

**KHAIRA COLLEGE KHAIRA, BALASORE**

**BOTANY QUESTION BANK**

**SECOND SEMESTER**

**CC-3: MYCOLOGY AND PHYTOPATHOLOGY**

1. Phylum Plasmodiophoromycetes (Lower fungi) belong to kingdom

- |              |             |
|--------------|-------------|
| a) Chromista | b) Protozoa |
| c) Eumycota  | d) Mycota   |

2. The cell wall of the mycelium of true fungi (Eumycota) contains

- |                       |                    |
|-----------------------|--------------------|
| a) Glucan + cellulose | b) Glucan + chitin |
| c) Glucan             | d) Peptidoglycon   |

3. *Mycosphaerella musicola* produces asci within

- |                |                  |
|----------------|------------------|
| a) Perithecium | b) Apothecium    |
| c) Locules     | d) Clestothecium |

4. The teleomorphic stage of *Cercospora* is

- |                          |                        |
|--------------------------|------------------------|
| a) <i>Glomorella</i>     | b) <i>Cochliobolus</i> |
| c) <i>Mycospaherella</i> | d) <i>Pleospora</i>    |

5. Fungi belonging to order Sphaeropsidales produces conidia in

- |              |                 |
|--------------|-----------------|
| a) Pycnidium | b) Acervulus    |
| c) Synemmata | d) Sporodochium |

6. Parasexuality was first discovered by

- |               |                |
|---------------|----------------|
| a) Pontecarvo | b) Erikson     |
| c) De Bary    | d) Robert Koch |

7. The total mass of nucleoprotein of different virus particles vary from

- a) 1-3 million Da
- b) 4.6 to 73 million Da
- c) 50-100 million Da
- d) 10-40 million Da

8. An example of virus containing ds DNA

- a) Caulimovirus
- b) Gemini virus
- c) Tobravirus
- d) Potyvirus

9. The protein subunits of TMV consists of

- a) 260 amino acids
- b) 58 amino acids
- c) 158 amino acids
- d) 200 amino acids

10. Multiplication of virus occurs in

- a) Epidermal cells
- b) Plasmodesmata
- c) Phloem vessels
- d) xylem vessels

11. In the peptidoglycon of the bacterial cell wall the two sugar molecules are connected by

- a) Peptide Cross links
- b) Glycosidic bond
- c) H-bond
- d) S-H bond

12. Porins are present in bacterial cell wall component

- a) LPS layer
- b) EPS layer
- c) Cytoplasmic membrane
- d) Plasma membrane

13. Dolipore septum is found in

- a) ascomycetes
- b) zygomycetes
- c) basidiomycetes
- d) deuteromycetes

14. A computer software system called Field Runner is used to

- a) Measuring chlorophyll content in infected plant
- b) Recording the flight of insect vectors
- c) Sampling plants for disease
- d) Measuring photosynthetic rate of plants

15. Isomerase enzyme patterns in fungal cell is used for

- a) Differentiating races
- b) Differentiating strains (Biotypes)
- c) Measuring spore density
- d) Differentiating species

16. Remote sensing for detecting and controlling disease severity is used in the following altitudes

- a) 2
- b) 3
- c) 5
- d) 6

17. The computerized disease assessment training programme is

- a) DISTRAIN
- b) LOPAT
- c) DAS-ELISA
- d) EPIDEM

18. Measuring the size of the minute objects (spores) in a microscope is known as

- a) Pathometry
- b) Micrometry
- c) Turbidometry
- d) Microtomy

19. Nutritionally, fungi may be best characterized as

- a) photosynthetic autotrophs
- b) chemosynthetic autotrophs
- c) absorptive heterotrophs
- d) ingestive heterotrophs

20. Viruses enter the plant cells through the process of

- a) Osmosis
- b) Pinocytosis
- c) Diffusion
- d) Plasmolysis

21. Sugarcane ratoon stunting is caused by

- a) Phytoplasmas
- c) Cavibacter xyli sub sp xyli

- b) Viroids
- d) Virus

22. Blotter test is used in

- a) Seed health testing
- c) Seed purity test

- b) Seed viability
- d) Seed rate

23. Hyperplasia refers to

- a) Increased cell division
- c) Cell enlargement

- b) Cell death
- d) Decreased cell division

24. An internally seed borne fungal disease

- a) Smut of Ragi
- c) Loose smut of Wheat

- b) Red rot of Sugarcane
- d) Grain smut of Jowar

25. An example of a soil fumigant

- a) Thiram
- c) Bavistin

- b) Methyl bromide
- d) Vitavax

2. Answer any ten questions from the following: 1x10=10

a) Characteristics of zoospore flagella of Chytrids? Are there any exceptions, if yes, name it/them?

b) What is Rumposome and its function?

c) What, and how, is 'dormant kinetosome' evolutionary significant?

d) What is the difference between summer spore and winter spore of Synchytrium life cycle?

e) What are saxicolous and terricolous lichen? What are rhizinae?

f) Name two lichen forming algae each of Cyanophyta and Chlorophyta.

- g) What are Gelatinous lichens? Name aquatic lichen.
- h) What are leprose lichens? What is Breathing pore?
- i) What are Diphycolophilous lichens? What is mazaedium?
- j) Differentiate between Homoisomerous and Heteromerous lichens.
- k) Name one predaceous fungus.
- l) Give example of one edible fungus each of Ascomycota and Basidiomycota.
- m) What is spermatisation?
- n) What is pseudomycelium?
- o) Name one fungus which causes human diseases.
- p) Which antibiotic is known as 'wonder drug'? Name one fungus which produces this drug.
- q) What are coprophilous fungi? Give example.
- r) What are heteroecious fungi? Give example.
- s) Differentiate between macrocyclic and microcyclic rust.
- t) Name two unicellular fungi.
- u) Which fungi is known as Drosophila of Fungal World and why?
- v) Name one aquatic fungus.

2. Answer the following questions (any five): 2 x 5 = 10

- a) Mentions some characteristics of chytrids with evolutionary importance used to classify them from other classes of fungi.
- b) What are the cellular components of Microbody lipid complex.
- c) Write the names of the species causing: Black wart of potato, Large veins of lettuce leaves, attacking freshwater invertebrates.

- d) Describe the asexual cycle of *Synchytrium* sp. (mention of the environmental conditions/or period needed to complete the cycle.).
- e) Classify lichen on the basis of fruiting bodies of fungal component.
- f) Differentiate between foliose and fruticose lichens.
- g) Differentiate between *Cyphellae* and *Cephalodium* .
- h) What are soredia? Differentiate between lecideine type and lecanorine type apothecium.
- i) Write the differences between eucarpic and holocarpic fungi?  
What are flexuous hyphae?
- j) What is dolipore septum? Where do you find it?
- k) What are woronin bodies? What are spindle pole bodies (SPBs)?
- l) Differentiate between diplanetism and polyplanetism?
- m) What are *Synnema* and *Acervulus*?
- n) Write the symptoms of loose smut of wheat.

3. Answer the following questions (Any two):  $5 \times 2 = 10$

- a) What are the different types of thallus found in the chytrids?  
Explain with diagram and examples. Give an example of a genus with inoperculate zoospore.
- (b) What are the different way/s of zoospore germination. Describe the process of 'somatogamy'.
- c) Describe in general the life cycle of chytrids along with diagram.
- d) Write a short note on economic importance of lichen (including ecological importance).
- e) What is clamp connection? What is Buller's drop?

f) What is somatogamy? What is rhizomorph?

g) Write a short note on different types Sexual fruiting bodies of Ascomycota. On the basis of fruit bodies what are the different Sub-Classes of Ascomycota

h) Define parasexual cycle. Briefly describe the steps of parasexual cycle. How it differ from sexual cycle?

i) Write a short note on cell wall structure of fungi. What is Brachymeiosis?

j) Diagrammatically represent the life cycle of Puccinia.