NCERT DEEP LINE

TEST- 01

DURATION:90MINUTES | **Syllabus** | **Part -01**

Botany : The Living world; Biological classification; Cell: The unit of life &Cell Cycle and Cell Division

General Instructions

1. **Immediately fill in the particulars on this page of the test booklet.**
2. **The test is of 90 min. duration.**
3. **The test booklet consists of 200 questions. The maximum marks are 800.**
4. **There are One Section in the Question Paper, Section I, (Botany) and having 200 Questions and All questions are compulsory**
5. **There is only one correct response for each question.**
6. **Each correct answer will give 4 marks while 1 Mark will be deducted for a wrong MCQ response.**
7. **No student is allowed to carry any textual material, printed or written, bits of papers, pager, mobile phone, any electronic device, etc. inside the examination room/hall.**
8. **On completion of the test, the candidate must hand over the Answer Sheet to the Invigilator on duty in the Room/Hall. However, the candidates are allowed to take away this Test Booklet with them.**

OMR - Instructions

1. **Use blue/black dark ballpoint pens.**
2. **Darken the bubbles completely. Don't put a tick mark or a cross mark where it is specified that you fill the bubbles completely. Half-filled or over-filled bubbles will not be read by the software.**
3. **Never use pencils to mark your answers.**
4. **Never use whiteners to rectify filling errors as they may disrupt the scanning and evaluation process.**
5. **Writing on the OMR Sheet is permitted on the specified area only and even small marks other than the specified area may create problems during the evaluation.**
6. **Multiple markings will be treated as invalid responses.**
7. **Do not fold or make any stray mark on the Answer Sheet (OMR).**

Student Details

Name of the Student (In CAPITALS)

_____

Roll Number: _____

OMR Bar Code Number: _____

Candidate's Signature

Invigilator's Signature

Botany (The Living world; Biological classification; Cell: The unit of life &Cell Cycle and Cell Division)

1 Total number of known species present on earth is-
(a) more than 1.7-1.8 million
(b) 1.2 - 1.3 million
(c) 1.9- 2.0 million (d) 1.7 - 1.8 million

2. Scientific term for category is -
(a) taxon (b) sub species
(c) herbarium (d) Phylum

3. Select the mismatched pair.
(a) Panthera - Mammalia
(b) Musca – Muscidae
(c) Triticum – Poales
(d) Solanum – Anacardiaceae

4. Taxonomy is basically
(a) Process of Identification
(b) process ofNomenclature
(c) Process of Classification
(d) Process of finding relationship among taxon

5. Bionomial nomenclature was given scientist also have contribution in
(a) Natural system of Classificaiton
(b) Two kingdom classification of plants
(c) Artificial system of classification of flowering plants
(d) both b and c

6. In the classification, the number of categories for all organism is seven and this categories are part of
(a) Taxon (b) Taxonomic hiearchy
(c) Taxonomic category
(d) all

7. The taxonomic category with fundamental similarities in organism is
(a) Genus (b) Species
(c) Sub-species (d) Variety

8. The word ending with -ales indicates
(a) Taxon in Animal classification
(b) Taxon in plant Classificiaiton
(c) Lowest taxon in animal classificaiton
(d) none

9. The word indica in Mangifera indica indicates
(a) Species (b) Family
(c) Order (d) Speciific epithet

10. The correct sequence of taxonomic categories in classification of Lion
(a) panthera- Felidae -felidaer--carnivora-Mammalia-primata
(b) Animalia-Chordata-mammalia-Carnivora-Felidae -panthera
(c) Animalia-Chordata-mammalia-Herbiivora-Felidae -panthera
(d) Division-order-class-tribe-family-genus-species

11. Systematics is the study of
(a) Diversity amongst groups of organisms
(b) Grouping of organisms
(c) Identification and grouping of organisms
(d) Taxonomy and phylogenetic relationship

12. Plants name are Written in italics because
(a) To show greek origin
(b) to show latin origin
(c) to show it is scientific name
(d) to show it is biological name

13. Number of taxonomic categories common in cat and lion is
(a) three (b) four
(c) Five (d) Six

14. Which of the following taxonomic categories contains maximum number of species
(a) Angiospermae (b) Monocotyledonae
(c) Poales (d) Sapindales

15. Which one of the following is not a part of taxonomic hiearchy of classification of datura
(a) Sapindales (b) Polymoniales
(c) Dicotyledonae (d) Angiospermae

16. Which one of the following is a category not taxon?
(a) Division (b) Diptera
(c) Solanum (d) Poaceae

17. Human and Cat ,number of taxonomic categories common is
(a) Two (b) Three
(c) Four (d) Five

18. Select the mismatched pair.
(a) Panthera - Canis
(b) Musca – Muscidae
(c) Triticum – Poales
(d) Solanum – Sapindales

19. Which of the following is the highest rank in classification of wheat?
(a) Poaceae (b) Polymoniales
(c) Dicotyledonae (d) Angiospermae

20 Consider the following statement-
(A) Solanum and petunia have same family
(B) mango and wheat have same Class
How many are correct –
(a) Only A (b) only B
(c) both A and B (d) both wrong

21. Few examples are given-
Solanum, petunia, datura, mango, wheat and maize
How many have common Class dicotyledonae
(a) three (b) four
(c) five (d) two

22. Few statements are given,
(1) Sapindales include solanaceae and convulvulaceae
(2) Primata that includes animals like cat, dog and tiger
(3) Diptera belong to class Insecta
How many are correct-
(a) one
(b) two
(c) three
(d) none

23 Few examples - lion, dog, tiger, cow, human, monkey
How many have common Class
(a) Four
(b) Five
(c) Three
(d) Six

24. Consider the following match and mark the wrongly match-
(a) Name of author- abbreviated form
(b) handwritten local name- underlined
(c) scientific name- latin language
(d) Plant taxonomic name- follow ICBN

25. 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)

26. Consider the following statement-
(1) ICZN carries agreed principle and criteria for naming of plants
(2) Solanum belong to order sapindales
How many are correct –
(a) only1 (b) only2
(c) both 1 and 2 (d) both wrong

27. Few statements are given,
(1) suffix for family in animals is idae
(2) suffix for order in plants is ales
(3) suffix for Class in Plant kingdom is mycetes
How many are correct-
(a) one (b) two
(c) three (d) none

28. Consider the following statement-
(1) Biological name and scientific name are same
(2) Kingdom and division is based on aggregation of character
How many are correct –
(a) Only 1
(b) only 2
(c) both 1 and 2
(d) both wrong

29. Mark the pair with most similarity in all
(a) Tiger and Felis
(b) solanum and mango
(c) Felis and canis
(d) potato and brinjal

30. Mark the odd one with respect to level in taxonomic hiearchy -
(a) Felis (b) Canis
(c) Mango (d) Panthera

31. Which of the following is not present on same Rank?
(a) Chlorophyceae
(b) Bryopsida
(c) Monocotyledonae
(d) Animalia

32. Which is common between Solanum and petunia-
(1) family (2) genus
(3) Species (4) class
Mark the correct option-
(a) all four (b) only 2 and 3
(c) 1,2 and 3 (d)1 and 4

33. Which show maximum similarity in characters-
(a) two species of one genus
(b) two organsim of same kingdom
(c) two genera belonging to different family
(d) two animals of same Species

34. Mark the odd one from given option in respect of taxonomic level -
(a) Musca (b) Poales
(c) Mangifera (d) Triticum

35. Which of the following not related to Canis taxonomic hiearchy
(a) Felidae
(b) Carnivora
(c) Chordata
(d) Mammalia

36 Which of the following name is correctly written?
(a) APIS INDICA
(b) Mangifera Indica linn
(c) Ficus
(d) Musca domestica

37. 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)

38. 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)

39. 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)

40. 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)

41. Which of the following can survive without oxygen-
(a) Mycoplasma
(b) heterocyst
(c) methanogens
(d) all

42. Protista mainly have -
(a) Chamydomonas, chlorella, Marchantia, Agaricus
(b) Lactobaccilus, chlamydomonas ,chlorella, Spirogyra
(c) Chlamydomonas, Chlorella, Euglena and Amoeba
(d) Paramoecium, Amoeba, Fucus, Hydra

43. 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

44. Heterocyst 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

45. 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 sproe and sex organ absent and sexual spore exogenous
(d) Deuteromycetes are septate, conidia present and ascospore

46. 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

47. 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)

48. Most complex metabolic diversity present in –
(a) Monera
(b) Methanogen
(c) Saprophytic bacteria
(d) Mycoplasma

49. 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

50. 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)

51. 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

52. 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

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

Column I		Column II	
A.	Ascospore	(i)	Albugo
B.	Basidiospore	(ii)	*Clavicpes and Neurospore*
C.	Zoospore	(iii)	*Agaricus and ustilago*
D.	Sexual reporduction 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)

54. 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

55. Consider the following statement –
(1) In Mucor hyphae is Aseptate
(2) Dikaryon stage is not visible in rhizopus and mucor
How many are correct-
(a) only 1 (b) both 1 and 2
(c) only 2 (d) both wrong

56. True sexual reproduction is present in-
(a) Nostoc and Mycoplasma
(b) claviceps and TMV
(c) Albugo and Agaricus
(d) E.coli and diatom

57. Consider the following statement-
(1) double strand DNA is genetic material of TMV
(2) In most plant virus, genetic material is single strand RNA
How many are correct-
(a) only 1 (b) both 1 and 2
(c) only 2 (d) both wrong

58. Similarity between TMV and Viroids -
(a) Absence of protein
(b) Parasitic in plant and animal
(c) have single strand RNA
(d) both are cellular

59. Diploid zygote not form in reproduction cycle of –
(a) Albugo (b) E.coli
(c) Pila (d) Mangifera

60. Deuteromycetes are most similar to in hyphae and Asexual spore
(a) Ascomycetes (b) basidiomycetes
(c) phycomycetes (d) Slime moulds

61. Mark the incorrectly matched for Genetic Material
(a) Viroids – single strand RNA
(b) Anabena – Double strand DNA
(c) Most Bacteriophage -Double strand DNA
(d) TMV – Single strand DNA

62. Chemoautotraphs bacteria show oxidation of –
(a) organic inside cell
(b) Inorganic inside cell
(c) Inorganic compound outside cell
(d) Organic outside cell

63. Classification of animals in group with RBC and without RBC was proposed by
(a) Aristotle (b) Linnaeus
(c) Whittaker (d) Bentham and Hooker

64. Two kingdom classification is based on the presence of ……. in ……. Kingdom
(a) Cell membrane, plantae
(b) Cell wall, plantae
(c) Cell membrane, Animalia
(d) Cell wall, Animalia

65. Few features are given
(I) Unicellular
(II) Eukaryotes
(III) Photosynthetic
How many features are require in organism to be placed in Protista in five kingdom classification
(a) all three (b) I and II
(c) Only II (d) II and III

66. Match the column I with column II and select the correct option for five kingdom classification

Column I	Column II
(a) Unicellular Eukaryotes	(i) Animalia
(b) Nostoc	(ii) Fungi
(c) Chitin cell wall	(iii) Protista
(d) Organ system	(iv) Monera

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

67. Which of the following is not location of methanogen –
(a) Rumen of cattle
(b) Biogas plant
(c) Aeration tank of sewage treatment plant
(d) Anaerobic sludge digestor of Sewage treatment plant

68. Chrysophytes not have feature –
(a) Microscopic
(b) planktonic
(c) Autotrophic
(d) pigment like higher plants

69. Silica deposition occur in …….. protozoa of –
(a) Euglenoids (b) Diatoms
(c) Dinoflagellates (d) Amoeboid

70. Plastids, Flagella and cell wall present in –
(a) Diatom and Dinoflagellates
(b) Diatoms and Euglenoids
(c) Slime mould and Dinoflafellates
(d) Dinoflagellates

71. Heterotorphic nutrition in Euglenoids are shown when –
(a) Prey and light both present
(b) Light present
(c) Light present and prey absent
(d) light absent and prey present

72. In Anabena mark the incorrect
(a) Gas vacuole is present
(b) Chrometophore is present
(c) Presence of chl a
(d) presence of flagella

73. Boundaries of …… kingdom are not well defined.
(a) Animalia
(b) Protista
(c) Fungi
(d) Virus

74. Sexual reproduction involves following spores –
(a) Zoospore and conidia
(b) Ascospore and zoospore
(c) Basidiospore and Oospore
(d) Conidia and Basidiospore

75. Conidia develop on …A…. by the process of …..B….
(a) A- Ascocarp B- Mitosis
(b) A- Conidiophore, B-Meiosis
(c) A- condiophore, B- Mitosis
(d) A- Basidiocarp, B- Mitosis

76. Exogenously produce sexual spore is feature of
(a) Puccinia (b) Aspergillus
(c) Albugo (d) Alternaria

77. Which of the following lack zygote in their life cycle-
(a) alternaria and colletotrichum
(b) mycoplasma and nostoc
(c) lactobaccilus and trichoderma
(d) all

78. 'Contagum vivum fluidum' is used for virus by –
(a) Beijerinek (b) Ivanowsky
(c) Stanley (d) Diener

79. Dikaryon is result of –
(a) Karyogamy (b) meiosis
(c) plasmogamy (d) all

80. Which of the following absent in claviceps-
(a) Dikaryon and zygote
(b) sex organ and conidia
(c) aseptate hypae and zoospore
(d) both b and c

81. Which is common in ascomycetes ,basidiomycetes and deutereomycetes-
(a) hyphae structure (b) dikaryon
(c) fragmentation (d) Both a & c

82. Which is present in agaricus-
(a) ascospore
(b) conidia
(c) sexual reproduction
(d) sex organs

83. Flagellated structure present in –
(a) euglenoids and albugo
(b) diatom and mycoplasma
(c) E.coli and nostoc
(d) ustilago and puccinia

84. Mark the incorrect statement-
(a) prokaryotic cell divide faster than Eukaryotic cell
(b) prokaryotes exibit a wide variety of shapes and functions
(c) Plasmid is small DNA other than genomic DNA
(d) Cell envelop consist of a loosely bound three layered structure

85. Which of the following is incorrectly matched-
(a) loose and tough – Capsule
(b) Mesosome – help in DNA replication
(c) Flagella – number and arrangement variable
(d) Ribosome – 15nm and 20nm

86. Which is common about ribosome and inclusion bodies-
(a) presence in eukaryotic cell
(b) without membrane
(c) for storage
(d) site for protein synthesis

87. Mark the incorrectly matched-
(a) Extension of plasma membrane - Mesosome and chromatophore
(b) Motility - Pill and fimbriae
(c) Plasma membrane – similar in prokaryotes and Eukaryotes
(d) Cell wall – maintain shape and prevent from bursting

88. Cell envelop have all except –
(a) slime layer
(b) capsule
(c) cell wall
(d) flagella

89. Which of the following is surface structure-
(A) pilli (B) fimbriae
(C) Flagella (D) mesosomes
Mark the correct
(a) A and B (b) A, B and C
(c) all four (d) B and C

90. Which of the following have gas vacuole-
(A) cyanobacteria
(B) purple sulfur bacteria
(C) Green purple bacteria
(D) Archaebacteria
Mark the correct
(a) A and B (b) A, B and C
(c) all four (d) B and C

91. Which of the following is similarity of prokaryotes with Eukaryotes-
(A) cell membrane (B) flagella
(C) role of ribosome (D) plasmid
Mark the correct
(a) A and B (b) A,B and C
(c) all four (d) A and C

92. Mark the incorrect-
(a) Haploid spore form in basidiomycetes are always product of meiosis
(b) Two conidia form on same mycelium are genetically same
(c) Two basidiospore develop on same basidium are genetically same
(d) Plasmogamy is process can occur in somatic hyphae in agaricus

93. Asexual fruting body absent in..... and sexual fruting body is absent in ..... respectively
(a) Claviceps and Neurospora
(b) Puccinia and Trichoderma
(c) Colletotrichum and Agaricus
(d) Rhizopus and Trichoderma

94. Dikaryotic hyphae form due to -
(a) Mitosis
(b) Meiosis
(c) Plasmogamy
(d) Karyogamy

95. Ascospore on mitosis develop ..... ,which later develop ..... by mitosis
(a) Mycelium and Ascocarp
(b) Mycelium and Conidiophore
(c) Conidia and Ascocarp
(d) Hyphae and Basidiocarp

96. Which of the following is role of mesosome-
(a) respiration, secretion process, have enzyme and provide motility
(b) cell wall formation , storage , secretion process and DNA replication
(c) Secretion, DNA replication, enzyme presence and cell wall formation
(d) protein synthesis, DNA replication , secretion and storage

97. Mark the correct statement-
(A) all bacteria have plasmid
(B) all bacteria have cell wall
(C) all bacteria have ribosome
(D) all bacteria have cell membrane
Mark the correct
(a) A and B
(b) B and C
(c) C and D
(d) A and C

98. Which of the following is feature of cyanobacteria-
(a) presence of Chla
(b) flagella
(c) presence only in fresh water
(d) only unicellular form surrounded by gelatinous sheath

99. Mark the correct statement-
(A) bacteria are sole members of monera
(B) bacteria have simple structure and complex behaviour
(C) all autotrophic prokaryotes synthesise food from inorganic substance
(D) The vast majority of bacteria are autotrophic
Mark the correct
(a) A, B and C (b) B , C and D
(c) A, B and D (d) all four

100. Which of the following is role of hetertrophic bacteria-
(A) covert nitrite into nitrate
(B) fix nitrogen in legume
(C) production of antibiotics
(D) cause disease
Mark the correct
(a) A and B (b) A, B and C
(c) all four (d) B, C and D

101. Mark the incorrect statement-
(a) events of cell cycle are under genetic control
(b) Cell growth in terms of cytoplasmic increase is countinuous process
(c) interphase is 95 percent of total cell cycle
(d) G1 phase is interval between DNA replication and mitosis

102. Mark the correctly matched-
(a) S-phase – centriole duplication
(b) G2 phase – DNA replication
(c) M-phase - protein synthesis
(d) G1 phase – histone synthesis

103. Nuclear membrane may be disappear in which of the phase-
(a) M-phase (b) S- phase
(c) both 1 and 2 (d) G2-phase

104. In which of the following phase one centromere have two chromatid-
(a) G2 phase (a) G1 phase
(c) s-phase (d) M-phase

105. Which of the following not occur after M-phase –
(a) Nucleus/ cytoplasm ratio increase
(b) number of chromosome become half
(c) amount of DNA become half
(d) nuclear membrane reappear

106. Mitotic division occur in all except-
(a) haploid plant cell (b) diploid plant cell
(c) Diploid animal cell (d) haploid animal cell

107. G0 phase cell show all feature except-
(a) metabolically active
(b) show proliferation
(c) living cell
(d) Quiescent cell

108. Centriole starts to move at opposite pole in-
(a) prophase (b) Metaphase
(c) Telophase (d) Anaphase

109. Two chromatids of chromosome visible in …….. phase of M-phase-
(a) prophase (b) Metaphase
(c) Telophase (d) Anaphase

110. Chromosome come at equator of spindle in …….. phase of mitosis -
(a) Telophase (b) Prophase
(c) Metaphase (d) Anaphase

111. Spindle fibre attach with kinetochore in-
(a) prophase (b) Metaphase
(c) Telophase (d) Anaphase

112. Match the following events that occur in their respective phases of cell cycle and select the correct option:

1. G1 phase	(i) Cell grows and organelle duplication
2. S phase	(ii) Centriole duplication
3. G2 phase	(iii) cell prepare for division
4. Metaphase in M-phase	(iv) kinetochore appear

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

113. Number of spindle fibre attach on chromosome at metaphase of mitosis-
(a) one (b) two
(c) three (d) four

114. Number of spindle fibre attach on chromosome at metaphase I of meiosis I-
(a) one (b) two
(c) three (d) four

115. In asymmetric spindle which lead to unequal cell formation all are correct except-
(a) equator of spindle not lie at equator of cell
(b) genetic material divide equally
(c) cytoplasm division is unequal
(d) both cytoplasm and genetic material divide unequally

116. In anaphase splitting of centromere result in –
(a) splitting of chromosome arm
(b) splitting result in formation of daughter chromosome
(c) spindle fibre degenerate
(d) unequal division of genetic material

117. In meiosis variation occur in –
(a) prophase II (b) Anaphase II
(c) pachytene (d) both b and c

118. Terminilization of chaismata occur in –
(a) diakinesis (b) diplotene
(c) pachytene (d) zygotene

119. Which type of chromosome appear in anaphase as inverted j shape-
(a) metacentric (b) submetacentric
(c) telocentric (d) Acrocentric

120. Which of the following phase have checkpoints –
(a) M to G1 transition
(b) G1 to S phase transition
(c) G2 to M transition
(d) both b and c

121. Mark the correct-
(a) Meiosis occur in both haploid and diploid
(b) Meiosis II occur only in diploid
(c) Meiosis I occur only in diploid
(d) Mitosis can not occur in haploid cell of plants

122. Which of the following not occur in metaphase I
(a) Double metaphasic plate visible
(b) One Homologus Chromosome pair have two chromosomal fibre
(c) Each Chromosome have two chromosomal fibre
(d) Homologus chromosome are still together

123. In a maize plant number of chromosome are (2n=20) than number of bivalent and tetrad are in zygotene are –
(a) 20 and 20 (b) 20 and 10
(c) 10 and 10 (d) 10 and 20

124. Metacentric chromosome can show inverted V shape visible in-
(a) Metaphase (b) Anaphase I
(c) Anaphase (d) both b and c

125. Which is correct about plant cell-
(a) Anastral spindle formation
(b) Cell plate method of cytokinesis
(c) Mitosis in haploid cell
(d) All of the above

126. Which of the following occur in S-phase-
(a) Histone synthesis (b) centriole duplication
(b) DNA replication (d) all of the above

127. Protein synthesis occur in all except-
(a) G1 phase (b) G2 phase
(c) M-phase (d) S-phase

128. During cytokinesis in plants which is last event among the following –
(a) Cell plate formation
(b) primary cell wall formation
(c) plasma membrane formation
(d) phragmoplast formation

129. Segregation of homologus chromosome occur in-
(a) Anaphase I (b) Anaphase II
(c) Anaphase (d) both a and c

130 Segregation of sister chromatid occur in -
(a) Anaphase I (b) Anaphase II
(c) Anaphase (d) both b and c

131 Segregation of sister chromatid which are non-identical occur in
(a) Anaphase I (b) Anaphase II
(c) Anaphase (d) both a and c

132. Match the following with respect to meiosis:

Column-I	Column-II
1. Zygotene	(i) Meiosis arrest in mammalian oocyte
2. Pachytene	(ii) Dissolution of synaptonemal complex
3. Diplotene	(iii) Recombination nodule
4. Diakinesis	(iv) Synaptonemal complex

Select the correct option from the following:
(a) 1-(iv), 2-(iii), 3-(ii), 4-(i)
(b) 1-(i), 2-(ii), 3-(iv), 4-(iii)
(c) 1-(iV), 2-(iii), 3-(i), 4-(ii)
(d) 1-(iii), 2(iv), 3-(i), 4-(ii)

133. Identify the correct statement with regard to G1 phase (Gap1) of interphase.
(a) Amount of DNA get double
(b) Cell show growth
(c) Nuclear division takes place.
(d) Centriole duplication

134. Chromosome in Homologus pair start to move away occurs :
(a) Zygotene (b) Diplotene
(b) Leptotene (d) Pachytene

135. If amount of DNA in tapetum in G0 phase is 0.30 pgm, than amount of DNA in vegetative cell of pollen of same plant is –
(a) 0.15pgm (b) 0.075pgm
(c) 0.60 pgm (d) 0.30pgm

136. Mr. Robin, identify the following features while studying cell division in anther cells.
X- Movement of chromosomes towards the pole
Y- Reduction in the number of chromosomes.
Z- Division of centromere does not occur.
(a) Anaphase (b) Anaphase I
(c) Anaphase II (d) All of the above

137. a. Pachytene b. Diplotene
c. Leptotene d. Zyogtene
Arrange the above phases of prophase-I of meiosis I in the correct sequence
(a) $a \rightarrow c \rightarrow a \rightarrow b$ (b) $c \rightarrow d \rightarrow a \rightarrow b$
(c) $c \rightarrow d \rightarrow b \rightarrow a$ (d) $c \rightarrow b \rightarrow a \rightarrow d$

138. During interkinesis
P- Chromosomes becomes chromatin fibres.
Q- Replication of DNA occurs.
R- Centrioles pairs replicate in animal cells.
(a) Only P is correct
(b) Only Q and R are correct
(c) Only R is correct
(d) All are correct

139. Interkinesis is a metabolic stage between X and Y

	X	Y
(a)	Telophase II	Prophase I
(b)	Telophase I	Prophase II
(c)	Telophase I	Prophase I
(d)	Telophase II	Prophase II

140. The reduction in the number of chromosomes occurs during
(a) Anaphase of mitosis
(b) Anaphase-I of meiosis
(c) Anaphase-II of meiosis
(d) All of the above

141. The stage of cell division in which crossing over completed:
(a) The final stage of prophase I
(b) The first stage of meiosis II
(c) Diplotene
(d) The stage between Zygotene and diplotene

142. If there are 30 chromosomes in G1 phase then what will be number of bivalents in Meiosis-I pachytene stage?
(a) 30 (b) 15
(c) 45 (d) 60

143. Select the correct sequence of events that take place during meiosis.
P. Reduction in the number of chromosomes.
Q. The crossing over is complete (d)
R. The bivalent chromosomes align themselves on the equatorial plate.
S. Chromatids move to the opposite pole
(a) Q→S→P→R
(b) Q→R→P→S
(c) Q→P→S→R
(d) Q→R→S→P

144. If in G-2 DNA amount is 40pg then in meiosis-I product DNA amount will be
(a) 80pg (b) 20pg
(c) 10pg (d) Can't determine

145. Select the incorrect match.
(a) Leptotene – Compaction of chromosome
(b) Zygotene – Bivalents clearly appears as tetrads
(c) Diplotene – Dissolution of synaptonemal complex
(d) None

146. Cell at which stage of meiosis is called dyad of cells?
(a) Telophase (b) Telophase I
(c) Anaphase I (d) Telophase II

147. At the end of the first meiotic division, each chromosome consists of:-
(a) a homologous chromosome pair
(b) four copies of each DNA molecule
(c) two chromatids
(d) Both a & c

148. Assertion: During metaphase I the bivalents arrange on the equatorial plate.
Reason : During anaphase II, the sister chromatids separate
(a) Both assertion and Reason are true and the reason is the correct explanation of the assertion, then mark
(b) Both assertion & reason are true but the reason is not the correct explanation of the assertion, then mark
(c) Assertion is true statement but reason is false
(d) Both assertion and reason are false statements

149. Metaphase II is different from metaphase I as in the latter one which of the following not events occur
(a) Bivalent chromosomes align on the equatorial plate
(b) Homologous chromosomes separate from each other
(c) Crossing between non-sister over chromatids of homologous chromosomes occur
(d) Two Metaphasic plate formed

150. If Bivalent number is 11 then number of chromatids in each individual chromosome of daughter cells in meiosis-II
(a) 44 (b) 11
(c) 2 (d) 1

151. Consider the following statement –
(I) Centromere holds two chromatids of a chromosome
(II) Microbodies not have any enzyme one longer arm
How many are correct –
(a) Only I (b) Only II
(c) both I and II (d) Both wrong

152. Mark the correct statement –
(a) Many membrane bound minute vesicles called microbodies that contain various enzymes, are present in both plant and animal cells.
(b) Sometimes on all chromosomes have non-staining secondary called the satellite.
(c) The eukaryotic ribosomes are 70S while the prokaryotic ribosomes are 80S
(d) The cell membrane in a cell are involved in many functions such as mechanical support, motility, maintenance of the shape of the cell.

153. Mark the correct statement –
(a) Majority of the chloroplasts of the green plants are found in the mesophyll cells of the leaves
(b) Ribosome is made up of protein only
(c) lipid membrane absent around ER
(d) RER is not involve in protein synthesis

154. Few examples are given –
ER, lysosome, mitochondria, leucoplast and ribosome
How many are bound by single membrane
(a) Five (b) Two
(c) Three (d) Four

155. Consider the following statement –
(I) Mitochondria and chloroplast is double membrane bound organelle
(II) The space limited by the inner membrane of the chloroplast is called the thylakoid
How many are correct –
(a) Only I (b) Only II
(c) Both I and II (d) Both wrong

156. Mark the correctly matched –
(a) Lysosome -basic hydrolase
(b) Chloroplast – number fix in all plant cells
(c) Cytoskeletal elements- made up of lipid
(d) Golgi bodies -Packaging and sorting

157. Mark the correct statement –
(a) The golgi apparatus principally performs the function of packaging materials, to be delivered either to the intra-cellular targets or secreted outside the cell
(b) Golgi divides the intracellular space into two distinct compartments luminal and extra luminal compartments.
(c) According to this, the quasi-fluid nature of lipid enables lateral movement of Sugar within the overall bilayer
(d) Flagella of eukaryotes similar in structure of prokaryotes

158. Few examples are given –
Flagella, cilia, spindle fibre, Microfilament, centriole
How many are associated with microtubule
(a) Five (b) Two
(c) Three (d) Four

159. Consider the following statement –
(I) In human beings, the membrane of the erythrocyte has approximately 40 per cent protein and 52 per cent lipids.
(II) The major lipids are phospholipids that are arranged in a bilayer in plasma membrane
How many are correct –
(a) Only I (b) Only II
(c) Both I and II (d) Both wrong

160. Mark the correctly matched –
(a) Plasma membrane – lipid monolayer
(b) Tonoplast – membrane of contractile vacuole
(c) Sap vacuole – present in amoeba
(d) Food vacuole - Amoeba

161. Mark the correct statement –
(a) Movement of water by Active diffusion is called osmosis.
(b) The smooth endoplasmic reticulum is the major site for synthesis of lipid and protein
(c) Chlamydomonas have five chloroplast
(d) Algae have cell wall, made of cellulose, galactans, mannans and minerals like calcium carbonate

162. Few examples are given –
Chloroplast, Mitochondria, ER, sap vacuole, cell wall
How many are present in plant cell
(a) Five (b) Two
(c) Three (d) Four

163. Consider the following statement –
(I) Mesosome is analogous to mitochondria
(II) Plasmid is analogus to genomic DNA of eukaryotic cell
How many are correct –
(a) Only I
(b) Only II
(c) Both I and II
(d) Both wrong

164. Mark the correctly matched –
(a) Chrometophore - cyanobacteria
(b) Animal cell – Sap vacuole
(c) Fungi cell - plastids
(d) Lactobacillus - Kreb cycle

165. Mark the correct statement –
(a) In Diatom and dinofalgellates the contractile vacuole is important for osmoregulation and excretion
(b) Ribosome is inclusion bodies
(c) Pilli and fimbriae is locomotory structure
(d) Flagella is present for locomotion in bacteria

166. Few examples are given –
Pigments, double membrane, ribosome, protein synthesis, carbohydrate synthesis , cytochrome
How many are common in mitochondria and chloroplast
(a) Five (b) Two
(c) Three (d) Four

167. Inclusion bodies have role all except –
(a) Storage
(b) Without membrane
(c) Granular structure
(d) present in all type of cells both eukaryotes and prokaryotes

168. Consider the following statement –
(I) Root cells of plant lack chloroplast
(II) Root cells have mitochondria
How many are correct –
(a) Only I
(b) Only II
(c) Both I and II
(d) Both wrong

169. Mark the correctly matched –
(a) Amyloplast- store starch
(b) Centromere – secondary constriction
(c) Thylakoid – non-lipid layer
(d) Ribosome – inclusion body

170. Mark the correct statement –
(a) The fimbriae are small bristle like help attach the bacteria to rocks in streams and also to the host tissues
(b) The pili are elongated tubular structures made of a special sugars
(c) Bacterial cells always motile
(d) The eukaryotes include all the protists, plants, animals and E.coli

171. Few examples are given –
E.coli, lactobaccilus, agaricus, amoeba, Mesophyll cell and virus
How many are Eukaryotic
(a) Five (b) Two
(c) Three (d) Four

172. Consider the following statement –
(I) Cytochrome is located on thylakoid membrane
(II) Mitochondria DNA is circular and double stranded
How many are correct –
(a) Only I (b) Only II
(c) Both I and II (d) Both wrong

173. Mark the correctly matched –
(a) E.coli- Gram negative
(b) Plasmid- part of genomic DNA
(c) Mesosomes – Role in respiration and phootsynthesis
(d) Aleuronoplast- have pigments

174. Mark the correct statement –
(a) Centriole is present in algae cell and plant cell
(b) Several ribosomes may attach to a single mRNA and form a chain called polyribosomes or polysome
(c) The cell envelope of bacteria consists of a loosely bound three layered structure
(d) All bacterial cell have cell wall

175. Few examples are given –
Plasmid, genomic DNA, ribosome , Nucleus, Glycolysis
How many are present in all bacteria
(a) Five
(b) Two
(c) Three
(d) Four

176. In ……..year Matthias Schleiden, a examined a large number of plants and observed that all plants are composed of different kinds of cells which form the tissues of the plant
(a) 1938
(b) 1838
(c) 1997
(d) 1839

177. Consider the following statement –
(I) Ribosomes are non-membrane bound organelles found in all cells – both eukaryotic as well as prokaryotic.
(II) Virus is non living structure
How many are correct –
(a) Only I (b) Only II
(c) Both I and II (d) Both wrong

178. Mark the incorrectly matched –
(a) E.coli- 70 s ribosome
(b) Mycoplasma- cell wall absent
(c) Cynaobacteria – nucleoid present
(d) RBC- largest cell in human

179. Mark the correct statement –
(a) all living organisms are composed of cells and products of cells not according to cell theory
(b) All living cell have ribosomes
(c) all living cells have mitochondria
(d) All living cells have pigments

180. Few examples are given –
ER, peroxisome, Lysosome, mitochondria, chloroplast
How many are part of endomembrane system
(a) Five (b) Two
(c) Three (d) Four

181. Omnis cellula-e cellula is given by –
(a) scheilden (b) Linnaeus
(c) Virchow (d) none

182. Consider the following statement –
(I) Depending on the ease of extraction, membrane proteins can be classified as integral and peripheral.
(II) Neutral solutes may move across the membrane by the process of simple diffusion along the concentration gradient,
How many are correct –
(a) Only I (b) Only II
(c) Both I and II (d) Both wrong

183. Mark the incorrectly matched –
(a) ER – single membrane structure
(b) Nucleolus – rRNA synthesis
(c) RBC- nucleus not present
(d) Axoneme- Core of flagella not cillia

184. The axoneme usually has nine doublets of radially arranged peripheral microtubules, and a …….. of centrally located microtubules –
(a) Single (b) Ten
(c) Pair (d) Nine

185. Few examples are given –
Axoneme, sap vacuole , chlorophyll a , chlorophyll b , well defined nucleus
How many are present in Chlamydomonas
(a) Five (b) Two
(c) Three (d) Four

186. Two parallel membranes of nucleus with a space between (10 to 50 nm) called the-
(a) Lumen
(b) Perinuclear space
(c) Lumen of golgi bodies
(d) Lumen of SER

187. Mycoplasma lack feature –
(a) ribosome
(b) well defined nucleus
(c) double strand dna
(d) parasitic to plant and animal

188. Consider the following statement –
(I) The central part of the proximal region of the centriole is also proteinaceous and called the hub
(II) The centrioles form the basal body of cilia or flagella, and spindle fibres that give rise to spindle apparatus during cell division in animal cells
How many are correct –
(a) only I (b) only II
(c) both I and II (d) both wrong

189. Mark the correctly matched –
(a) Microfilament- cytoskeletal element
(b) Plasmodesmata – in plant cells
(c) Sap vacuole – plant cell and animal cell
(d) Gas vacuole – Fungi cell

190. Mark the correct statement –
(a) Fungi cell have cell wall of cellulose
(b) Nucleus as a cell organelle was first described by Robert Brown as early as 1831
(c) Of the two, the inner chloroplast membrane is relatively more permeable
(d) Cell membrane and cell wall both living structure

191. Matrix of mitochondria posses –
(a) single circular DNA molecule
(b)few RNA molecules
(c) ribosomes (70S)
(d) all

192. A non-living rigid structure called the cell wall forms an outer covering for the plasma membrane of fungi and plants
(a) plasmodesmata (b) cell wall
(c) glycocalyx (d) none

193. Primary cell wall have feature –
(a) Quaisfluid (b) capable to grow
(c) lignified (d) cellulose absent

194. Which is not true for mitochondria –
(a). Mitochondria are the sites of aerobic respiration.
(b) They produce cellular energy in the form of ATP, hence they are called 'power houses' of the cell
(c) Divide by Fission
(d) similar enzyme in outer and inner membrane

195. Consider the following statement –
(I) Photosystem is present in mitochondria and chloroplast
(II) ETS is located in inner membrane of mitochondria
(III) Nucleolus is surrounded by no membrane
How many are correct –
(a) Only I
(b) Only I and II
(c) All three
(d) Only II and III

196. Infolding of plasma membrane in cyanobacteria having pigments known as –
(a) Mesosomes
(b) chromatophore
(c) ribosome
(d) none

197. Ribosomes are the granular structures first observed under the electron microscope as dense particles by
(a) Golgi (b) Robert brown
(c) Robert Virchow (d) George Palade

198. Microbodies that contain various ……., are present in both plant and animal cells
(a) Pigments (b) Sugars
(c) Enzymes (d) Hormone

199. Ramachandran met …….and was deeply influenced by his publications on models of the α-helix and β-sheet
(a) Linus Pauling (b) Robert brown
(c) Palade (d) Schwann

200. The cell wall have role –
(a) determine the shape of the cell
(b) provides a strong structural support
(c) prevent the bacterium from bursting or collapsing
(d) all