

BIOLOGICAL CLASSIFICATION

1. Binomial nomenclature means writing the name of plant / animal in two words, which designate
 - (A) Genus and species
 - (B) Species and variety
 - (C) Order and family
 - (D) Family and genus
2. The basic unit of classification /taxonomy is
 - (A) Genus
 - (B) Species
 - (C) Family
 - (D) Order
3. Who proposed the Binomial Nomenclature System
 - (A) Whittaker
 - (B) Mendel
 - (C) Carl Linnaeus
 - (D) Tipppo
4. Sequence of taxonomic categories is
 - (A) Class – phylum – tribe – order – family – genus – species
 - (B) Division – class – family – tribe – order – genus – species
 - (C) Division – class – order – family – tribe – genus – species
 - (D) Phylum – order – class – tribe – family – genus – species
5. The correct hierarchical order is
 - (A) Kingdom, genus, class, phylum and division
 - (B) Phylum, kingdom, genus, species and class
 - (C) Kingdom, phylum, class, genus and species
 - (D) Phylum, division, family, genus and class

6. Match the following pairs correctly and choose the right combination

Column-I

Column-II

A *Escherichia coli*

B *Rhizobium melilotae*

hydrocarbon of crude oil

C *Bacillus thurigiensis*

human insulin

D *Pseudomonas putida*

control of fungal disease

1. Nif gene

2. Digestive

3. Production of

4. Biological

5. Bio-decomposed

insecticide (A) A = 3, B = 1, C =

5, D = 4 (B) A = 1, B = 2, C = 3,

D = 4 (C) A = 2, B = 1, C = 3, D =

4 (D) A = 3, B = 1, C = 5, D = 2

7. The process in which viruses are involved in sexual reproduction of bacteria is called

(A) Transduction

(B) Transcription

(C) Transformation

(D) Translation

8. The symbiotic nitrogen fixing bacteria present in root nodules of legumes belongs to genus

(A) *Xanthomonas*

(B) *Pseudomonas*

(C) *Rhizobium*

(D) *Acetobacter*

9. *Escherichia coli* has the following combination of characters
(A) Rod shaped, 1–3 μm long, gram negative (B) Rod shaped,
1– 3 μm long, gram positive (C) Spiral, 1–3 μm long, gram
negative (D) Spiral, 1–3 μm long, gram positive

10. Which of the following group of organisms are categorized
as Protists?

(A) *Euglena*, Mushroom and Yeast

(B) *Amoeba*, *Sepia*, *Euglena*

(C) *Hydra*, *Paramecium*, Dinoflagellates

(D) *Amoeba*, *Plasmodium*, *Ceratium*

11. Which of the following is/are the characteristic features of
organisms belonging to Kingdom – Protista?

i. Multicellular and prokaryote

ii. Unicellular and eukaryote

iii. Multicellular and heterotroph

iv. Autotroph and heterotroph

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

12. In which of the following sets, groups are not correctly
matched phylum wise

(A) Crustacea, Myriapoda, Arachnida

(B) Polychaeta, Hirudinea, Oligochaeta

- (C) Gastropoda, Rhizopoda, Scaphopoda
- (D) Hydrozoa, Scyphozoa, Anthozoa

13. Two species of *Amoeba* X and Y were kept in fresh water and got adapted. Species X developed contractile vacuole. When both were transferred to sea water and got adapted, both X and Y lost their contractile vacuole. From these observation we conclude that

- (A) Both X and Y are marine species
- (B) Species Y is marine and X is fresh water
- (C) Species X is marine and Y is fresh water
- (D) Both X and Y are fresh water

14. People recovering from long illness, are advised to include alga *Spirulina* in their diet because it

- (A) Has antibiotic properties
- (B) Restores intestinal flora
- (C) Is rich in proteins
- (D) Makes the food easy to digest

15. Which is wrong combination

- (A) Haemocyanin – Prawn
- (B) Haemoglobin in mammals – RBC
- (C) Haemoglobin in plasma – *Pheretima*
- (D) Haemozoin – *Plasmodium* cytoplasm

16. Which of the following organism reproduce by means of conjugation by sexual reproduction?

- (A) Amoeba
- (B) Paramecium
- (C) Plasmodium
- (D) Clostridium

17. The art of identifying distinctions among organisms and placing them into groups that reflect their most significant features and relationship is called

- (A) Identification
- (B) Morphology
- (C) Exobiology
- (D) Biological classification

18. Find the incorrect one

- (A) Karyotaxonomy– based on morphological traits
- (B) Chemotaxonomy– based on distribution of certain specific chemicals like secondary metabolites
- (C) Cytotaxonomy– based on cytological studies
- (D) Adansonian taxonomy– based on morphological traits.

19. In Whittaker's five-kingdom system of classification, eukaryotes are placed in

- (A) Three kingdoms
- (B) Four kingdom

(C) Five kingdom

(D) One kingdom

20. Which one of the following statements about viruses is correct?

(A) Viruses possess their own metabolic system

(B) All viruses contain RNA and DNA

(C) Viruses are obligate parasites

(D) Nucleic acid of virus is known as capsid

21. Name the scientist who called virus as '*Contagium vivum fluidum*'

(A) Twort

(B) d' Herelle

(C) Beijerinck

(D) None of these

22. Virioids have

(A) single stranded RNA not enclosed by protein coat

(B) single stranded DNA not enclosed by protein coat

(C) double stranded DNA enclosed by protein coat

(D) double stranded RNA enclosed by protein coat

23. Smallest known virus is

(A) TMV

(B) Foot and mouth disease virus

(C) $\phi \times 174$

(D) T1 phage

24. Peplomers are subunits of

(A) Nucleic acid

(B) Enzymes

(C) Protein cover

(D) Viral envelope

25. $\phi\times 174$ virus contains

(A) ss RNA

(B) ds RNA

(C) ss DNA

(D) ds DNA

26. Which of the following virus has a double stranded RNA as its genetic material

(A) $\phi\times 174$

(B) TMV

(C) Reovirus

(D) Influenza virus

27. Endospores are thick walled, many layered highly resistant asexual spores, which cannot be destroyed easily and can tolerate heat (100°), toxic chemical, and dessication because they have

(A) air and acid in exosporium

(B) high protein contents

(C) dipicolinic acid and calcium ions in cortex

(D) peptidoglycan in cell wall

28. In male cells, episome lies free in the cytoplasm or may be integrated with the chromosome of the bacterial cell. The later condition is known as

(A) F factor

(B) Hfr (high frequency of recombinant)

(C) Both of these

(D) None of these

29. In conjugation, the transfer of genetic material is unidirectional. The donor cell transfers a part of its genome through the passage formed by

- (A) flagella
- (B) dissolution of cell wall
- (C) sex pili
- (D) none of these

30. The process in which the viruses (bacteriophage) are involved in sexual reproduction of bacteria or genetic material is carried by some external agency is called

- (A) translation
- (B) transformation
- (C) transduction
- (D) conjugation

31. Streptomycin, an antibiotic is produced by

- (A) *Streptomyces niveus*
- (B) *Streptomyces rimosus*
- (C) *Streptomyces griseus*
- (D) *Streptomyces erythraeus*

32. The technique of developing pure culture of bacteria was developed by

- (A) J. Lister
- (B) R. Koch
- (C) L. Pasteur
- (D) A.V. Leeuwenhoek

33. Which of the following monerans thrive under extreme environmental conditions such as absence of oxygen high temperature and acidic pH?

- (A) Cyanobacteria
- (B) Actinomycetes

(C) Bacteria

(D) Archaeobacteria

34. Most common nitrogen fixing cyanobacterium of paddy field is

(A) *Aulosira*

(B) *Cylindrospermum*

(C) *Oscillatoria*

(D) *Nostoc*

35. Unicellular Cyanobacteria reproduce asexually by

(A) Fragmentation

(B) Binary fission

(C) Hormogones

(D) Conjugation

36. Blue colour of Cyanobacteria is due to

(A) phyocerythrin

(B) anthocyanin

(C) anthoxanthin

(D) phycocyanin and allophycocyanin

37. Red tide is mostly caused by

(A) *Gonyaulax*

(B) *Ceratium*

(C) *Noctiluca*

(D) *Navicula*

38. Bioluminescence or night phosphorescence or glow of seawater was first recorded in

(A) *Pinnularia*

(B) *Triceratium*

(C) *Ceratium*

(D) *Noctiluca*

39. In diatoms flagella are
(A) two in number (B) many
(C) absent (D) four in number
40. Paramylon is a carbohydrate which is stored as reserve food in case of
(A) *Paramecium* (B) Diatoms
(C) Dinoflagellates (D) *Euglena*
41. Slime moulds resemble fungi in
(A) somatic structure (B) mode of nutrition
(C) fruiting body (D) none of these
42. Cellular slime mould is
(A) *Lycogala* (B) *Fuligo*
(C) *Physarum* (D) *Dictyostelium*
43. Heterocyst which helps in nitrogen fixation is found in
(A) Red algae (B) Brown algae
(C) Blue green algae (D) Green algae
44. Ectotrophic mycorrhiza is found in
(A) *Pinus* (B) *Riccia*
(C) *Ocimum* (D) *Cycas*

45. The members of the higher fungi in which sexual or perfect stage is unknown, are placed under an artificial group called
- (A) Ascomycetes
 - (B) Basidiomycetes
 - (C) Deuteromycetes or fungi imperfecti
 - (D) Zygomycetes

ANSWERS

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|-------|-------|-------|-------|------|
| 1. A | 2. B | 3. C | 4. C | 8. B |
| 5. C | 6. D | 7. A | 12. C | |
| 9. A | 10. D | 11. D | 16. B | |
| 13. C | 14. C | 15. D | 20. C | |
| 17. D | 18. A | 19. B | 24. D | |
| 21. C | 22. A | 23. B | 28. B | |
| 25. C | 26. C | 27. C | 32. B | |
| 29. C | 30. C | 31. C | 36. D | |
| 33. D | 34. A | 35. B | | |
| 37. A | 38. D | 39. C | 40. D | |
| 41. C | 42. D | 43. C | 44. A | |
| 45. C | | | | |

SOLUTIONS

1. According to binomial system of nomenclature the name of plant and animal is composed of two latin or latinized

word. *e.g.*, Potato is *Solanum tuberosum*. The first word (*Solanum*) indicate the generic name and second word (*tuberosum*) denotes the specific name.

2. Species occupies a key position in classification. It is a basic unit of classification/taxonomy.
7. In the process of transduction, virus is used as a carrier in the transfer of DNA from one bacterial cell to other.
10. *Amoeba* and *Plasmodium* belongs to the group of protozoan protists while *Ceratium* is a dinoflagellate.
11. All organisms belonging to Kingdom -Protista are unicellular and eukaryotic. Some of them are photoautotrophs like plants while some are heterotrophs and holozoic like animals. Hence, option D is the correct option.
14. Protein is a body building material, so extra amount of protein help in early recovery of destructive tissue during illness.
- 15 Haemozoin liberated in blood plasma.
- . Paramoecium reproduces by sexual reproduction by
- 16 conjugation.
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