

P. P. SAVANI UNIVERSITY

Fifth Semester of B.Sc. Examination

December-2021

SSMB3030-Mycology-II

10.12.2021, Friday

Time: 12:00 p.m. to 03:00 p.m.

Maximum Marks: 60

Instructions:

1. The question paper comprises of two sections.
2. Section I and II must be attempted in separate answer sheets.
3. Make suitable assumptions and draw neat figures wherever required.
4. Use of scientific calculator is allowed.

Section-I (Total Marks - 30)

Q.1 Short Questions

[10]

1.1 Objectives

[05]

1.1a 'Dolipore Septum' is the characteristic features of

- A Zygomycota
- B Ascomycota
- C Basidiomycota
- D Chytridiomycota

1.1b The symbiotic relationship between fungi and roots of higher plants is called

- A Mutualism
- B Parasitism
- C Lichen
- D Mycorrhiza

1.1c Which of the following lichen is called as the 'reindeer moss'

- A *Cladonia rangiferina*
- B *Cetraria islandica*
- C *Evernia prunastri*
- D *Rocella tinctoria*

1.1d The cell wall composition of fungi is

- A Cellulose
- B Glycogen
- C Lignin
- D Chitin

1.1e Which of the following is known as 'Coprophilous fungi'

- A *Pilobolus*
- B *Puccinia*
- C *Agaricus*
- D *Cercospora*

1.1f In Mushroom cultivation, Spawn is

- A Compost
- B Vegetative mycelium
- C Harvested mushroom
- D Button stage

1.1g *Aspergillus* has _____ hyphae

- A Septate and Uninucleate
 - B Aseptate and Multinucleate
 - C Septate and Multinucleate
 - D Aseptate and Uninucleate
- 1.1h Pseudomycelium is formed in
- A *Aspergillus*
 - B *Synchytrium*
 - C *Rhizophora*
 - D *Yeast*
- 1.1i Which of the following known as 'Bread-mold fungus'
- A *Saccharomyces*
 - B *Rhizopus*
 - C *Puccinia*
 - D *Penicillium*
- 1.1j The fungal partner in Vesicular Arbuscular Mycorrhiza (VAM) belongs to the class
- A Glomeromycetes
 - B Zygomycetes
 - C Ascomycetes
 - D Basidiomycetes

1.2 Answer the Following: (MCQ/Short Question/Fill in the Blanks) [05]

- 1.2a What is the use of phenol cotton blue?
- 1.2b What is chloramphenicol?
- 1.2c Give one example of poisonous mushroom.
- 1.2d What is Hypha?
- 1.2e 'Fairy ring' is formed by _____.

Q.2 Short Notes (Attempt any two) [06]

- A Lichen as a pollution indicators.
- B Mode of nutrition in fungi.
- C The physiology of alcohol-producing *S. Cerevisiae*.

Q.3 Explain in detail (Attempt any two) [14]

- A What are the sources of nutritional requirements in yeast?
- B Classify fungus based on spore formation..
- C Write down the general features and morphological characters of fungi.

Section-II (Total Marks - 30)

Q.1 Short Questions

[10]

1.1 Objectives

[05]

- 1.1a Reproduction in fungi can be through?
- A Asexual reproduction only
 - B Sexual reproduction only
 - C Both sexual and asexual reproduction in all the classes of fungi
 - D Asexual reproduction and sexual in most of the fungi
- 1.1b Fungi can tolerate a range of pH from 2 to
- A 9
 - B 8
 - C 7
 - D 6
- 1.1c Heterotrophic nutrition is
- A oxidation of glucose
 - B breakdown of glucose into energy
 - C utilization of energy obtained by plants
 - D all the above
- 1.1d Deuteromycota class is also called as 'Fungi Imperfecti' as?
- A Hyphae is absent in them
 - B They cannot move
 - C Sexual reproduction is absent in them
 - D They are non-pathogenic to human
- 1.1e Which one of the following is called as the ' brewer's yeast'
- A *Saccharomyces ludwigi*
 - B *Saccharomyces cerevisiae*
 - C *Saccharomyces boulardii*
 - D *Saccharomyces pastorianus*
- 1.1f Fungi are not naturally _____.
- A Occurring
 - B Transformable
 - C Growing
 - D Toxic
- 1.1g The mutualistic association between certain fungi and roots of vascular plants are known as
- A haustoria
 - B mycelium
 - C rhizoids
 - D mycorrhizae
- 1.1h The standard temperature for incubation of fungi is
- A 30°C
 - B 21°C

- C 45°C
- D 37°C

1.1i *Bacillus thuringiensis* is used as

- A Insecticides
- B Fungicide
- C Microbial agent
- D Rodenticide

1.1j Which among this is NOT an opportunistic fungi?

- A *Aspergillus spp.*
- B *Actinomyces*
- C *Cryptococcus neoformans*
- D *Mucorales*

1.2 Answer the Following: (MCQ/Short Question/Fill in the Blanks) [05]

1.2a What are opportunistic mycoses?

1.2b To prevent contamination of the medium by bacteria _____ is used.

1.2c Name any two blood culture system for fungi.

1.2d What is Staib medium?

1.2e Give any two examples of dimorphic fungi.

Q.2 Short Notes (Attempt any two) [06]

A Enumerate the functional components of an idealized fungal cell.

B Importance of *S. Cerevisiae* in the food industry.

C What are the different types of yeasts used in the fermentation of alcoholic beverages?

Q.3 Explain in detail (Attempt any two) [14]

A How are the metabolites produced by fungus important to human welfare?

B What are the secondary metabolites produced by *S. Cerevisiae* during the fermentation process. Give detailed importance about the same.

C Give an overview of the central metabolic pathways of fungi with a diagram.