

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 Which among the following are asexual spores?

- A Blastospores
- B Ascospores
- C Basidiospores
- D Zygosporangia

1.1b Spores formed by sexual reproduction on a club-shaped structure are

- A Ascospores
- B Zygosporangia
- C Basidiospores
- D Oospores

1.1c Which among the following are spores formed by budding?

- A Arthrospores
- B Chlamydoconidia
- C Blastospores
- D Conidiospores

1.1d Ecological importance in terms of bio indicators of pollution is the attribute of

- A Lichens
- B Green algae
- C Fungi
- D Nematodes

1.1e Sexual reproduction is not found in which class of fungi?

- A Ascomycota
- B Zygomycota
- C Basidiomycota
- D None of the above

1.1f The mode of nutrition in which one organism obtains nutrition from other organisms is known as

- A Symbiosis
- B Autotrophic nutrition
- C Saprophytic nutrition

D Heterotrophic nutrition
1.1g Which among these is NOT a primary pathogenic fungi?

- A *Coccidioides* spp.
- B *Histoplasma* spp.
- C *Blastomyces dermatitidis*
- D *Phanerochyte cryosporium*

1.1h Type of spore formed during asexual stage of Ascomycota is called?

- A Conidia
- B Ascospores
- C Zygosporangia
- D Basidia

1.1i In which of the following process does the male nucleus migrates through a fertilization tube into the female gametangium?

- A Gametic copulation
- B Gamete-gametangial copulation
- C Gametangial copulation
- D Somatic copulation

1.1j The storage of the food as lipids or glycogen in fungi is done by

- A Mycelium
- B Hyphae
- C Rhizoids
- D Mucor

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

1.2a Define the term dimorphic switching.

1.2b What are the types of mycoses?

1.2c Full form of MALDI-TOF MS.

1.2d Name a media that can assist sporulation of fungi

1.2e What is mycelium?

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

A Classify fungus based on spore formation.

B Why is *S. Cerevisiae* considered a model organism?

C Write down the general features and morphological characters of fungi.

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

A What are the nutritional and medicinal values of mushrooms?

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

C Different fungal species respond to oxygen availability in diverse ways. What are the types of Yeast and fungal metabolism based on responses to oxygen availability?

Section-II (Total Marks - 30)

Q.1 Short Questions

[10]

1.1 Objectives

[05]

1.1a What is the name of fungal infection in human beings?

- A Mycosis
- B Fungosis
- C Mucorsis
- D None of these

1.1b Penicillin is produced by-----

- A *Aspergillus*
- B *Albugo*
- C *Penicillium*
- D *Spirulina*

1.1c Culture media used for fungus is ...

- A Potato dextroseagar
- B Luria Bertani agar
- C Bennet agar
- D None of these

1.1d How can we recognize the Aspergillosis in tissue?

- A Meta granules
- B Budding cells
- C Pseudohyphae
- D Septate hyphae

1.1e For 'ringworm' causative agent is ...

- A Myeloma
- B Histoplasma
- C Epidermatophyton
- D None of these

1.1f -----fungus is used in production of Alcohol

- A Yeast
- B *Albugo*
- C *Streptomyces*
- D *Penicillium*

1.1g One of fungi used as food from following is -----

- A *Agaricus*
- B *Albugo*
- C *Penicillium*
- D *Aspergillus*

1.1h Cryptococcal meningitis is caused by

- A *Cryptococcus indicus*
- B *Cryptococcusneoformans*
- C Diplococcus
- D Dimorphs

1.1i *Coccidioides immitis* is a dimorphic fungus i.e., it can exist as molds in soil and

spherule in tissues hence termed as

- A Diploid
- B Diplococcus
- C Dimorphic
- D Polymorphic

1.1j One of the common diseases caused by fungi is-----

- A Plague
- B Cholera
- C Typhoid
- D Aspergillosis

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

- 1.2a What are antifungal agents?
- 1.2b What is systemic mycosis?
- 1.2c Give an example of Mycofungicides
- 1.2d Name one fungi causing opportunistic mycosis.
- 1.2e What is fungal metabolite?

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

- A Explain the process of sexual reproduction in fungus.
- B Role of Fungi in bread making
- C Describe the modes of nutrient transport in fungi.

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

- A Give the applications of fungi in Biofertilizer and Enzyme.
- B What are the nutritional and medicinal values of mushrooms?
- C What is mycotoxin? Detail example of few mycotoxin.