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## Class : XI

## "BIOLOGICAL CLASSIFICATION"

## Level – 1

## (Based on Monera Kingdom)

Q.1 How many kingdoms contain eukaryote in five kingdom system of classification of R.H. Whittaker?
a) 4 kingdoms b) 1 kingdoms c) 2 kingdoms d) 3 kingdoms

Q.2 In the five kingdom system of classification, which single kingdom out of the following can include blue-green algae, nitrogen fixing bacteria and methanogenic archaebacteria?
a) Monera b) fungi c) Plantae d) Protista

Q.3 In Whittaker's system of classification, prokaryotes are placed in the kingdom :
a) Protista b) Monera c) Plantae d) Animalia

Q.4 Five kingdom classification includes :
a) Monera , Protista , Fungi , Plantae , Animalia b) Algae , fungi , bryophytes , pteridophytes
c) Virus , prokaryota , fungi , plantae , Animalia d) Monera , Protista , Plantae , Animalia , algae

Q.5 The separation of living being into five kingdoms is based on :
a) Complexity of cell structure b) complexity of organism's body
c) Mode of obtaining nutrition d) all of the above

Q.6 If the generation time of a bacterium is 40 minutes and a culture containing $10^7$ cells/mL is grown for 4 hours, then calculate its population after that period:
a) $64 \times 10^7$ b) $32 \times 10^7$ c) $6 \times 10^7$ d) $40 \times 10^7$

Q.7 Thermococcus, Methanococcus and Methanobacterium are :
a) bacteria having eukaryotic histone homologue
b) Archaebacteria with negatively supercoiled DNA as eukaryotes.
c) Bacteria with cytoskeleton.
d) Bacteria having positively coiled DNA, cytoskeleton , mitochondria

Q.8 Which bacteria have the capacity to oxidize sulphur?
a) Halophiles b) Mesophiles c) Thermoacidophiles d) Psychrophiles

Q.9 Gram +ve cells retain :
a) yellow strain b) pink strain c) green strain d) purple strain

Q.10 A tooth scraping yields large number of corkscrew shaped bacteria. These bacteria are referred as :
a) Bacilli b) Cocci c) Spirilla d) Helices

Q.11 Which bacteria would function best in hot temperatures (45° - 60°C) ?
a) Psychrophiles b) Thermophiles c) Mesophiles d) all of these

Q.12 A bacterium requires a carbon source other than carbon dioxide, yet convert light energy to chemical energy is called :

a) Photo heterotroph b) Photo autotroph c) Chemo autotroph d) Chemo heterotroph

Q.13 Which of the following organisms may respire in the absence of oxygen?

a) Azotobacter b) Clostridium c) Rhizobium d) Lactobacillus

Q.14 Helically coiled shaped bacteria are called :

a) Spirilla b) Cocci c) Bacilli d) vibrio

Q.15 Which of the following are includes the bacterial diseases?

a) Cholera , Typhoid , Mumps b) Tetanus , Tuberculosis , Measles

c) Malaria , Mumps , Poliomyelitis d) Diphtheria , Leprosy , plague

Q.16 The bacteria found to be very useful in genetic engineering experiments are :

a) Escherichia coli and Agrobacterium b) Nitrobacter and Azotobacter

c) Rhizobium and Diplococcus d) Nitrosomonas and Klebsiella

Q.17 A few organisms are known to grow and multiply at temperatures of 100 – 105℃. They belongs to :

a) Thermophilic sulphur bacteria b) Hot spring blue green algae

c) Methanogenic bacteria d) Marine Archaebacteria

Q.18 The conditions which would be favoured by Thermoacidophiles are :

a) Hot and alkaline b) snow and acidic c)Hot and sulphur spring d) Gut of cows

Q.19 Bacteria having two or more flagella at one end :

a) Amphitrichous b) Cephalotrichous c) Peritrichous d) Lophotrichous

Q.20 Each of the following statements regarding capsules in bacteria is correct except:

a) Most gram +ve bacteria have capsules, whereas gram –ve ones rarely do.

b) Most bacteria capsules are made up of polysaccharides and serve to protect the bacteria by inhibiting phagocytosis.

c) Bacterial capsules can vary antigenically and as a result some bacteria have many different serologic types.

d) Bacterial capsules can be purifies and used in vaccines against the same bacteria.

Q.21 In prokaryotes, chromatophores are :

a) Specialized granular responsible for colouration of cells.

b) Structures responsible for organizing the shape of the organism.

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

d) Internal membrane system which become extensive and complex in photosynthetic bacteria

Q.22 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, domesticated animals and crop plants.

c) Produced endospores which are very resistant to adverse conditions.

d) Possess incipient nucleus and show amitotic division.

Q.23 Archaea bacteria differ from eubacteria in one of the following features :

a) They have a rigid wall
b) Their cell wall lacks peptidoglycan component
c) They have 16 S RNA
d) They are very ancient

Q.24 Sex factor in bacteria is :

a) Chromosomal replicon b) F – replicon c) RNA d) Sex - pilus

Q.25 In bacterial chromosomes, the nucleic acid are :

a) Linear DNA molecule
b) Circular DNA molecule
c) of two types DNA and RNA
d) Linear RNA molecule

Q.26 Antibiotic are mostly obtained from :

a) Bacteria b) Viruses c) Angiosperms d) Fungi

Q.27 In bacteria, the sites for respiratory activity is found in :

a) Episomes
b) Microsome
c) Ribosome
d) Cell membrane / Mesosomes

Q.28 Nutritionally bacteria are :

a) Heterotroph b) Symbiotic c) Parasitic d) All of these

Q.29 In prokaryotes, the genetic material is :

a) Linear DNA with histones
b) Circular DNA with histones
c) Linear DNA without histones
d) Circular DNA without histones

Q.30 Flagella of prokaryotic cell and eukaryotic cell differ in :

a) Type of movement and placement in cell
b) Location in cell and mode of functioning
c) Microtubular organization and type of movement
d) Microtubular organization and function

Q.31 The chief component of bacterial cell wall is :

a) Cellulose and chitin
b) Cellulose and pectin
c) Amino acids and polysaccharides
d) Cellulose and carbohydrates

Q.32 Bacteria whose cell has only a curve/comma is :

a) Vibrio b) Cocci c) Spirilla d) Bacilli

Q.33 The main difference between gram +ve and gram –ve bacteria lies in the composition of :

a) cilia b) cell wall c) nucleolus d) cytoplasm

Q.34 Bacteria bearing flagella all over the body are called :

a) Peritrichous b) Atrichous c) Monotrichous d) Cephalotrichous

Q.35 An organisms having cytoplasm DNA and RNA but no cell wall is :

a) Cyanobacterium b) Mycoplasma c) Bacterium d) Virus

Q.36 In which of the following are heterocysts seen?

a) Chara b) Polysiphonia c) Spirogyra d) Nostoc

Q.37 Which of the following fixes atmospheric $N_2$?

a) Nostoc b) algae c) Methanogens d) None of these

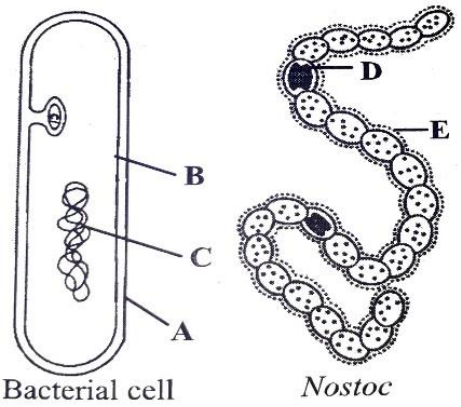
Q.38 During rainy seasons, the ground becomes slippery due to dense growth of :

a) Lichens b) Bacteria c) green algae d) cyanobacteria

Q.39 Which of the following is not a blue green algae?

a) Nostoc b) Anabaena c) Euglena d) Aulosira

Q.40 Which one of the following option is correct?




a) A – Cell wall ; B – Cell membrane ; C – Heterocyst ; D – DNA ; E – Mucilaginous sheath

b) A – Cell wall ; B – Cell membrane ; C – DNA ; D – Heterocyst ; E – Mucilaginous sheath

c) A – Mucilaginous sheath ; B – Cell membrane ; C – DNA ; D – Heterocyst ; E – Cell wall

d) A – Cell membrane ; B – Cell wall ; C – DNA ; D – Heterocyst ; E – Mucilaginous sheath

Q.41 Which of these statements given below are correct?

i. Biological classification is the scientific ordering of organisms in a hierarchical series or group on the basis of their relationships i.e. morphological , evolutionary and others.

ii. Whittaker classified organisms on the basis of autotroph and heterotroph mode of nutrition

iii. In the five kingdom system of classification, living organisms can be divided into prokaryotic and eukaryotic cells on the basis of cell structure.

a) (i) , (ii) and (iii) b) (i) and (iii) c) (ii) and (iii) d) (i) and (ii)

Q.42 Consider the following statements with respect to characteristic features of the kingdom.

i. In Animalia , the mode of nutrition is autotroph

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

Q.43 Which of the following statements is incorrect 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) ad produce biogas ($CH_4$) from the dung of these animals.

Q.44 Which of the following statements is/are correct for bacteria?

a) They are the members of 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

Q.45 Read the following statements regarding archaebacteria and choose the correct option :

i. Archaebacteria differ from other bacteria in having different cell wall structure
ii. Their cell wall is made up of cellulose and contains high amount of unsaturated fatty acid, which responsible for their survival in extreme conditions
iii. Thermoacidophiles have dual ability to tolerate high temperature as well as high acidity.

a) (i) and (ii) b) (ii) and (iii) c) (i) and (iii) d) (i) , (ii) and (iii)

Q.46 Depending upon the mode of respiration, bacteria can be aerobic and anaerobic. Each of them is further of two types obligate and facultative. match of the following columns and choose the correct option :

| Column I | Column II | Column III |
|---|---|---|
| A. Obligate aerobes | I. Respire anaerobically under normal, but can respire aerobically when oxygen is available | (i) Bacillus subtilis |
| B. Facultative anaerobes | II. Respire only anaerobically | (ii) Halophiles |
| C. Obligate anaerobes | III. Generally respire aerobically but switch over to anaerobic mode of respiration of oxygen become deficient | (iii) Clostridium botulinum |
| D. Facultative aerobes | IV. Respire only aerobically | (iv) Rhodopseudomonas |

a) A – IV – (i) ; B – III – (iii) ; C – I – (iv) ; D – II – (ii)
b) A – IV – (i) ; B – III – (ii) ; C – II – (iii) ; D – II – (iv)
c) A – I – (ii) ; B – II – (i) ; C – III – (iv) ; D – IV – (iii)
d) A – IV – (iii) ; B – III – (iv) ; C – II – (i) ; D – I – (ii)

Q.47 Match column I and column II

| Column I | Column II |
|---|---|
| A. Obligate aerobes | I. Ordinarily aerobic but may also grow in absence of $O_2$ |
| B. Facultative anaerobes | II. Can grow in the absence of free $O_2$ |
| C. Obligate anaerobes | III. Ordinarily anaerobic but may also grow in presence of $O_2$ |
| D. Facultative aerobes | IV. Can grow in the presence of free $O_2$ |

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

Q.48 Read the following statements about cyanobacteria and choose the correct option given below.

i. The cyanobacteria are unicellular ,colonial or filamentous , marine or terrestrial bacterium.
ii. The colonies of cyanobacteria are generally surrounded by gelatinous sheath

a) Only (i) b) (i) and (ii) c) Only (ii) d) None of these

Q.49 Which of the following statement is/are correct?

i. Mycoplasma has no cell wall.
ii. Mycoplasma is the smallest living organism.
iii. Mycoplasma cannot survive without oxygen.
iv. Mycoplasma are pathogenic in plants and animals
v. True sexuality is not found in bacteria
vi. A sort of sexual reproduction by adopting a primitive DNA transfer from one bacterium to the other occurs.

a) all of these b) only (iii) c) (i) , (ii) , (iv) , (v) & (vi) d) (i) , (iii) & (vi)

Q.50 Match column I and column II

| | Column I | | Column II |
|---|---|---|---|
| A. | Rod shaped | I. | Coccus |
| B. | Spherical | II. | Bacillus |
| C. | Spiral shaped | III. | Vibrio |
| D. | Comma shaped | IV. | Spirillum |

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

Q.51 Which of the following 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.

Q.52 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 specializes cells called heterocysts.
iv. They often form blooms in water bodies.

a) Archaebacteria b) Cyanobacteria c) Chrysophytes d) Dinoflagellates

Q.53 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 bloom in polluted water bodies
d) It is unicellular ,colonial or filamentous , marine or terrestrial bacterium

# Answers

| | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1. | a | 2. | a | 3. | b | 4. | a | 5. | d | 6. | a | 7. | b | 8. | c |
| 9. | d | 10. | c | 11. | b | 12. | b | 13. | b | 14. | a | 15. | d | 16. | a |
| 17. | a | 18. | c | 19. | d | 20. | a | 21. | d | 22. | d | 23. | b | 24. | b |
| 25. | b | 26. | a | 27. | d | 28. | d | 29. | d | 30. | c | 31. | c | 32. | a |
| 33. | b | 34. | a | 35. | b | 36. | d | 37. | a | 38. | d | 39. | c | 40. | b |
| 41. | a | 42. | d | 43. | c | 44. | d | 45. | c | 46. | b | 47. | b | 48. | b |
| 49. | c | 50. | c | 51. | c | 52. | b | 53. | b | | | | | | |

## Level – 2

## (Based on Protista Kingdom)

Q.1 Which organism behaves like plants in the presence of sunlight and absence of organic food, but in reverse condition behaves like animal?

a) Archaebacteria b) Euglena c) Nostoc d) Paramecium

Q.2 Red tides often cause massive fish kills and human illness in those eating shell fish. Which group of protists is responsible for red tides?

a) Chlorophyta b) Rhodophyta c) Phaeophyta d) Dinoflagellates

Q.3 African sleeping sickness is due to :

a) Plasmodium vivax transmitted by Tsetse fly.
b) Trypanosoma Lewisi trabsmitted by Bed bug.
c) Trypanosoma gambiense transmitted by Glossina palpalis.
d) Entamoeba gingivalis spread by Housefly.

Q.4 Plasmodium, the parasite belongs to class :

a) Sarcodina b) Ciliata c) Sporozoa d) Dinophyceae

Q.5 In protists, the locomotary organelles are :

a) Flagella
b) Flagella , cilia and pseudopodia
c) Flagella and cilia
d) Flagella , cilia , pseudopodia and wrigglers

Q.6 Which of the following is not a character of protists?

a) Protists are prokaryotic.
b) Some protists have cell wall.
c) Mode of nutrition is both autotrophic and heterotrophic
d) Body organization is cellular.

Q.7 Which of the following combinations of characters is true for slime moulds?

a) Parasitic, plasmodium with true cell wall, spores dispersed by air currents.
b) Saprophytic , plasmodium without cell walls, spores dispersed by water.
c) Parasitic , plasmodium without walls, spores dispersed by water
d) Saprophytic , plasmodium without cell walls, spores dispersed by air currents.

Q.8 Which of the following does not belongs to kingdom protists?

a) Chrysophytes b) Euglenoids c) Ascomycetes d) dinoflagellates

Q.9 Which of the following ranked as one of the most devastating diseases is caused by a protist?

a) Ringworm b) AIDS c) Malaria d) None of these

Q.10 Diatoms frustule/shell is made up of :

a) Silica b) lime c) Magnesium carbonate d) Any of the above

Q.11 Which of the following regarding protists in general is false?

a) Protists are always parasitic b) Protists are multi-celled

c) Protists are all heterotrophic d) all of the above

Q.12 Why are protists an important part of the global carbon cycle and marine food chains?

a) They have high species diversity b) They are numerically abundant

c) They have the ability to parasitic humans. d) They have the ability to undergo meiosis

Q.13 Amoebic dysentery is caused by :

a) Entamoeba histolytica b) Entamoeba gingivalis

c) Entamoeba coli d) Amoeba proteus

Q.14 Which protists reproduce by both binary fission and conjugation?

a) Amoeba b) Paramecium c) Euglena d) monocystis

Q.15 Paramoecium is a :

a) Protozoa b) Bacterium c) Virus d) Annelid

Q.16 Which is not the locomotary organ of protozoa?

a) cilia b) Flagella c) Pseudopodia d) Parapodia

Q.17 Contractile vacuoles of paramecium are analogous to :

a) Sweat gland of mammals b) Uriniferous tubules

c) Gastro vascular cavity of Hydra d) Typhlosole of Earthworm

Q.18 Which of the following is correct pairing ?

a) Hydra – Anthozoa b) Paramecium – Arachnida

c) Plasmodium – Sporozoa d) Amoeba – Ciliata

Q.19 Locomotary structures are absent in :

a) Sprozoans b) Ciliates c) zooflagellates d) Rhizopods

Q.20 Primary grouping of protozoan protists is based on :

a) Locomotary organelles b) Size and shape

c) Mode of feeding d) Mode of reproduction

Q.21 Protista includes :

a) Euglena , Gonyaulax and Yeast b) Amoeba , Paramecium and Hydra

c) Euglena , Paramecium , Mushroom d) Amoeba , Paramecium and Gonyaulax

Q.22 The vector for sleeping sickness is :

a) Housefly b) Tsetse fly c) Sand fly d) Fruit fly

Q.23 Trypanosoma belongs to class :

a) Sarcodina b) Zooflagellata c) Ciliata d) Sporozoa

Q.24 Match column I and column II

| | Column I | | Column II |
|---|---|---|---|
| A. | Amoeboid protozoans | I. | Paramecium |
| B. | Ciliated protozoans | II. | Plasmodium |
| C. | Flagellated protozoan | 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

Q.25 Which of the following are the characters of dinoflagellates?

i. Planktonic golden yellow algae with soap box like structure.
ii. Marine red dinoflagellates protists.
iii. Appear yellow, green , brown , blue and red in colour.
iv. Biflagellated organisms with pellicle.
v. Saprophytic/parasitic unicellular forms

a) (i) , (ii) and (iii) b) (ii) , (iv) and (v) c) (ii) and (iii) d) (ii) and (v)

Q.26 Which of the following statements about Euglenoids is true?

a) It shows flagellar movement
b) It has a rigid cell wall
c) It does not have any chloroplasts
d) It is an obligate autotroph

Q.27 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 billions of years is referred to as 'diatomaceous earth'.

a) Dinoflagellates b) Chrysophytes c) Euglenoids d) Slime moulds

Q.28 Which of the following pairs is incorrectly matched?

a) Anabaena – Cyanobacteria
b) Amoeba – Protozoa
c) Gonyaulax – Dinoflagellates
d) Albugo – Chrysophytes

Q.29 Select the following statement that does not apply to diatoms.

a) Diatoms cell wall may be impregnated with silica.
b) During mitosis, the tip and bottom of the cell becomes the top of the new cells.
c) Zygotes (auxospores) are formed by gametes that lack cell walls.
d) None of these

Q.30 Which of the following statement 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

Q.31 Match column I and column II

| | Column I | | Column II |
|---|---|---|---|
| A. | Paramecium | I. | Slime moulds |
| B. | Saprophytic protists | II. | Euglenoids |
| C. | Euglena | III. | Chrysophytes |
| D. | Diatoms & Golden algae | IV. | Gonyaulax |
| E. | Dinoflagellates | V. | Protozoa |

a) A – I ; B – V ; C – III ; D – II ; E – IV
b) A – V ; B – I ; C – II ; D – III ; E – IV
c) A – I ; B – IV ; C – V ; D – III ; E – II
d) A – V ; B – II ; C – III ; D – IV ; E – I

Q.32 Which of the following statements is correct for dinoflagellates flagella?

a) A single flagellum lies in the transverse grove 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

Q.33 Read the following statements and answer the following question :

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

Q.34 The given statements are some characters of a particular group of kingdom protists.

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.
iv. Though, they are photosynthetic in the presence 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

Q.35 Match column I and column II

| | Column I | | Column II |
|---|---|---|---|
| A. | Chrysophytes | I. | Paramecium |
| B. | Dinoflagellates | II. | Euglena |
| C. | Euglenoids | III. | Gonyaulax |
| D. | Protozoans | IV. | Diatoms |

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

# Answers

| | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1. | b | 2. | d | 3. | c | 4. | c | 5. | b | 6. | a | 7. | d |
| 8. | c | 9. | c | 10. | a | 11. | d | 12. | b | 13. | a | 14. | b |
| 15. | a | 16. | d | 17. | b | 18. | c | 19. | a | 20. | a | 21. | d |
| 22. | b | 23. | b | 24. | c | 25. | c | 26. | a | 27. | b | 28. | d |
| 29. | c | 30. | c | 31. | b | 32. | c | 33. | c | 34. | d | 35. | d |

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## Class : XI

## "BIOLOGICAL CLASSIFICATION"

## Level – 3

## (Based on Fungi Kingdom , Viruses , Viroids and Lichens)

Q.1 Yeast Saccharomyces cerevisiae is used in the industrial production of :
a) Citric acid b) Tetracyclin c) ethanol d) Butanol

Q.2 A group of fungi with septate mycelium in which sexual reproduction is either unknown or lacking are classified under :
a) Phycomycetes b) Deuteromycetes c) Ascomycetes d) Basidiomycetes

Q.3 If the thallus of an organism e.g. a fungus is entirely converted into one or more reproductive structure, it is called as :
a) Eucarpic b) Holocarpic c) Holozoic d) Homothallic

Q.4 Clamp connection is found in :
a) Basidiomycetes b) Ascomycetes c) Deuteromycetes d) Phycomycetes

Q.5 The diseases of potato responsible for famous famine of Europe was caused by or late blight of potato is caused by :
a) *Colletotrichum Falcatum* b) *Phytophora infestans*
c) *Potato mosaic virus* d) *Alternaria solani*

Q.6 Gibberellin was first discovered from:
a) Algae b) fungi c) Bacteria d) Roots of higher plants

Q.7 Rhizopus belongs to class :
a) Ascomycetes b) Phycomycetes c) Basidiomycetes d) Deuteromycetes

Q.8 A fungus contains cell with two nuclei from different genomes. The nuclei do not fuse but divide independently and simultaneously as new cells are formed. It belongs to :
a) Phycomycetes b) Zygomycetes c) Deuteromycetes d) Basidiomycetes

Q.9 Yeast is not included in protozoans but in fungi because :
a) It has no chlorophyll.
b) It has some chitin in its cell wall.
c) It has eukaryotic organization
d) Cell wall is made up of cellulose and reserve food material is starch

Q.10 Covered smut of barley is caused by :
a) Ustilago hordei b) Tilletia caries
c) Alternaria d) Colletotrichum falcatum

Q.11 Morels and Truffles groups of fungi are classified as :

a) Phycomycetes b) Deuteromycetes c) Basidiomycetes d) Ascomycetes

Q.12 Yeast is important source of :

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

Q.13 Pseudomycelium is characteristic feature of ;

a) Mushroom b) Mucor c) Bread mould d) Yeast

Q.14 Common form of food stored in a fungal cell is :

a) Glycogen b) Starch c) Glucose d) Sucrose

Q.15 Saccharomyces cerevisiae is :

a) Akaryote b) Prokaryote c) Mesokaryote d) Eukaryote

Q.16 Ergot is caused by :

a) *Claviceps* b) *Penicillium* c) *Aspergillus* d) *Rhizobium*

Q.17 When fungi feed on dead organic matter, they are known as :

a) Dimorphic b) Parasites c) Saprophytes d) None of these

Q.18 Which of the following divisions of fungi includes club fungi?

a) Zygomycota b) Ascomycota c) Deuteromycota d) Basidiomycota

Q.19 Dikaryon formation is characteristic of :

a) Ascomycetes and Basidiomycetes b) Phycomycetes and Basidiomycetes

c) Ascomycetes and Phycomycetes d) Phycomycetes and Zygomycetes

Q.20 Plasmogamy is 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

Q.21 Which of the following does not contain chlorophyll?

a) Fungi b) algae c) Bryophyta d) Pteridophyta

Q.22 Thread like filaments of fungi are known as :

a) Conidia b) Mycorrhiza c) Sporangium d) Hyphae

Q.23 The cell wall of fungi is made up of :

a) Chitin b) Cellulose c) Pectin d) Suberin

Q.24 Common bread mould is :

a) Yeast b) Rhizopus c) Bacteria d) Virus

Q.25 Branched , aseptate , coenocytic mycelium present in :

a) *Aspergillus* b) *Albugo* c) *Penicillium* d) *Alternaria*

Q.26 In manufacture of bread , it becomes porous due to release of $CO_2$ by the action of :

a) Virus b) Yeast c) Bacteria d) Protozoans

Q.27 With respect to fungal sexual cycles, choose the correct sequence of events.

a) Karyogamy , Plasmogamy , meiosis b) Meiosis , Plasmogamy , Karyogamy

c) Plasmogamy ,Karyogamy , Meiosis d) Meiosis , Karyogamy , Plasmogamy

Q.28 Perfect stage of fungus meant :

a) when fungus is perfectly healthy b) When it reproduces asexually

c) When it reproduces sexually d) When it forms perfect resting spores

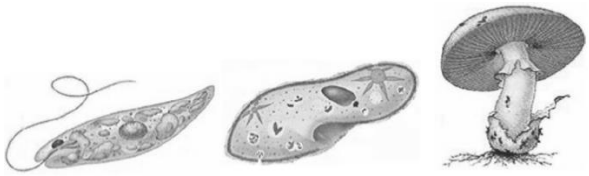
Q.29 Fungi can be parasites on : (i) Animals (ii) Human being (iii) Plants
Choose the answer form the following options:
a) Only (i) b) (ii) and (iii) c) (i) and (ii) d) all of these

Q.30 'Mycorrhizae' are useful for plants mainly due to their which of the following attribute?
a) Fixing atmospheric nitrogen
b) Enhanced absorption of nutrients from soil
c) Killing insects and pathogens
d) Providing resistance against abiotic stresses

Q.31 Red root of sugarcane is caused by :
a) *Puccinia* b) *Albugo* c) *Ustilago* d) *Colletotrichum*

Q.32 Fungi are always:
a) Autotrophs b) Heterotrophs c) Saprophytes d) Parasites

Q.33 Identify the given figures :




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

Q.34 Match column I and column II

| | Column I | | Column II |
|---|---|---|---|
| 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

Q.35 Match column I and column II

| | Column I | | Column II |
|---|---|---|---|
| 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

Q.36 Match column I and column II

| | Column I | | Column II |
|---|---|---|---|
| A. | Phycomycetes | I. | Asexual reproduction by conidia |
| B. | Ascomycetes | II. | Aseptate and coenocytic mycelium |
| C. | Basidiomycetes | III. | Mostly decomposers |
| D. | Deuteromycetes | IV. | Branched and septate mycelium |

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

Q.37 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 *Tricoderma* are examples of this class.

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

a) Phycomycetes b) Deuteromycetes c) Basidiomycetes d) Ascomycetes

Q.38 Read the following 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 exogenously in chain
iv. Sexual spores are ascospores produced endogenously
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

Q.39 Which of the following class of fungi is being described by 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 or by aplanospores
iv. Some common examples are *Mucor , Rhizopus and Albugo*.

a) Ascomycetes b) Phycomycetes c) Basidiomycetes d) Deuteromycetes

Q.40 Which of the following environmental conditions are essential for optimum growth of Mucor on a piece of bread :

(i) Temperature for about 25℃ (ii) Temperature for about 5℃
(iii) Relative humidity of about 5 % (iv) Relative humidity of about 95 %
(v) A shady place (vi) A brightly illuminated place.

Choose the answer from the following options :

a) (ii) , (iv) , (v) b) (ii) , (iii) , (vi) c) (i) , (iii) , (v) d) (i) , (iv) , (v)

Q.41 Select the correct statement about kingdom fungi :

a) Some fungi are natural source of antibiotics.
b) Certain fungi form beneficial interrelationships with plants
c) Their bodies consist of long , slender thread like structures known as mycelium
d) Both (a) and (b)

Q.42 Match column I and column II

| | Column I | | Column II |
|---|---|---|---|
| A. | Red dinoflagellates | *I.* | *Rhizopus* |
| B. | Unicellular fungi used to make bread & 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

Q.43 Select the correct matched from given options :

a) Occurrence of Dikaryotic stage – Ascomycetes and Basidiomycetes
b) Saprophytes – They are autotrophic and absorb soluble organic matter form dead substrates.
c) Sexual reproduction in fungi – Fragmentation , Budding and Sporangiophores.
d) Steps involved in asexual cycle in fungi – Plasmogamy , Karyogamy and meiosis in zygote resulting in haploid spores.

Q.44 Which of the following statements 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

Q.45 Match column I and column II

| | Column I | | Column II |
|---|---|---|---|
| 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 – I ; D – I

Q.46 Match column I and column II

| | Column I | | Column II |
|---|---|---|---|
| *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

Q.47 Read the following statements :

i. Mycelium is branched and septate
ii. The asexual spores are generally not formed.
iii. Sex organs are absent but sexual reproduction takes place by somatogamy.
iv. Vegetative reproduction takes place by fragmentation.
v. Karyogamy and meiosis takes place in Basidium to form haploid four basidiophores
vi. Basidia are arranged in fruiting bodies is called basidiocarp.

The above statements describes :

a) Sac fungi b) Bracket fungi c) Imperfect fungi d) Ray fungi

Q.48 Match column I and column II

| | Column I | | Column II |
|---|---|---|---|
| A. | Edible delicacies | *I.* | *Penicillium , Streptomyces* |
| B. | Experimental genetics | *II.* | *Neurospora crassa* |
| C. | Source of Antibiotics | *III.* | *Puccinia , Ustilago* |
| D. | Rust and smut diseases | *IV.* | *Morels and Truffles* |

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

Q.49 Which of the following statements is/are correct about ascomycetes?

i. *Neurospora* , which is used in biochemical and genetic work is member of this class.
ii. They are mostly multicellular e.g. *Yeast* or rarely unicellular e.g. *Penicillium*
iii. They are saprophytic , decomposers , parasitic.
iv. Some examples are *Aspergillus , Claviceps and Neurospora*.

a) (i) and (ii) b) (ii) c) (i) , (iii) , (iv) d) all of these

Q.50 Which of the following statements is/are correct about Basidiomycetes?

i. They are commonly called 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) (i) b) (ii) and (iii) c) (ii) , (iii) , (iv) d) all of these

Q.51 T. O. Diener discovered a new infectious agent that was smaller than virus and have the following characteristics :

(i) It cause potato spindle tuber diseases
(ii) It has free RNA
(iii) Molecular weight of RNA is low

Identify the infectious agent.

a) Viruses b) Viroids c) Virion d) Mycoplasma

Q.52 A bacteriophage is :

a) A virus attacking a bacterium b) A bacterium attacking a virus
c) A stage in the life cycle of bacterium d) A virus attacking another virus

Q.53 Capsid is :

a) Genetic material of virus
b) Protein cover of virus
c) Extra genetic material of bacterium
d) House keeping genome of bacterium

Q.54 The fact that viruses can undergo crystallization was first proved by :

a) Iwanowski
b) Mayer
c) Stanley
d) Hershey and Chase

Q.55 That part of the virus which gives it genetic integrity?

a) Capsomere
b) Capsid
c) Nucleic acid
d) Nucleotide

Q.56 A 'Phage' is a virus infecting :

a) Human beings
b) plants
c) Animals
d) Bacteria

Q.57 The organism which cannot be grown in artificial culture medium :

a) Bacteria
b) Bacteriophage
c) Algae
d) Fungi

Q.58 A stage in the replication of virus during which the virus particle cannot be detected in the infected cell?

a) Adsorption
b) lysis
c) Eclipse stage
d) Maturation stage

Q.59 HIV is classified as retrovirus because its genetic information is carried in :

a) DNA instead of RNA
b) DNA
c) RNA instead of DNA
d) Protein coat

Q.60 Enveloped virus infects/enters host cell through :

a) Direct penetration
b) Injecting nucleic acid
c) Endocytosis
d) Endocytosis through chemical stimulators

Q.61 The genetic material of Tobacco Mosaic Virus is :

a) ssDNA
b) dsDNA
c) dsRNA
d) ssRNA

Q.62 The site where the protein for the protein coat of the virus is synthesized :

a) RNA of the virus
b) DNA of the virus
c) Plasma membrane of the host
d) Ribosome of the host

Q.63 The genetic material in virus is :

a) Only RNA
b) Only DNA
c) RNA and DNA both
d) RNA or DNA

Q.64 Which one is absent in viruses?

a) Replication
b) Protein synthesis
c) Energy liberation
d) Maturation

Q.65 The part of the virus which gives to it the genetic feature, is :

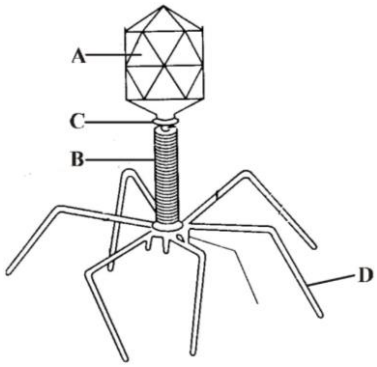
a) Capsid
b) Capsomere
c) Collar sheath
d) Nucleotide

Q.66 The symbiotic association of fungi and algae is called :

a) lichen
b) Mycorrhiza
c) Rhizome
d) Endomycorrhiza

Q.67 Identify the labelled structures A , B , C and D respectively.

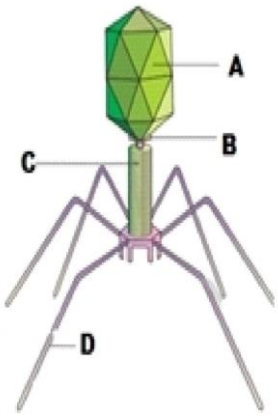
| | A | B | C | D |
|---|---|---|---|---|
| (a) | Tail fibres | Head | Sheath | Collar |
| (b) | Sheath | Collar | Head | Tail fibres |
| (c) | Head | Sheath | Collar | Tail fibres |
| (d) | Collar | Tail fibres | Head | Sheath |



Q.68 Most of the lichens consist of :

a) Brown algae and higher plants
b) Red algae and ascomycetes
c) Blue green algae and ascomycetes
d) Blue green algae and basidiomycetes

Q.69 The given figure shows some structures labelled as A , B , C and D. Which structures has the protein coat that encloses the nucleic acid?




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

Q.70 Match column I and column II

| | Column I | | Column II |
|---|---|---|---|
| A. | Ernest Mayer | I. | Discovered Viroids |
| B. | Whittaker | II. | Gave the name Virus |
| C. | Pasteur | III. | Proposed 5 kingdom classification |
| D. | Diener | IV. | Darwin of $20^{th}$ 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

# Answers

| | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1. | c | 2. | b | 3. | b | 4. | a | 5. | b | 6. | b | 7. | b | 8. | d |
| 9. | b | 10. | a | 11. | d | 12. | b | 13. | d | 14. | a | 15. | d | 16. | a |
| 17. | c | 18. | d | 19. | a | 20. | b | 21. | a | 22. | d | 23. | a | 24. | b |
| 25. | b | 26. | b | 27. | c | 28. | c | 29. | d | 30. | b | 31. | d | 32. | b |
| 33. | a | 34. | a | 35. | d | 36. | a | 37. | b | 38. | b | 39. | b | 40. | d |
| 41. | d | 42. | c | 43. | a | 44. | a | 45. | b | 46. | d | 47. | b | 48. | c |
| 49. | c | 50. | c | 51. | b | 52. | a | 53. | b | 54. | c | 55. | c | 56. | d |
| 57. | b | 58. | c | 59. | c | 60. | b | 61. | d | 62. | d | 63. | d | 64. | c |
| 65. | d | 66. | a | 67. | c | 68. | c | 69. | a | 70. | a | | | | |