



BIOLOGY

BOOKS - PRADEEP BIOLOGY (HINGLISH)

BIOLOGICAL CLASSIFICATION

Curiosity Questions

1. NEED OF CLASSIFICATION



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2. Which organisms are the oldest among the biological world ?



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3. What organisms are considered as the major producers of the biosphere ?



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4. Why diatoms float on the surface of water even when they do not possess flagella?



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5. Why fungi grow in the humus-rich substrata ?



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Notable Questions

1. Why only prokaryotes have ability to fix atmospheric nitrogen? Why this ability is not found in eukaryotes ?



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2. Why amoebic dysentery results in the repeated motions with mucus and blood ?



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3. Why do mosquito bites itch?



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4. Can we cultivate edible mushrooms at home?



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5. Why most of the antibiotics are ineffective against viral diseases ?



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Ncert Exercise With Answers

1. Discuss how classification systems have undergone several changes over a period of time?



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2. State two economically important uses of:

(a) Heterotrophic bacteria

(b) Archaeobacteria



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3. What is the nature of cell-walls in diatoms?



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4. Find out what do the terms 'algal bloom' and 'red-tides' signify



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5. How are viroids different from viruses ?



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6. Describe briefly the four major groups of Protozoa.



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7. Plants are autotrophic. Can you think of some plants that are partially heterotrophic?



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8. What do the terms phycobiont and mycobiont signify?



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9. Give a comparative account of the classes of Kingdom Fungi under the following:

(i) Mode of nutrition

(ii) Mode of reproduction



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10. What are the characteristic features of Euglenoids?



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11. Give a brief account of viruses with respect to their structure and nature of genetic material. Also name four common viral diseases.



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12. Organise a discussion in your class on the topic- Are viruses living or non-living?



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1. Define systematics.



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2. Name the two components of lichen.



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3. Name the two kingdoms of the Living World proposed by Linnaeus.



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4. Who proposed 5-kingdom classification ?



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5. Give names of the 5 kingdoms proposed by Whittaker.



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6. What are protists ?



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7. Mention the main reserve food of animals and plants.



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8. In which kingdom are the viruses placed ?



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9. What are prokaryotes ?



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10. What are eukaryotes ?



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11. To which kingdom do liverworts and mosses belong ?



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12. On what basis the fungi were earlier included in the plant kingdom ?



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13. What is mixotrophic nutrition ? Cite one example.



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14. Name the kingdoms in which the cells have cell wall around them.



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15. What is the chemical substance present in bacteria cell wall ?



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16. Name the protein present in the flagella of bacteria.



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17. Name the three kinds of genetic recombinations that occur in bacteria.



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18. Name the bacteria responsible for symbiotic nitrogen fixation in leguminous plants.



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19. Name the group of bacteria commonly called ray fungi.



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20. Expand PPLO. What is its other name ?



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21. Name the three major groups of protists.



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22. which substnaces forms cell wall in fungi?



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23. Which type of food reserve in formed in fungi?



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24. Which group of fungi is called algal fungi?



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25. Name the group of fungi which is commonly called the sac fungi.



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26. Which group of fungi is commonly called the club fungi?



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27. Give the botanical name of an edible mushroom.



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28. Name a composite organism having an alga and a fungus.



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29. Why are some fungi grouped under "fungi imperfecti"?



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30. What type of genetic material is present in Tobacco Mosaic Virus ?



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31. Expand TMV.



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32. What is the causal agent of AIDS (or Acquired Immune Deficiency Syndrome ?



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33. Who coined the term 'Virus'?



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34. Write one important character of viruses.



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35. Name the RNA particle causing symptoms like that of a virus.



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Additional Questions Short Answer Questions

1. Which organism was earlier placed in plant as well as animal kingdoms and why ?



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2. How does a nucleoid differ from a nucleus ?



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3. What are bacteriophages ?



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4. How do the plants and animals differ in growth ?



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5. Mention 3 traits in which Fungi resemble Animalia.



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6. Name the important groups of organisms included in prokaryotes.



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7. What do you mean by naked DNA.



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8. Give suitable examples of the following:

(a) A free-living nitrogen fixing bacteria.

(b) A non-toxic growing cyanobacteria used to obtain single cell protein

(c) A cyanobacteria used in the reclamation of "Usar" land (sterile alkaline soil)

(d) A microorganism causes little leaf disease of brinjal.



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9. What are the most usual habitats of fungi ?



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10. How will you differentiate an ascus from a basidium.



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11. What are the physiological relationships between the algal and fungal components of lichen.



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12. Give the names of three morphological types of lichens.



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13. Define viruses.



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14. What are viroids?



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15. What are prions?



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16. Write short notes on capsomere.



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17. Write short notes on the following-

(a) Mixotrophic nutrition

(b) Nuclear dimorphism.



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18. What do you understand by holophytic and holozoic modes of nutrition ?



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19. Give scientific reasons for the following statements :

(i) The mushrooms are not regarded plants

now.

(ii) Perfect phylogenetic classification is difficult to achieve.

(iii) Viruses are not included in any system of classification.

(iv) Practical classification results in heterogenous groups of unrelated organisms.

(v) Artificial classification gives little information about the groups.

(vi) Phylogenetic classification is the most favoured classification.



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20. Fill in the blanks :

(i) The scientific ordering of organisms in a hierarchial series of groups on the basis of their morphological, evolutionary and other relationships is called..... classification.

(ii) The system of classifying the animals and plants from the point of view of their utility (value) to man is called..... .. classification.

(iii) classification is based on one or a few superficial resemblances rather than on natural or evolutionary relationships. It was introduced by

(iv) classification reflects the evolutionary relationships of organisms.

(v) Present scientific method of naming of organisms is called It was introduced by

(vi) is the branch of science that deals with the framing of laws and principles of classifying the organisms on the basis of their evolutionary relationships.

(vii) A natural refers to a group of similar, genetically related organisms having certain characters distinct from those of other groups.

(viii) The various grouping levels or ranks in classification are known as

(ix) The term refers to a set of alternate characters in such a manner that helps in the identification of plants and animals by selecting and eliminating the characters according to their presence or absence in the organism under study.

(x) A : at present is a place where plants from various groups are grown for scientific study, conservation, public education, aesthetics and recreation.

(xi) A is a collection of pressed, dried and

preserved plants mounted on , properly labelled, systematically arranged and available for reference or study

(xii) Various tools for collection and preservation of plants include cutters, digger, , plant press and..... .



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21. In the five kingdom system of Whittaker, how many kingdoms are eukaryotes ?



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22. Are chemosynthetic bacteria autotrophic or heterotrophic ?



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23. The common name of pea is simpler than its botanical (scientific) name *Pisum sativum* why then is the simpler common name not used instead of the complex scientific/botanical name is biology ?



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24. How is the five kingdom classification advantageous over the two kingdom classification ?



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25. A virus is considered as a living organism and an obligate parasite when inside a host cell. But virus is not classified along with

bacteria or fungi. What are the characters of virus that are similar to non-living objects ?



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26. What is the principle underlying the use of cyanobacteria in agricultural fields for crop improvement ?



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27. Suppose you accidentally find an old preserved permanent slide without a label. In your effort to identify it, you place the slide under microscope and observe the following features :

(a) Unicellular

(ii) Well defined nucleus

(c) Biflagellate-one flagellum lying longitudinally and the other transversely.

What would you identify it as ? Can you name the kingdom it belongs to ?



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Short Answer Type Questions

1. Write the distinct characters of Fungi.



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2. How Ascomycetes are different from Basidiomycetes ?



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3. Draw well labelled diagram of (a) Bacteria cell (b) Euglena.



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4. Write salient features of viruses.



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5. Compare the different types of fruiting bodies in fungi.



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6. NEED OF CLASSIFICATION



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7. Describe the morphology and chemical nature of Bacteriophages.



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8. Describe the cell structure of a typical protist.



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9. What are the major modes of locomotion found in protists?



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10. Match the items given in column I with those of column II.

Column I

- (i) Two-kingdom classification
- (ii) Five-kingdom classification
- (iii) Fungi
- (iv) Monera
- (v) Insectivorous plant

Column II

- (a) Sun-dew
- (b) Blue-green algae
- (c) Carolus Linnaeus
- (d) Robert H. Whittaker
- (e) Mushrooms
- (f) Puffballs
- (g) Archaeobacteria



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11. True or False type questions :

(i) Two-kingdom classification is the oldest and was proposed by Robert H. Whittaker in 1969.

(ii) Euglena is a unicellular organism which has

both animal and plant features.

(iii) Bacteria and fungi are called decomposers or reducers.

(iv) Liverworts and mosses belong to the kingdom plantae.

(v) Genetic material in eukaryotes is circular, double-stranded, helical DNA, not enclosed by a nuclear envelope.

(vi) Blue-green algae (cyanobacteria) are the photosynthetic monerans.



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12. Make corrections wherever you find mistake in spellings/words in the following paragraph/sentences.

(A) Protozoans are generally multinucleate, but all ciliates and many amoeboid types are uninucleate.

(B) Contractile vacuoles are found in almost all terrestrial protozoans for maintenance of carbon concentration of cell body, the phenomenon is known as osmoregulation. Contractile vacuole also helps in reproduction.

(C) The protozoan cell body is either naked or surrounded by a rigid pellicle. Cellulose is

present in pellicle. Some protozoans secrete shells of various organic compounds as external covers.

(D) Ascomycetes are coenocytic as well as multicellular fungi. In the later, mycelium is aseptate. The asexual spores are formed in chains are called zoospores. The spores are formed endogenously, i.e., inside sporangium.

(E) Sexual reproduction in Rhizopus is oogamous and the mode of sexual fusion is gametangial contact type.

(F) A lichen is structurally organised entity consisting of the permanent association of a

fungus and an alga. The fungal component of a lichen is called phycobiont and the algal component is called mycobiont. Both mycobiont and phycobiont are associated in parasitic union in which the fungus is more predominant and alga is subordinate partner.



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13. Match the following :

Column I

- A. Virulent
- B. Virus
- C. Viroid
- D. Prion
- E. Vira

Column II

- (a) Smallest known agent of infectious disease comprising of ssRNA but lacking capsids
- (b) Proteinaceous infectious particle
- (c) A Latin word for plural of virus
- (d) Minute parasitic microbe that lives inside another cell.
- (e) Strong enough to overcome host resistance and cause disease.



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14. (A) What are protozoans ? Give two examples each of free-living and parasitic forms.

(B) What are slime-moulds ? How are they different from true fungi ? Give one example each of the cellular and ascellular slime and moulds.

(C) Differentiate between ascus and basidium.



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15. (A) What is the name of fully formed virus particle ?

(B) What is the chemical nature of capsid ?

(C) Name the virus which causes AIDS in human beings.



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16. Fungi are cosmopolitan, write the role of fungi in your daily life.



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17. What observable features in Trypanosoma would make you classify it under kingdom protista?



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18. Diatoms are also called as 'pearls of ocean' why? What is diatomaceous earth?



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19. Cyanobacteria and heterotrophic bacteria have been clubbed together in eubacteria of kingdom-Monera as per the 'five kingdom classificatin' even though the two are vastly different from each other. Is this grouping of the two types of taxa in the same kingdom justified ? If so, why ? Discuss the cellular composition of cyanobacteria and heterotrophic bacteria that make them introduced in eubacteria.



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Long Answer Questions

1. Compare the Salient Features of Monera and Protista.



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2. Differentiate briefly the characteristics of Kingdom-Plantae and Animalia.



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3. Draw well labelled diagrams of (1)

Bacteriophage (2) Nostoc (3) TMV.



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4. Highlight the criteria used for the five kingdom system of classification.



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5. Describe the important characters of kingdom plantae.



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6. Explain the distinguishing features of Animalia.



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7. Make an outline of the 5-kingdom classification.



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8. What is the criterion for classification of organisms as belonging to kingdom Monera or Protista?



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9. Discuss the various modes of sexual reproduction in fungi.



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10. With the help of well labelled diagrams describe the structure of a typically bacterial cell.



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11. Very briefly explain the following :

(i) Herbarium (ii) Nucleod (iii) Hyphae (iv) Arrtificial classification (v) Phylogenetic classification (vi) Systematics (vii) Biological classification.





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12. Structure of a typical bacterial cell is shown in the diagram. Label 1 to 8 and also write the function of parts 6 and 7.



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13. Identify the following organism/structure (A, B, C, D, E) and parts (a, b, c, d, e, f, g, h, i)

associated with them.



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14. Biological classification is a dynamic and ever evolving phenomenon which keeps changing with our understanding of life forms. Justify, the statement taking any two examples

.

Discuss the changes made in studying

biological classification from time to time and also enumerate the need for this changes.



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Analytical Questions With Answers

1. (a) Why are viruses regarded as biological systems as well as non-living particles? Give one reason each.



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2. Why are lichens said to be pioneer plants ?



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3. Give reasons why fungi should not be included in Plant Kingdom.



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4. Write down differences between Monera and Protista on the basis of following points :

(i) Nature of cell wall component. (ii) Genetic material.

(iii) Location of respiratory apparatus. (iv)

Types of cytoplasmic ribosome.

(v) Location of extra chromosomal DNA.



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5. What are conidia ? How are they different from sporangiospores ?



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6. Fungal hyphae are soft and delicate structures. Still they are able to penetrate the timbers. How ?



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7. What is 'diatomaceous earth' or diatom ?
How is it important to man ?



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8. (a) Why are many zooflagellates important to human beings ? List any two such zooflagellates which cause disease in human beings. Name the disease as well.

(b) Which zooflagellate inhabits the intestine of termites as a symbiont? What role does this organism play in the termite intestine ?



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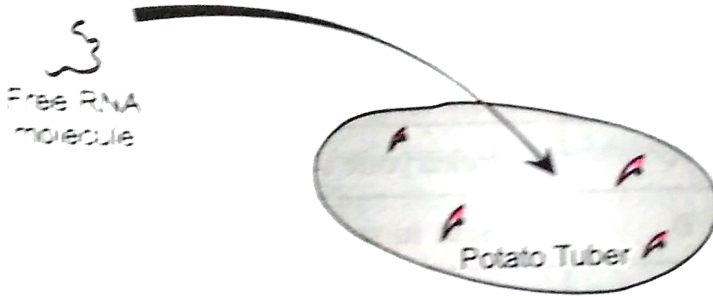
9. In the five kingdom system of classification, which kingdom includes blue-green algae, nitrogen-fixing bacteria and methanogenic archaeobacteria ? What is the criteria of including these diverse organisms in single kingdom ?



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10. Study the following figure and identify the infections agent and the disease and give one

characteristic of infectious agent.



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11. (a) Name an organism that is made up two components which live together in symbiotic association. Also name the two components.

(b) Give the function of each component.

(c) What is their ecological significance ?



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12. Distinguish between

(a) Plant viruses and animal viruses on the basis of genetic material.

(b) Plant viruses and bacteriophages on the basis of genetic material

(c) Plant viruses and animal viruses on the basis of the symptoms of diseases caused by them.



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13. (a) Name the organism which lives in pollution free environment.

(B) Name any two acellular infective agents which are not included in five kingdoms of Whittaker.

(c) Name a sexually transmitted disease caused by animal virus in Human being.



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14. What are ascocarps ? Where are these produced ? In what respect the ascocarps differ from basidiocarps ?



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15. Give one example each of Amoeboid protozoans, Ciliated protozoans and sporozoans. Which one of them causes malaria in human beings ?



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16. Earlier bacteria, blue green algae, fungi, algae, mosses, ferns, gymnosperms and the angiosperms were grouped together in one kingdom - 'Plantae'. Give one character on the basis of which all these diverse groups were unified.



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17. Complete the following table by giving options of A, B, C and D

Characters	Monera	Protista	Fungi	Plantae	Animalia
Cell type	A	Eukaryotic	Eukaryotic	Eukaryotic	Eukaryotic
Cell wall	B	Present in some	Present	Present	Absent
Nuclear membrane	Absent	Present	Present	Present	C
Body organisation	Cellular	Cellular	D	Tissue/organ	Tissue/organ/ organ system



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18. One basic difference between bacteria and archaeobacteria has led the latter to survive under extreme conditions. What is that difference ?



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19. Give one reason in support of calling deuteromycetes as imperfect fungi.



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20. Why do mosquito bites itch?



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Practice Questions | Multiple Choice Questions

1. Yeast is not included in protozoans but in fungi because

A. It has not chlorophyll

B. Some fungal hyphae grow in such a way that they give the appearance of pseudomycelium

C. It has eukaryotic organisation

D. Cell wall is made up of cellulose and reserve food material as starch

Answer: D



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2. The thalloid body of a slime mould (Myxomycetes) is known as

- A. Mycelium
- B. Protonema
- C. Plasmodium
- D. Fruiting body

Answer: C



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3. What is common about Trypanosoma, Noctiluca Monocystis and Giardia

- A. These are all parasites
- B. These are all unicellular protists
- C. They have flagella
- D. They produce spores

Answer: B



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4. Myxomycetes are

A. Saprobes or parasites, having mycelia, asexual reproduction by fragmentation, sexual reproduction by fusion of gametes.

B. Slimy mass of multinucleate protoplasm, having pseudopodia-like structures for engulfing food, reproduction through fragmentation or zoospores.

C. Prokaryotic organisms, cellular or acellular, saprobes or autotrophic, reproduce by binary fission.

D. Eukaryotic, single-celled or filamentous, soprobes or autotrophic, asexual

reproduction by fusion of two cells or their nuclei.

Answer: B



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5. Among rust, smut and mushroom, all the three

A. are pathogens

B. are saprobes

C. bear ascocarps

D. base basidiocarps

Answer: A



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6. In prokaryotes , chromatophores are

A. Specialized granules responsible for
colouration of cells

B. Structures responsible for organizing the shape of organism

C. Inclusion bodies lying free inside the cells for carrying out various metabolic activities.

D. Internal membrane systems that may become extensive and complex in photosynthetic bacteria

Answer: D



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7. Identify from the following examples, a fungus which is of medicinal importance

A. Agaricus

B. Saccharomyces

C. Penicillium

D. Cercospora

Answer: C



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8. Clamp connection is found in

A. Basidiomycetes

B. Zygomycetes

C. Ascomycetes

D. Oomycetes

Answer: A



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9. In Amoeba , contractile vacuole is present

- A. Near the trailing end
- B. Near the advancing end
- C. At the middle of the body
- D. Anywhere inside the body

Answer: A



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10. Which pair of the following belongs to basidiomycetes

- A. Puff balls and Claviceps
- B. Peziza and Stink horns
- C. Morchella and mushrooms
- D. Birds nest fungi and puff balls

Answer: D



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11. Which one of the following statements about mycoplasma is wrong

- A. They are pleomorphic
- B. They are sensitive to penicillin
- C. They cause disease in plants
- D. They are also called PPLO

Answer: B



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12. The Cell Wall of bacterium is made up of

A. Cellulose

B. Hemicellulose

C. Lignin

D. Peptidoglycan

Answer: D



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13. Which is correct :

A. Slime moulds are haploid

B. Protozoan lack cell wall

C. Dinoflagellates are immotile

D. Pellicle is absent in Euglena

Answer: B



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14. Which of the following is a prokaryote?

A. Amoeba

B. Spirogyra

C. Bacteria

D. Chlamydomonas

Answer: C



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15. Which one is absent in viruses

A. Replication

B. Protein synthesis

C. Energy liberation

D. Mutation

Answer: C



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16. Red tide is caused by

A. Noctiluca

B. Gymnodinium

C. Gonyaulax

D. All of these

Answer: D



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17. Which of the following statement is true about fungi imperfecti

A. They do not have sexual phase

B. They include species that prey only on nematodes

C. They include toadstools, puffballs and stink horns

D. They include *Aspergillus*, the fungus used to make soya sance.

Answer: A



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18. Match the following and choose the correct combination from the option given

Column I (Group Protista)	Column II (Example)
(a) Chrysophytes	(i) <i>Paramecium</i>
(b) Dinoflagellates	(ii) <i>Euglena</i>
(c) Euglenoids	(iii) <i>Gonyaulax</i>
(d) Protozoans	(iv) <i>Diatoms</i>

(a) (a) – (i), (b) – (iii), (c) – (ii), (d) – (iv)
(b) (a) – (i), (b) – (iv), (c) – (iii), (d) – (ii)
(c) (a) – (iv), (b) – (ii), (c) – (iii), (d) – (i)
(d) (a) – (iii), (b) – (iv), (c) – (i), (d) – (ii)
(e) (a) – (iv), (b) – (iii), (c) – (ii), (d) – (i)

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

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

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

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

Answer: D



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19. Thermococcus, Methanococcus and

Methanobacterium exemplify:

- A. Bacteria whose DNA is relaxed or positively supercoiled but which have a cytoskeleton as well as mitochondria
- B. Bacteria that contain a cytoskeleton and ribosomes.
- C. Archebacteria that contain protein homologous to eukaryotic core histones
- D. Archaeobacteria that lack any histones resembling those found in eukaryotic but whose DNA is negatively supercoiled.

Answer: C



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20. In the light of recent classification of living organisms into three domains of life (bacteria, archaea and eukarya), which one of the following statements is true about archaea

A. Archaea completely from both prokaryotes and eukaryotes

B. Archaea completely differ from prokaryotes

C. Archaea resemble eukarya in all respects

D. Archaea have some novel features that are absent in other prokaryotes and eukaryotes.

Answer: D



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21. Cellulose is the major component of cell wall of

- A. Pseudomonas
- B. Saccharomyces
- C. Pythium
- D. Xanthomonas

Answer: C



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22. Which of the following statements is false ?

A. TMV has a double stranded RNA molecule

B. Most plant viruses are RNA viruses

C. The bacteriophage has a double stranded DNA molecule

D. Most animals viruses are DNA viruses.

Answer: A



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23. A phylum common to unicellular animals and plants is

A. Monera

B. Plantae

C. Fungi

D. Protista

Answer: D



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24. Which of the following combinations of characters is true for slime moulds?

A. Parasite, plasmodium without walls,
spores dispersed by air current

B. Saprophytic, plasmodium without walls,
spores dispersed by water

C. Parasitic, plasmodium without walls,
spores dispersed by water

D. Saprophytic, plasmodium without walls,
spores dispersed by air currents

Answer: D



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25. Which one of the following are intracellular
obligate parasites

A. Bacteria

B. Viruses

C. Slime moulds

D. Blue-green algae

Answer: B



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26. Prokaryotes cells are characterised by

A. The presence of distinct nuclear membrane

B. Absence of chromatin material

C. The presence of distinct chromosome

D. Absence of nuclear membrane

Answer: D



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27. Main component of the cell wall of fungi is

A. Cellulose

B. Pectin

C. Chitin

D. Dextrin

Answer: C



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28. Oxygenic photosynthesis occurs in

A. Oscillatoria

B. Rhodospirillum

C. Chlorobium

D. Chromatium

Answer: A



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29. All eukaryotic unicellular organisms belong to

A. Monera

B. Protista

C. Fungi

D. Bacteria

Answer: B



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30. The five kingdom classification was proposed by

A. R. H. Whittaker

B. C. Linnaeus

C. A. Roxberg

D. Virchow

Answer: A



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31. Organisms living in salty areas are called as

- A. Methanogens
- B. Halophiles
- C. Heliophytes
- D. Thermoacidophiles

Answer: B



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32. Naked cytoplasm, multinucleated and saprophytic are the characteristics of

A. Monera

B. Protista

C. Fungi

D. Slime moulds

Answer: D



33. An association between roots of higher plants and fungi called

A. Lichen

B. Fern

C. Mycorrhiza

D. BGA

Answer: C



34. A dikaryon is formed when

A. Meiosis is arrested

B. The two haploid cells do not fuse immediately

C. Cytoplasm does not fuse

D. None of the above

Answer: B



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35. Contagium vivum fluidum was proposed by

A. D.J. Ivanowsky

B. M.W. Beijerinck

C. Stanley

D. Robert Hook

Answer: B



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36. Mycobiont and Phycobiont are found in

A. Mycorrhiza

B. Root

C. Lichens

D. BGA

Answer: C



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37. Difference between virus and viroid is

A. Absence of protein coat in viroid but present in virus

B. Presence of low molecular weight RNA in virus but absent in viroid

C. Both a and b

D. None of the above

Answer: A



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38. With respect to fungal sexual cycle, choose the correct sequence of events

- A. Karyogamy, Plasmogamy and Meiosis
- B. Meiosis, Plasmogamy and karyogamy
- C. Plasmogamy, Karyogamy and Meiosis
- D. Meiosis, Karyogamy and Plasmogamy

Answer: C



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39. Viruses are non-cellular organisms but replicate themselves once they infect the host cell. To which of the following kingdom do viruses belong to ?

A. Monera

B. Protista

C. Fungi

D. None of these

Answer: D



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40. Members of phycomycetes are found in

(i). Aquatic habitats

(ii). On decaying wood

(iii). Moist and damp places

(iv). As obligate parasites on plants

Choose from the following options

A. None of the above

B. (i) and (iv)

C. (ii) and (iii)

D. All of above

Answer: D



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41. Virus envelope is known as

A. Core

B. Capsid

C. Virion

D. Nucleoprotein

Answer: B



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42. Single-celled eukaryotes are included in Kingdom

A. Monera

B. Protista

C. Fungi

D. Archaea

Answer: B



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43. Membrane bound organelles are absent in

- A. Plasmodium
- B. Saccharomyces
- C. Streptococcus
- D. Chlamydomonas

Answer: C



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44. Ringworm in humans is caused by:

A. Viruses

B. Bacteria

C. Fungi

D. Nematodes

Answer: C



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45. Lichens are described as indicators of

A. air pollution

B. water pollution

C. soil pollution

D. agricultural productivity

Answer: A



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46. Tuberculosis is caused by

A. Mycobacterium sp.

B. Aspergillus sp.

C. Clostridium sp.

D. Vibrio sp.

Answer: A



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47. Cell theory is not applicable for

A. bacteria

B. fungus

C. algae

D. viruses

Answer: D



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48. Nuclear membrane is absent in

A. monera

B. protista

C. fungi

D. plantae

Answer: A



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49. Heterotrophic fungi can live as

A. Saprophytes

B. Symbionts

C. Parasites

D. All of these

Answer: D



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50. One of these is not a characteristic feature of cyanobacteria

- A. they are multicellular
- B. they form colonies
- C. they form blooms in polluted waters
- D. they can fix atmospheric nitrogen

Answer: A



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51. Sexual reproduction is absent in

- A. ascomycetes
- B. deuteromycetes
- C. basidiomycetes
- D. phycomycetes

Answer: B



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52. Typhoid fever is caused by

A. Streptococcus

B. Staphylococcus

C. Salmonella

D. Mycobacterium

Answer: C



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53. Which of the following statements is correct

A. all bacteria are heterotrophic

B. bacteria are either heterotrophic or chemoautotrophic

C. bacteria can also be photoautotrophic

D. bacteria are either chemoautotrophic or photoautotrophic

Answer: C



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54. HIV is a member of a group of viruses called

- A. bacteriophages
- B. geminiviruses
- C. lysogenic viruses
- D. retroviruses

Answer: D



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55. Polio' is caused by

A. bacteriophage

B. virus with a single stranded RNA

C. virus with a single stranded DNA

D. virus with a double stranded DNA

Answer: D



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56. Which one of the following organisms is not an example of eukaryotic cells

A. *Paramecium caudatum*

B. *Escherichia coli*

C. *Euglena viridis*

D. *Amoeba proteus*

Answer: B



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57. The shape of the cocci bacteria is

- A. rod shaped
- B. spherical
- C. comma shaped
- D. spiral

Answer: B



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58. The beautiful diatoms are placed under

A. chrysophytes

B. dinoflagellates

C. euglenoids

D. slime moulds

Answer: A



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59. Which is the only phylum in the animal kingdom without any nerve cell ?

A. Porifera

B. Coelenterata

C. Annelida

D. Nematoda

Answer: A



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60. Maximum nutritional diversity is found in group

A. Fungi

B. Animalia

C. Monera

D. Plantae

Answer: C



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61. Nuclear membrane is absent in

A. Penicillium

B. Agaricus

C. Volvox

D. Nostoc

Answer: D



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62. The cyanobacteria are also referred to as:-

A. proists

B. golden algae

C. Slime moulds

D. blue-green algae

Answer: D



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63. Which statement is wrong for viruses

A. All are parasites

B. All of them have helical symmetry

C. They have ability to synthesize nucleic acids

D. Antibiotics have no effect on them

Answer: B



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64. In the five - kingdom classification Chlamydomonas and Chlorella have been included in

A. protista

B. algae

C. plantae

D. monera

Answer: A



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65. How many organism in the list given below are autotrophs Lactobacillus, Nostoc, Chara,

Nitrosomonas, Nitrobacter, Streptomyces,
Sacharomyces, Trypanosoma, Porphyra Wolfia

A. Four

B. Five

C. Six

D. Three

Answer: C



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66. Read the following five statements (A-E)

and answer as asked next to them

(A) In Equisetum the female gametophyte is retained on the parent sporophyte

(A) In Equisetum the female gametophyte is retained on the parent sporophyte

(B) In ginkgo male gametophyte is not independent

(C) Sexual reproduction in Volvox is isogamous

(E) The spores of slime moulds lack cell walls

How many of the above statements are correct

A. Two

B. Three

C. Four

D. One

Answer: D



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67. Consider the following four statement (1-4) and select the option which includes all the correct ones only

(1) Single cell Spirulina can produce large quantities of food rich in protein, minerals, vitamins etc

(2) Body weight-wise the microorganism Methylophilus methylotrophus may be able to produce several times more proteins than the cows pe day

(3) Common button mushrooms are a very rich source of vitamin C

(4) A rich variety has been developed which is very rich in calcium

A. Statement (C) and (D)

B. Statement (A), (C) and (D)

C. Statement (B), (C) and (D)

D. Statements (A) and (B)

Answer: D



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68. Which of the following represent maximum number of species among global biodiversity

A. Lichens

B. Fungi

C. Mosses and Ferns

D. Algae

Answer: B



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69. Which of the following are likely to be present in deep sea water?

A. Eubacteria

B. Blue-green algae

C. Saprophytic fungi

D. Archaeobacteria

Answer: D



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70. five kingdom system of classification suggested by R.H whittaker is not based on

- A. Presence or absence of well defined nucleus
- B. Mode of reproduction
- C. Mode of nutrition
- D. Complexity of body organization

Answer: A



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71. Which of the following fungi contains hallucinogens

A. *Morchella esculenta*

B. *Amanita muscaria*

C. *Neurospora* sp

D. *Ustilago* sp

Answer: B



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72. Archaeobacteria differ from eubacteria in

A. Cell membrane structure

B. Mode of nutrition

C. Cell shape

D. Mode of reproduction

Answer: A



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73. The motile bacteria move by

A. fimbriae

B. flagella

C. cilia

D. pili

Answer: B



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74. Which of the following is a 'cyanophage' ?

A. S-13

B. $\phi \times 174$

C. SV - 40

D. LPP - 1

Answer: D



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75. Which one of the following fungus shows heterothallism

A. Rhizopus

B. Bacterium

C. Cycas

D. Ricinus

Answer: A



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76. Match items in Column I with those in Column II.

Column I

- A. Peritrichous flagella
- B. Living fossil
- C. Rhizophore
- D. Smallest flowering plant
- E. Largest perennial alga

Column II

- 1. *Ginkgo*
- 2. *Macrocystis*
- 3. *E.coli*
- 4. *Selaginella*
- 5. *Wolffia*

	A	B	C	D	E
(a)	3	1	4	5	2
(b)	2	3	4	1	5
(c)	4	2	1	5	3
(d)	2	4	3	5	1

A. *A B C D E*
3 1 4 5 2

B. *A B C D E*
2 3 4 1 5

C. *A B C D E*
4 2 1 5 3

D. *A B C D E*
2 4 3 5 1

Answer: A



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77. Choose the wrong statement :

A. Yeast is unicellular and useful in fermentation

B. Penicillium is multicellular and produces antibiotics

C. Neurospora is used in the study of biochemical genetics

D. Morels and truffles are poisonous mushrooms

Answer: D



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78. In which group of organisms the cell walls form two thin overlapping shells which fit together

A. Slime moulds

B. Chrysophytes

C. Euglenoids

D. Dinoflagellates

Answer: B



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79. The structure that help some bacteria to attach to rocks and host tissues are

A. Holdfast

B. Rhizoids

C. Fimbraie

D. Mesosomes

Answer: C



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80. The imperfect fungi which are decomposers of litter and help in mineral cycling belong to:

A. Ascomycetes

B. Deuteromycetes

C. Basidiomycetes

D. Phycomycetes

Answer: B



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81. Pick up the wrong statement

A. Nuclear membrane is present in Monera

B. Cell wall is absent in Animalia

C. Protista have photosynthetic and heterotrophic modes of nutrition

D. Some fungi are edible

Answer: A



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82. Select the wrong statement :

A. Mosaic disease in tobacco and AIDS in human being are caused by viruses

B. The viroids were discovered by D.J. Ivanowski

C. W.M. Stanley showed that viruses could be crystallized

D. The term 'contagium vivum fluidum' was coined by M.W. Beijerinck

Answer: B



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83. The antibiotics have no effect on viruses because

A. Viruses show metabolism of their own

B. Viruses are too small in size antibiotics to act upon them

C. Viruses show no metabolism of their own

D. Viruses produce a thick covering and encyst themselves as endospores

Answer: C



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84. Which of the following statements is wrong for viroids

- A. They are smaller than viruses
- B. They cause infections
- C. Their RNA is of high molecular weight
- D. They lack a protein coat

Answer: C



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85. Chrysophytes, Euglenoids, Dinoflaegellates and Slime moulds are included in the kingdom

A. Protista

B. Fungi

C. Animalia

D. Monera

Answer: A



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86. The primitive prokaryotes responsible for the production of biogas from the dung of ruminant animals include

A. Thermoacidophiles

B. Methanogens

C. Eubacteria

D. Halophiles

Answer: B



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87. Which one of the following statements is wrong ?

- A. Golden algae are also called desmids
- B. Eubacteria are also called false bacteria
- C. Phycomycetes are also called algal fungi

D. Cyanobacteria are also called blue-green algae

Answer: B



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88. One of the major components of cell wall of most fungi is

A. Peptidoglycan

B. Cellulose

C. Hemicellulose

D. Chitin

Answer: D



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89. Which one of the following is wrong for fungi

A. They are eukaryotic

B. All fungi possess a purely cellulosic cell wall

C. They are heterotrophic

D. They are both unicellular and multicellular

Answer: B



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90. Methanogens belong to

A. Eubacteria

B. Archaeobacteria

C. Dinoflagellates

D. Slime moulds

Answer: B



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91. Select the wrong statement :

A. The walls of diatoms are easily destructible

B. Diatomaceous earth' is formed by the cell walls of diatoms

C. Diatoms are chief producers in the oceans

D. Diatoms are microscopic and float passively in water

Answer: A



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92. Which one of the following statements is wrong ?

A. Algae increase the level of dissolved oxygen in the immediate environment

B. Algin is obtained from red algae, and carrageenan from brown algae

C. Agar-agar is obtained from *Gelidium* and *Gracilaria*

D. Laminaria and Sargassum are used as food

Answer: B



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93. Select the wrong statement

A. Bacterial cell wall is made up of peptidoglycan

B. Pili and fimbriae are mainly involved in motility of bacterial cells

C. Cyanobacteria lack flagellated cells.

D. Mycoplasma is a wall-less microorganism

Answer: B



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94. study the four statements (A-D) given below and select the two correct ones out of them

(A) Definition of biological species was given by Ernst Mayr

(B) photoperiod does not affect reproduction in plants

(C) Binomial nomenclature system was given by Ernst Whittaker

(D) In unicellular organisms, reproduction is synonymous with growth

The two correct statements are

A. B and C

B. C and D

C. A and D

D. A and B

Answer: C



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95. Which of the following are found in extreme saline conditions

A. Eubacteria

B. Cyanobacteria

C. Mycobacteria

D. Archaeobacteria

Answer: D



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96. Which of the following components provides sticky character to the bacterial cell

A. Nuclear membrane

B. Plasma membrane

C. Glycocalyx

D. Cell wall

Answer: C



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97. Mycorrhiza are the the example of

A. amensalism

B. antibiotics

C. mutualism

D. fungistasis

Answer: C



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98. Spliceosomes are not found in cell of

A. fungi

B. animals

C. bacteria

D. Plants

Answer: C



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99. Which among the following is not a prokaryote

A. Saccharomyces

B. Mycobacterium

C. Nostoc

D. Oscillatoria

Answer: A



100. Select the wrong statement.

A. Cell wall is present in members of fungi and plantae

B. Mushrooms belong to basidiomycetes.

C. Pseudopodia are locomotory and feeding structures in sporozoans

D. Mitochondria are the powerhouse of the cell in all kingdom except monera

Answer: C



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101. Which of the following organisms are known as chief producers in the oceans ?

A. Dinoflagellates

B. Diatoms

C. Cyanobacteria

D. Euglenoids

Answer: B



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102. Ciliates differ from all other protozoans in

A. using flagella for locomotion

B. having a contractile vacuole for
removing excess water

C. using pseudopodia for capturing prey

D. having two types of nuclei.

Answer: D



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Practice Questions II Assertion Reason Type Questions

1. Assertion. Cyanobacteria are photosynthetic blue-green algae with procaryotic structure.

Reason. They are green due to presence of chloroplasts.

A. If both A and R are true and R is the correct explanation of A.

B. If both A and R are true but R is not the correct explanation of A

C. If A is true but R is false.

D. If both A and R are false

Answer: A



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2. Assertion: There is no chance of transmission of malaria to a man on the bite of a male Anopheles mosquito.

Reason: It carries a non virulent strain of Plasmodium.

A. If both A and R are true and R is the correct explanation of A.

B. If both A and R are true but R is not the correct explanation of A

C. If A is true but R is false.

D. If both A and R are false

Answer: C



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3. Assertion : Endomycorrhiza of forest trees contribute to the efficient nutrient cycling in tropical forest ecosystem.

Reason : The fungi that form mycorrhizal associations with plants make nutrient ions available to them.

A. If both A and R are true and R is the correct explanation of A.

B. If both A and R are true but R is not the correct explanation of A

C. If A is true but R is false.

D. If both A and R are false

Answer: A



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4. Assertion : Mesosomes help in respiration in bacteria.

Reason : They do not have mitochondria.

A. If both A and R are true and R is the correct explanation of A.

B. If both A and R are true but R is not the correct explanation of A

C. If A is true but R is false.

D. If both A and R are false

Answer: A



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5. Assertion : Rhizopus does not form zygospores.

Reason : It shows heterothallism.

A. If both A and R are true and R is the correct explanation of A.

B. If both A and R are true but R is not the correct explanation of A

C. If A is true but R is false.

D. If A is false and R is true

Answer: D



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6. Assertion : Yeast such as *Saccharomyces cerevisiae* are used in banking industry.

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

A. If both A and R are true and R is the correct explanation of A.

B. If both A and R are true but R is not the correct explanation of A

C. If A is true but R is false.

D. If both A and R are false

Answer: A



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7. Assertion : The fungi are widespread in distribution and they even live on inside other plants and animals.

Reason : Fungi are able to grow anywhere on land, water or on other organisms because they have a variety of pigments, including chlorophyll, carotenoids, fucoxanthin and phycoerythrin.

A. If both A and R are true and R is the correct explanation of A.

B. If both A and R are true but R is not the correct explanation of A

C. If A is true but R is false.

D. If both A and R are false

Answer: C



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8. Assertion .Gram negative bacteria do not retain the when washed with alcohol.

Reason . The outer face of outer membrane of

Gram negative bacteria contain lipopolysaccharides a part of which is integrated with membrane lipids.

A. If both A and R are true and R is the correct explanation of A.

B. If both A and R are true but R is not the correct explanation of A

C. If A is true but R is false.

D. If both A and R are false

Answer: A





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