Biological Classification

Chapter 2

FACT/DEFINITION TYPE QUESTIONS

1. Which of the following characteristic(s) is/are used by Whittaker for the classification of organisms ?
(a) Mode of nutrition
(b) Thallus organisation
(c) Phylogenetic relationships
(d) All of the above

2. Organisms of which of the following kingdom do not have nuclear membrane ?
(a) Protista (b) Fungi
(c) Monera (d) Plantae

3. Protists are
(a) single-celled eukaryotes.
(b) multicellular eukaryotes.
(c) single-celled prokaryotes.
(d) single-celled akaryote.

4. Which of the following pigment is present in cyanobacteria?
(a) Chlorophyll '*a*' (b) Chlorophyll '*b*'
(c) Chlorophyll '*c*' (d) Chlorophyll '*d*'

5. Which of the following is the smallest living cell and can live without oxygen?
(a) *Mycoplasma* (b) Mycorrhiza
(c) *Euglena* (d) *Trypanosoma*

6. Which of the following processes are involved in the reproduction of protists ?
(a) Binary fission and budding
(b) Cell fusion and zygote formation
(c) Spore formation and cyst formation
(d) All of the above

7. Which of the following pairs come under the group chrysophytes?
(a) Diatoms and *Euglena*
(b) *Euglena* and *Trypanosoma*
(c) Diatoms and Desmids
(d) *Gonyaulax* and Desmids

8. Which of the following is an example of amoeboid protozoans ?
(a) *Trypanosoma* (b) *Paramecium*
(c) *Gonyaulax* (d) *Entamoeba*

9. Which of the following is a parasitic fungi on the mustard plant ?
(a) *Albugo* (b) *Puccinia*
(c) Yeast (d) *Ustilago*

10. Which of the following is used extensively in biochemical and genetic work ?
(a) *Agaricus* (b) *Alternaria*
(c) *Neurospora* (d) *Mucor*

11. Which of the following is/are example(s) of deuteromycetes?
(a) *Alternaria* (b) *Colletotrichum*
(c) *Trichoderma* (d) All of these

12. Which group of fungi is commonly known as imperfect fungi ?
(a) Phycomycetes (b) Ascomycetes
(c) Basidiomycetes (d) Deuteromycetes

13. Bladderwort and Venus fly trap are examples of
(a) insectivorous plants (b) parasitic plants
(c) N_2 – rich plants (d) aquatic plants

14. The subunit of capsid is called
(a) core (b) nucleotide
(c) amino acid (d) capsomere

15. Which of the following is not a viral disease ?
(a) AIDS and mumps (b) Small pox and herpes
(c) Influenza (d) Cholera

16. The symbiotic association between fungi and algae is called
(a) lichen (b) mycorrhiza
(c) rhizome (d) endomycorrhiza

17. The genetic material of virus includes
(a) only RNA.
(b) only DNA.
(c) RNA and DNA both
(d) RNA or DNA , *i.e.*, one nucleic acid in a virus.

18. Dikaryon formation is the characteristic feature of
(a) ascomycetes and basidiomycetes.
(b) phycomycetes and basidiomycetes.
(c) ascomycetes and phycomycetes.
(d) phycomycetes and zygomycetes.

19. Clamp connection is found in
(a) basidiomycetes (b) ascomycetes
(c) saccharomycetes (d) haplomycetes

20. Plasmogamy is the fusion of
(a) two haploid cells including their nuclei.
(b) two haploid cells without nuclear fusion.
(c) sperm and egg.
(d) sperm and two polar nuclei.

21. Which scientist classified plants into trees, shrubs and herbs and animals into two groups based on absence or presence red blood cells?
(a) Aristotle (b) R. H. Whittaker
(c) D. J. Ivanowsky (d) W. M. Stanley

22. Fungi are filamentous with the exception of "X" which is unicellular. Identify X.
(a) Yeast (b) Albugo
(c) Mucor (d) Lichen

23. The bacteria which oxidize various inorganic substances and use the released energy for the synthesis of food are called _____.
(a) Archaebacteria
(b) Heterotrophic bacteria
(c) Photosynthetic autotrophic bacteria
(d) Chemosynthetic autotrophic bacteria

STATEMENT TYPE QUESTIONS

24. Which of the following statements is not correct for viruses?
(a) Viruses are obligate parasites.
(b) Viruses can multiply only when they are inside the living cells.
(c) Viruses cannot pass through bacterial filters.
(d) Viruses are made up of protein and DNA or RNA (never both DNA and RNA).

25. Which of the following statements is correct for archaea?
(a) Archaea resemble eukaryotes in all respects.
(b) Archaea have some novel features that are absent in other prokaryotes and eukaryotes.
(c) Archaea completely differ from both prokaryotes and eukaryotes.
(d) Archaea completely differ from prokaryotes.

26. Which of the following statements is not correct for methanogens?
(a) They are archaebacteria.
(b) They live in marshy areas.
(c) Methane is their preferred carbon source.
(d) They are present in guts of several ruminant animals (cow, buffaloes) and produce biogas (CH_4) from the dung of these animals.

27. Which of the following statements is correct for both blue-green algae and bacteria ?
(a) Both show anaerobic respiration.
(b) Both have chlorophyll pigment.
(c) Both are devoid of true nucleus.
(d) None of the above

28. Which of the following statements is incorrect ?
(a) TMV has a double-stranded RNA molecule.
(b) Most plant viruses are RNA viruses.
(c) The bacteriophage has double-stranded DNA.
(d) Most animal viruses are DNA viruses.

29. Which of the following statement is/ are correct for bacteria?
(a) They are the members of the kingdom monera.
(b) They live in extreme habitats such as hot springs, deserts, snow and deep oceans.
(c) They show the most extensive metabolic diversity.
(d) All of the above

30. Which of the following statements is a characteristic feature of chrysophytes?
(a) They are parasitic forms which cause diseases in animals.
(b) They have a protein rich layer called pellicle.
(c) They have indestructible cell wall layer deposited with silica.
(d) They are commonly called dinoflagellates.

31. Which of the following statements is correct for dinoflagellates flagella ?
(a) A single flagellum lies in the transverse groove between the cell plates.
(b) A single flagellum lies in the longitudinal groove between the cell plates.
(c) Two flagella, one lies longitudinally and the other transversely in a furrow between the wall plates.
(d) Flagella are absent.

32. Choose the correct statements (i – v) regarding mycoplasma
(i) Mycoplasma has no cell wall.
(ii) Mycoplasma is the smallest living organism known.
(iii) Mycoplasma cannot survive without O_2.
(iv) Mycoplasma are pathogenic in animals and plants.
(v) A sort of sexual reproduction occurs in bacterium by adopting a primitive DNA transfer from one bacterium to the other.
(a) Only (iii) (b) (i), (iii) and (v)
(c) (i), (ii), (iv), and (v) (d) All of the above

33. Read the given statements and answer the question.
(i) It includes unicellular as well as multicellular fungi.
(ii) In multicellular forms, hyphae are branched and septate.
(iii) Conidiophore produces conidia (spores) exogenously in chain.
(iv) Sexual spores are ascospores produced endogenously in chain.
(v) Fruiting body is called ascocarp.
Identify the correct class of fungi which have all the above given characteristics.
(a) Phycomycetes (b) Sac fungi
(c) Club fungi (d) Fungi imperfecti

34. T. O. Diener discovered a new infectious agent that was smaller than viruses and have the following characteristics.
(i) It causes potato spindle tuber disease.
(ii) It has free RNA.
(iii) Molecular weight of RNA is low.
Identify the infections agent.
(a) Viruses (b) Viroids
(c) Virion (d) Mycoplasma

35. Consider the following statements with respect to characteristic features of the kingdom.
(i) In animalia, the mode of nutrition is autotrophic.
(ii) In monera, the nuclear membrane is present.
(iii) In protista, the cell type is prokaryotic.
(iv) In plantae, the cell wall is present.
Of the above statements, which one is correct ?
(a) (i) only (b) (ii) only
(c) (iii) only (d) (iv) only

36. Which of the following are the characters of dinoflagellates?
(i) They are planktonic golden yellow algae with soap box like structure.
(ii) They are marine red biflagellated protista.
(iii) They appear yellow, green, brown, blue and red in colour.
(iv) They are biflagellated organisms with pellicle.
(v) They are saprophytic (or) parasitic unicellular forms.
(a) (ii) and (iii) (b) (ii) and (v)
(c) (i), (ii) and (iii) (d) (ii), (iv) and (v)

37. The given characters are seen in which of the following group?
(i) Unicellular, colonial, filamentous, marine or terrestrial forms.
(ii) The colonies are surrounded by a gelatinous sheath.
(iii) Some can fix atmospheric nitrogen in specialized cells called heterocysts.
(iv) They often form blooms in water bodies.
(a) Archaebacteria (b) Cyanobacteria
(c) Chrysophytes (d) Dinoflagellates

38. Which of the following group of kingdom protista is being described in the statements given below ?
(i) This group includes diatoms and golden algae.
(ii) They are microscopic and float passively in water currents (plankton).
(iii) Most of them are photosynthetic.
(iv) They have deposits in their habitat; this accumulation over billion of years is referred to as 'diatomaceous earth'.
(a) Dinoflagellates (b) Chrysophytes
(c) Euglenoids (d) Slime moulds

39. The given statements are some characters of a particular group of Kingdom protista.
(i) Most of them are fresh water organisms found in standing water.
(ii) They have a protein rich layer (called pellicle) which makes their body flexible.
(iii) They have two flagella, a short and a long one.
(iv) Though they are photosynthetic in the presence of sunlight, but in the absence of sunlight they behave like heterotrophs by predating on other smaller organisms.
Identify the correct group on the basis of these characters.
(a) Protozoans (b) Chrysophytes
(c) Slime moulds (d) Euglenoids

40. Which of the following class of fungi is being described by the given statements ?
(i) They are found in aquatic habitats and on decaying wood in moist and damp places.
(ii) Mycelium is aseptate and coenocytic.
(iii) Asexual reproduction takes place by zoospores (motile) or by aplanospores (non-motile).
(iv) Some common examples are *Mucor*, *Rhizopus* and *Albugo*.
(a) Ascomycetes (b) Phycomycetes
(c) Basidiomycetes (d) Deuteromycetes

41. Which of the following statement(s) is/are correct about ascomycetes ?
(i) *Neurospora*, which is used in biochemical and genetic work is a member of this class.
(ii) They are mostly multicellular, *e.g.*, Yeast, or rarely unicellular, *e.g.*, *Penicillium.*
(iii) They are saprophytic, decomposers, parasitic or coprophilous.
(iv) Some examples are *Aspergillus*, *Claviceps* and *Neurospora*.
(a) Both (i) and (ii) (b) Only (ii)
(c) (i), (iii) and (iv) (d) All of these

42. Read the following statements and answer the question given below

(i) They are saprophytic protists.

(ii) Under suitable conditions, they form an aggregation (called plasmodium) which may grow and spread over several feet.

(iii) During unfavourable conditions, the plasmodium differentiates and forms fruiting bodies bearing spores at their tips.

Which of the following class of protists is being described by the above statements ?

(a) Euglenoids (b) Dinoflagellates

(c) Slime moulds (d) Protozoans

43. Which of the following statement(s) is/are correct about class basidiomycetes ?

(i) They are commonly known as imperfect fungi because only the asexual or vegetative phases of these fungi are known.

(ii) They grow in soil, on logs and tree stumps and in living plant bodies as parasites, *e.g.*, rusts and smuts.

(iii) The mycelium is branched and septate.

(iv) Some common members are *Agaricus*, *Ustilago* and *Puccinia*.

(a) Only (i) (b) Both (ii) and (iii)

(c) (ii), (iii) and (iv) (d) All of these

44. Read the following statements and answer the question.

(i) Some members are saprophytes or parasites while a large number of them are decomposers of litter and help in mineral cycling.

(ii) They reproduce only by asexual spores known as conidia.

(iii) Mycelium is septate and branched.

(iv) *Alternaria*, *Colletotrichum* and *Trichoderma* are examples of this class.

Which of the following class of fungi is being described by the above statements ?

(a) Phycomycetes (b) Deuteromycetes

(c) Basidiomycetes (d) Ascomycetes

45. Which of the following statement(s) is/are correct ?

(i) Reproduction in fungi can take place by vegetative means – fragmentation, fission and budding.

(ii) Fusion of two nuclei is called plasmogamy.

(iii) Fusion of protoplasms between two motile or non-motile gametes is called karyogamy.

(iv) Meiosis in zygote results in diploid spores.

(a) Only (i) (b) Both (ii) and (iii)

(c) (ii), (iii) and (iv) (d) All of these

46. Which of the following statements regarding cyanobacteria is incorrect?

(a) It is also called blue green algae.

(b) They are chemosynthetic autotrophs.

(c) It forms blooms in polluted water bodies.

(d) It is unicellular, colonial or filamentous, marine or terrestrial bacteria.

ASSERTION/REASON TYPE QUESTIONS

In the following questions, a statement of Assertion is followed by a statement of Reason.

(a) If both Assertion and Reason are true and the Reason is the correct explanation of the Assertion.

(b) If both Assertion and Reason are true but the Reason is not the correct explanation of the Assertion.

(c) If Assertion is true but Reason is false.

(d) If both Assertion and Reason are false.

47. **Assertion** : Euglena can be placed in the plant knigdom due to the presence of chlorophyll.

Reason : Euglena cannot be classified on the basis of two kingdom system of classification.

48. **Assertion :** Outside a living cell, viruses have must crystalline statements.

Reason : Viroids have a protein coat.

49. **Assertion :** TMV is a virus which causes mosaic disease.
Reason : TMV has RNA as genetic material.

50. **Assertion :** Lichen is important for chemical industries.

Reason : Litmus and Orcein are formed from lichens.

51. **Assertion :** Yeasts such as *Saccharomyces cerevisiae* are used in baking industry.

Reason : Carbon dioxide produced during fermentation causes bread dough to rise by thermal expansion.

MATCHING TYPE QUESTIONS

52. Match the class of fungi given in column-I with their common name given in column-II and select the correct option.

	Column-I (Class of fungi)		**Column-II (Common name)**
A.	Phycomycetes	I.	Sac fungi
B.	Ascomycetes	II.	Algal fungi
C.	Basidiomycetes	III.	Fungi imperfecti
D.	Deuteromycetes	IV.	Club fungi

(a) A – II, B – I, C – IV, D – III

(b) A – II, B – IV, C – I, D – III

(c) A – IV, B – I, C – II, D – III

(d) A – IV, B – III, C – II, D – I

53. Match the terms given in column-I with their examples given in column-II and choose the correct option

	Column-I (Terms)		**Column-II (Examples)**
A.	Ascus	I.	*Spirulina*
B.	Basidium	II.	*Penicillium*
C.	Protista	III.	*Agaricus*
D.	Cyanobacteria	IV.	*Euglena*
E.	Animalia	V.	Sponges

(a) A – II, B – III, C – IV, D – V, E – I

(b) A – I, B – II, C – III, D – V, E – IV

(c) A – II, B – V, C – III, D – I, E – IV

(d) A – II, B – III, C – IV, D – I, E – V

54. Match the class of fungi given in column I with their examples given in column II and choose the correct option

	Column-I (Class of fungi)		Column-II (Examples)
A.	Ascomycetes	I.	*Rhizopus*
B.	Basidiomycetes	II.	*Penicillium*
C.	Deuteromycetes	III.	*Ustilago*
D.	Phycomycetes	IV.	*Alternaria*

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

55. Match column I (Kingdom) with column II (Class) and select the correct options

	Column-I (Kingdom)		Column-II (Class)
A.	Plantae	I.	Archaebacteria
B.	Fungi	II.	Euglenoids
C.	Protista	III.	Phycomycetes
D.	Monera	IV.	Algae

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

56. Match the scientists given in column I with their discovery given in column II and choose the correct option.

	Column-I (Scientists)		Column-II (Discovery)
A.	Ernst Mayr	I.	Discovered Viroids
B.	Whittaker	II.	Gave the name virus
C.	Pasteur	III.	Proposed five kingdom classification
D.	Diener	IV.	Darwin of the 20^{th} century

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

57. Match column I (containing fungus name) with column II (common name) and choose the correct options.

	Column-I (Fungus name)		Column-II (Commonly called)
A.	*Puccinia*	I.	Yeast
B.	*Ustilago*	II.	Mushroom
C.	*Agaricus*	III.	Smut fungus
D.	*Saccharomyces*	IV.	Rust fungus

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

58. Match the type of protozoans given in column-I with their examples given in column-II and choose the correct option.

	Column-I (Type of Protozoans)		Column-II (Examples)
A.	Amoeboid protozoans	I.	*Paramecium*
B.	Ciliated protozoans	II.	*Plasmodium*
C.	Flagellated protozoans	III.	*Amoeba*
D.	Sporozoans	IV.	*Trypanosoma*

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

59. Match column-I (Characters/feature) with column-II (examples) and choose the correct option.

	Column-I (Characters/features)		Column-II (Examples)
A.	Red dinoflagellates	I.	*Rhizopus*
B.	Unicellular fungi used to make bread and beer	II.	*Gonyaulax*
C.	Source of antibiotics	III.	Yeast
D.	Bread mould	IV.	*Penicillium*

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

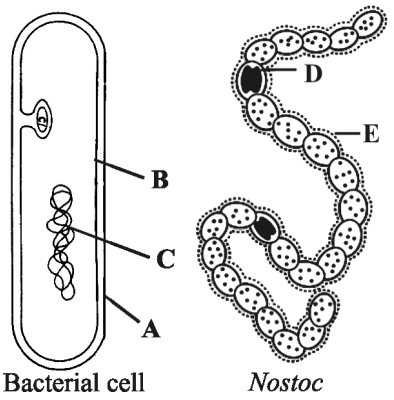
60. Which of the following pairs is not correctly matched ?
(a) *Anabaena* – Cyanobacteria
(b) *Amoeba* – Protozoa
(c) *Gonyaulax* – Dinoflagellates
(d) *Albugo* – Chrysophytes

61. Which of the following groups of protozoan is not correctly matched with its feature?
(a) Amoeboid - Marine forms have silica shells on their surface.
(b) Flagellated - Either free living or parasitic.
(c) Ciliated - Actively moving organisms due to presence of cilia.
(d) Sporozoans - Move and capture their prey with the help of false feet.

62. Select the correct match from the given option.
(a) Occurrence of dikaryotic stage - ascomycetes and basidiomycetes.
(b) Saprophytes - They are autotrophic and absorb soluble organic matter from dead substrates.
(c) Vegetative mean of reproduction in fungi - fragmentation, budding and sporangiophores.
(d) Steps involved in asexual cycle of fungi - plasmogamy, karyogamy and meiosis in zygote resulting in haploid spores.

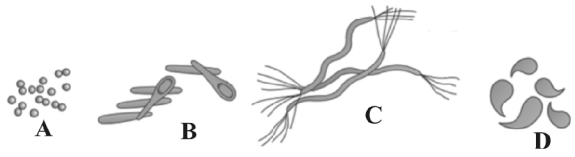
DIAGRAM TYPE QUESTIONS

63. Refer to the given figures of bacteria cell and *Nostoc* and choose the option which shows correct label for the structures marked as A, B, C, D and E ?



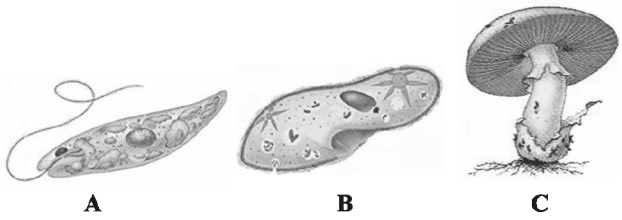
(a) A – Cell wall, B – Cell membrane, C – Heterocyst, D – DNA, E – Mucilagenous sheath
(b) A – Cell wall, B – Cell membrane, C – DNA, D – Heterocyst, E – Mucilagenous sheath
(c) A – Mucilagenous sheath, B – Cell membrane, C – DNA, D – Heterocyst, E – Cell wall
(d) A – Cell membrane, B – Cell wall, C – DNA, D – Heterocyst, E – Mucilagenous sheath

64. Choose the correct names of the different bacteria given below according to their shapes.



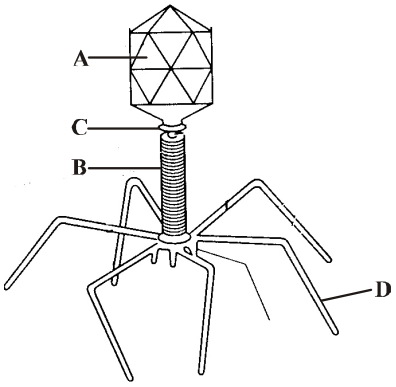
(a) A – Cocci, B – Bacilli, C – Spirilla, D – Vibrio
(b) A – Bacilli, B – Cocci, C – Spirilla, D – Vibrio
(c) A – Spirilla, B – Bacilli, C – Cocci, D – Vibrio
(d) A – Spirilla, B – Vibrio, C – Cocci, D – Bacilli

65. Identify the figures A, B and C given below.



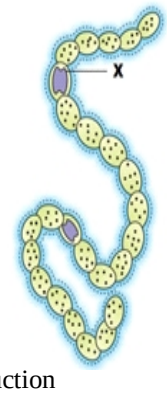
(a) A – *Euglena*, B – *Paramecium*, C – *Agaricus*
(b) A – *Euglena*, B – *Planaria*, C – *Agaricus*
(c) A – *Planaria*, B – *Paramecium*, C – *Agaricus*
(d) A – *Euglena*, B – *Paramecium*, C – *Aspergillus*

66. The figure given below shows the structure of a bacteriophage. Identify its parts labelled as A, B, C and D.



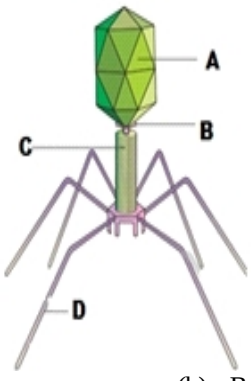
	A	B	C	D
(a)	Tail fibres	Head	Sheath	Collar
(b)	Sheath	Collar	Head	Tail fibres
(c)	Head	Sheath	Collar	Tail fibres
(d)	Collar	Tail fibres	Head	Sheath

67. The given figure shows the structure of filamentous blue green algae. Nostoc with a structure marked as "X". Select the option which shows the correct identification of "X" with its feature.



(a) Spores - Reproduction
(b) Heterocysts - Nitrogen fixation
(c) Pellicle - Recycling of nutrition
(d) Mucilaginous sheath - Photosynthesis

68. The given figure shows some structures labelled as A, B, C and D. Which structure has the protein coat that encloses the nucleic acid?



(a) A (b) B
(c) C (d) D

CRITICAL THINKING TYPE QUESTIONS

69. Bacteria lack alternation of generation because there is
(a) neither syngamy nor reduction division.
(b) no distinct chromosomes.
(c) no conjugation.
(d) no exchange of genetic material.

70. Yeast is not included in protozoans but are placed fungi because
(a) it has no chlorophyll.
(b) some fungal hyphae grow in such a way that they give the appearance of pseudomycelium.
(c) it has eukaryotic organization.
(d) cell wall is made up of cellulose and reserve food material is starch.

71. A virus can be considered a living organism because it
(a) responds to touch stimulus
(b) respires
(c) reproduces (inside the host)
(d) can cause disease

72. Lichens indicate SO_2 pollution because they
(a) show association between algae and fungi.
(b) grow faster than others.
(c) are sensitive to SO_2.
(d) flourish in SO_2 rich environment.

73. When a moist bread is kept exposed in air, it becomes mouldy and black because
(a) spores are present in the water.
(b) spores are present in the bread.
(c) spores are present in the air.
(d) the bread decomposes.

74. In some viruses, RNA is present instead of DNA indicating that
(a) their nucleic acid must combine with host DNA before replication.
(b) they cannot replicate.
(c) there is no hereditary information.
(d) RNA can transfer heredity material.

75. *Ustilago* causes plant diseases (called smuts) because
(a) they parasitize on cereals.
(b) they lack mycelium.
(c) they develop sooty masses of spores.
(d) their affected parts becomes completely black.

76. A fungus contains cells with two nuclei from different genomes. The nuclei do not fuse but divide independently and simultaneously as new cells are formed. This fungus belongs to
(a) phycomycetes (b) zygomycetes
(c) deuteromycetes (d) basidiomycetes

77. Which of the following organisms is\are correctly assigned its/their taxonomic group?
(a) *Paramecium* and *Plasmodium* belong to the same kingdom as that of *Penicillium.*
(b) Lichen is a composite organism formed from the symbiotic association of an alga and a protozoan.
(c) Yeast used in making bread and beer is a fungus.
(d) *Nostoc* and *Anabaena* are examples of protista.

78. Bacteria are found to be primitive organisms because they
(a) are small, microscopic which are not seen with naked eye.
(b) cause serious diseases to human being, domestic animals and crop plants.
(c) produce endospores which are very resistant to adverse conditions.
(d) possess incipient nucleus and show amitotic division.

79. Food can be kept for a longer time in cold house than in normal conditions because
(a) insect cannot enter.
(b) bacterial multiplication stops.
(c) bacterial multiplication is reduced.
(d) there is plasmolysis at low temperature.

80. Mycorrhizae are useful for plants because they
(a) fix atmospheric nitrogen.
(b) enhance absorption of nutrients from the soil.
(c) kill insects and pathogen.
(d) provide resistance against abiotic stresses.

81. The most abundant prokaryotes helpful to humans in making curd from milk and in production of antibiotics are categorised as
(a) cyanobacteria
(b) archaebacteria
(c) chemosynthetic autotrophs
(d) heterotrophic bacteria

82. A specimen of fungus is brought by a student for identification. Upon close examination, he discovered that its hyphae are completely septate and it has gills on the underside of the pileus. To which fungal group does it most likely belong ?
(a) Basidiomycetes (b) Zygomycetes
(c) Ascomycetes (d) Chytrids

83. How many bacteria are produced in four hours if a bacterium divides once in half an hour ?
(a) 8 (b) 64
(c) 16 (d) 256

84. Fungi show asexual reproduction by all of the following kinds of spores except
(a) conidia (b) oospores
(c) sporangiospores (d) zoospores

85. Assume that two normal hyphal cells of different fungal mating types unite. After a period of time, the cell between these cells will dissolve producing a
(a) mycelium
(b) fruiting body
(c) zygote
(d) dikaryotic cell, which is also heterokaryotic

86. Protozons are not included in kingdom animalia because they are
(a) mostly asymmetrical.
(b) unicellular eukaryotes.
(c) heterotrophic in nature.
(d) multicellular prokaryotes.

87. Bacteria and yeast are similar in all the following features except that
(a) both are unicellular.
(b) both are prokaryotes.
(c) both are capable of causing fermentation.
(d) both produce spores.

88. Which of the following is the correct sequence of three steps in the sexual cycle of fungi?
(a) Mitosis → Meiosis → Fertilization
(b) Plasmogamy → Karyogamy → Meiosis
(c) Mitosis → Plasmogamy → Karyogamy
(d) Karyogamy → Plasmogamy → Meiosis

89. An "X" reproduces in such a great numbers that the water may appear, producing a red tides and kills large marine animals like "Z". "X" belongs to "Y". Identify "X", "Y" and "Z".
(a) X - Gonyaulax ; Y - Dinoflagellates; Z - Fishes
(b) X - *Paramecium* ; Y - Protozoa ; Z - Crocodiles
(c) X - *Trypanosoma* ; Y - Protozoa ; Z - Frogs
(d) X - *Plasmodium* ; Y - Euglenoids ; Z - Oysters

90. Identify the basis of classification of fungi into phycomycetes, ascomycetes, basidiomycetes and deuteromycetes.
i. Fruiting bodies
ii. Nature of habitat
iii. Morphology of mycelium
iv. Mode of spore formation
(a) i & ii only (b) ii & iii only
(c) i, iii, & iv only (d) All of these

91. Which class of fungi lacks sex organs but the process of plasmogamy is brought about by fusion of two vegetative or somatic cells of different strains or genotypes?
(a) Sac fungi (b) Bracket fungi
(c) Imperfect fungi (d) Phycomycetes

92. Refer to the statement and answer the question.
"Once the sexual stage of members of deuteromycetes were discovered, they were often moved to X and Y."
Identify X and Y.
(a) X - Monera ; Y - Protista
(b) X - Basidiomycetes ; Y - Phycomycetes
(c) X - Ascomycetes ; Y - Basidiomycetes
(d) X - Phycomycetes ; Y - Archaebacteria

93. A scientist "X" demonstrated that extract of infected plants of "Y" could cause infection in healthy plants and called the fluid as "Contagium vivum fluidum".
Identify X and Y.

	X	**Y**
(a)	W. M. Stanley	Potato
(b)	M. W. Beijerinek	Tobacco
(c)	D. J. Ivanowsky	Cauliflower
(d)	Pasteur	Tomato