331.	(B)
15.	(D)	62.	(D)	107.	(A)	151.	(D)	195.	(C)	240.	(A)	286.	(D)	332.	(D)
16.	(C)	63	(D)	108.	(D)	152.	(D)	196.	(C)	241.	(D)	287.	(A)	333.	(A)
17.	(C)	64.	(D)	109.	(A)	153.	(D)	197.	(D)	242.	(A)	288.	(D)	334.	(A)
18.	(D)	65	(C)	110	(C)	154.	(B)	198.	(B)	243.	(D)	289.	(A)	335.	(B)
19.	(D)	66.	(B)	111.	(A)	155.	(B)	199.	(B)	244.	(D)	290.	(C)	336.	(D)
20.	(D)	67	(C)	112	(B)	156.	(C)	200.	(C)	245.	(D)	291.	(C)	337.	(D)
21.	(C)	68	(B)	113.	(C)	157.	(D)	201.	(A)	246.	(C)	292.	(C)	338.	(A)
22.	(D)	69	(C)	114.	(A)	158.	(C)	202.	(B)	247.	(D)	293.	(D)	339.	(B)
23.	(B)	70.	(C)	115.	(D)	159.	(D)	203.	(B)	248.	(D)	294.	(D)	340.	(D)
24.	(A)	71.	(C)	116.	(D)	160.	(D)	204.	(D)	249.	(**B**)	295.	(D)	341.	(D)
25.	(D)	72.	(A)	117.	(B)	161.	(D)	205.	(D)	250.	(C)	296.	(D)	342.	(B
26.	(C)	73.	(A)	118.	(C)	162.	(C)	206.	(D)	251.	(A)	297.	(C)	343.	(C)
27.	(C)	74.	(A)	119.	(C)	163.	(C)	207.	(C)	252.	(B)	298.	(A)	344.	(A)
28.	(B)	75.	(D)	120,	(C)	164.	(D)	208.	(C)	253.	(A)	299.	(D)	345.	(D)
29.	(A)	76.	(C)	121	(D)	165.	(D)	209.	(D)	254.	(B)	300.	(D)	346.	(A)
30.	(B)	77.	(A)	122.	(C)	166.	(C)	210.	(A)	255.	(D)	301.	(B)	347.	(A)
31.	(D)	78.	(B)	123.	(C)	167.	(D)	211.	(B)	256.	(A)	302.	(D)	348.	(D)
32.	(C)	79.	(C)	124.	(C)	168.	(B)	212.	(B)	257.	(C)	303.	(D)	349.	(D)
33.	(A)	80.	(D)	125.	(D)	169.	(D)	213.	(A)	258.	(C)	304.	(D)	350.	(D)
34.	(D)	81.	(A)	126.	(A)	170.	(D)	214.	(D)	259.	(B)	305.	(C)	351.	(D)
35.	(C)	82.	(C)	127.	(D)	171.	(B)	215.	(A)	260.	(D)	306.	(D)	352	(B)
36.	(D)	83.	(D)	128.	(C)	172.	(C)	216.	(D)	261.	(A)	307.	(C)	353.	(B)
37.	(C)	84.	(B)	129.	(A)	173.	(A)	217.	(C)	262.	(C)	308.	(B)	354.	(D)
38.	(D)	85.	(C)	130	(A)	174.	(B)	218.	(C)	263.	(B)	309	(B)	355.	(B)
39.	(C)	86.	(D)	131.	(C)	175.	(A)	219.	(C)	264.	(C)	310.	(A)	356.	(C)
40.	(D)	87.	(C)	132.	(B)	176.	(C)	220.	(A)	265.	(C)	311.	(D)	357.	(A)
41.	(B)	88.	(D)	133.	(C)	177.	(C)	221.	(B)	266.	(C)	312.	(D)	358.	(B)
42.	(D)	89.	(B)	134.	(D)	178.	(A)	222.	(A)	267.	(B)	313	(C)	359.	(D)
43.	(D)	90.	(D)	135.	(D)	179.	(B)	223.	(D)	268.	(C)	314	(D)	360.	(C)
44.	(A)	91.	(A)	136.	(A)	180.	(D)	224.	(C)	269.	(A)	315.	(D)		
45.	(C)	92.	(D)					225.	(D)	270.	(A)	316.	(C)		
46.	(A)											317.	(A)		
47.	(B)														