

Unit-1

1. Answer the following questions: (1×8)

- (1) Fungi are a special group of plants that lack _____.
- (2) Interwoven fungal hyphae to form rope like structure, which are dark in colour is known as _____.
- (3) Fungal cell wall is made up of _____.
- (4) Rhizopus is commonly known as _____.
- (5) Sexual reproduction in Rhizopus take place by _____.
- (6) The term 'heterothallism' was first used by _____.
- (7) The life cycle in *Saccharomyces cerevisiae* is _____.
- (8) In Puccinia, Haplophase is restricted to alternate host _____.
- (9) In Aspergillus, Asexual reproduction occurs by _____.
- (10) In yeast, ____ number of ascospores are present in ascus.

2. Answer the following questions: (1.5×8)

- (1) Write notes on dikaryotization in Basidiomycetes?
- (2) What is Fairy rings?
- (3) Write brief note on pycnidium in Puccinia?
- (4) Write notes on Parasexuality?
- (5) What are conidiophores in Penicillium?
- (6) Write notes on apothecium?
- (7) Write notes on thallus structure in Zygomycota?
- (8) Write short notes on Sclerotia?

3. Answer the following questions: (2×8)

- (1) Give an account of asexual spores in fungi?
- (2) Write notes on significance of *Neurospora*?
- (3) Brief account on Vegetative structure of *Aspergillus*?
- (4) Describe haplobiontic type of life cycle in *Saccharomyces* ?
- (5) Write short notes on frutification of *Agaricus*?
- (6) Write short notes on *Uredo* spores?
- (7) Write notes on physiological heterothallism?
- (8) Write notes on taxonomy of Zygomycota?

4. Answer the following questions: (6×4)

- (1) Discuss different types of heterothallism and its significance?
- (2) Describe the life history of *Rhizopus*?
- (3) Discuss the life history of *Saccharomyces cerevisiae* ?
- (4) Discuss the method of sexual reproduction in *Penicillium*?
- (5) What do you mean by heterokaryosis? Discuss Parasexual cycle in Ascomycota and its significance?
- (6) Discuss the dikaryotic stages of the life cycle *Puccinia graminis tritici* ?
- (7) Describe the methods of cultivation of mushroom cultivation?

Unit-2

Group-A

1. Answer the following questions: (1x 8 =8)

- i) According to modern classification slime moulds belong to kingdom -----
-----.
- ii) *Physarum* is a ----- slime mould.
- iii) Acellular slime moulds are called -----.

- iv) Oomycota members are commonly called as -----.
 - v) In modern classification oomycota are placed in the kingdom -----
--.
 - vi) ----- is responsible for Irish potato famine in 1840s.
 - vii) Damping off disease is caused by----- oomycota genus.
 - viii)
- Asexual flagellated spores of oomycetes are called -----.

Group-B

2. Answer the following questions: (1. 5x 8 =12)

- i) What are the differences between cellular and acellular slime moulds?
- ii) What are the different types of fruiting bodies in slime moulds?
- iii) What are swarm cells?
- iv) What is the type of life cycle in oomycota members?
- v) Describe the various types of antheridial attachments with respect to oogonium in
oomycota members.
- vi) Describe the mycelia structure of Albugo.
- vii) Draw the graphic life cycle of Phytophthora.
- viii)

Draw the graphic life cycle of Albugo.

Group-C

3. Answer the following questions: (2x 8 =16)

- i) Describe development of sporangium in myxomycetes.
- ii) What are the major differences of oomycota from eumycota?
- iii) Write the systematic position of Phytophthora.

- iv) Describe the vegetative structure of Phytophthora.
- v) Describe asexual reproduction in Phytophthora.
- vi) Write the systematic position of Albugo.
- vii) Write notes on oospore.
- viii) Why oomycota are not considered as true fungi.

Group-D

4. Answer the following questions: (6x4= 24)

- i) Write down the general features found in oomycota.
- ii) Describe sexual reproduction in Phytophthora.
- iii) Describe asexual reproduction in Cystopus.
- iv) Describe sexual reproduction in Cystopus.

Unit-II (iii): Symbiotic association

1) Answer the Following questions (1×8)

- (i) Lichens are examples of _____.
- (ii) Leaf like thallus of Lichen form is known as _____ form.
- (iii) Circular or concave depression or cavities seen on lower surface of foliose thalli _____.
- (iv) Colour of Lichen is due to special pigment _____.
- (v) Photosynthetic partner of Lichen _____.
- (vi) vegetative reproduction occurs by _____, _____ & _____.
- (vii) The term 'Mycorrhiza' was first introduced by _____.
- (viii) The formation of hyphal network in ectomycorrhizal called _____.

(2) Answer the following questions (2×8)

- (i) Write notes on Types of Mycorrhiza
- (ii) Ecological significance of Lichen

- (iii) Symbiosis in Lichen
- (iv) Lichen as Biomonitors of air quality
- (V) Anatomy of Lichen thallus
- (Vi) Structure of Arbuscular Mycorrhiza
- (Vii) Growth forms of Lichen
- (Viii) Mycorrhizal biofertilizers

(3) Answer the following questions (6×4)

- (i) Give an account of reproduction in lichens?
- (ii) Describe the economic importance of lichens.
- (iii) What are Mycorrhiza? Give an account of ectomycorrhiza?
- (iv) Give an account of Arbuscular Mycorrhiza?

Unit-3

(1) Fill in the blanks with one word (1 mark each)

- (i) Baker's yeast is known as_____.
- (ii) Citric acid is produced from fungi_____.
- (iii) Aflatoxins are a mycotoxin produced by_____.
- (iv) Phytophthora palmivora is mycoherbicides used against the_____weed.
- (V) The species _____is known as Oyster mushroom.
- (vi) Jumpstart is a commercial biofertilizer which contains the fungus_____.
- (Vii) Antibiotic Penicillin is obtained from_____.
- (Viii) Early blight of potato is caused by_____.

(2) Short answer type: Answer in 2-3 sentences (1.5×8)

- (i) What do you mean by applied mycology?
- (ii) Name four species of fungi which are edible mushrooms?

(iii) Which fungus is used to bring about alcoholic fermentation?

(iv) Name the fungus which produces Penicillin?

(V) What is cutaneous mycosis?

(Vi) What are mycotoxins? Give some examples?

(Vii) Name some fungal species used as myfungicides?

(Viii) Name some fungal species which are used for biofertilizer production?

(2) Short answer type: Answer the questions in 2-3 sentences(2×8)

(I) What do you mean by applied mycology?

(ii) Name four species of fungi which are edible mushrooms?

(iii) Which fungus is used to used to bring about alcoholic fermentation?

(iv) Name the fungus which produces Penicillin?

(V) What is cutaneous mycosis?

(Vi) what are mycotoxins? Give some examples?

(Vii) Name some fungal species used as mycofungicides?

(Viii) Name some fungal species which are used for biofertilizer production?

(3) Short answer type: Answer the questions within 75 words

(I) write notes on Organic acid production by fungi?

(ii) write notes on Mycorrhizal fungi as biofertilizers?

(iii) what are superficial Mycoses? Give an example?

(iv) What is Mycoinsecticides? Give two example of commercially available Mycoinsecticides?

(V) What is Ergot alkaloid?

(Vi) write notes on production of enzyme by fungi?

(Vii) which fungi used an ideal material for genetic studies?

(Viii) Describe role of fungi in alcohol production?

(4) Long answer type answer the questions with 500 words

(I) Discuss the role of fungi in food industries?

(ii) Describe the methods of cultivation of mushrooms?

(iii) write an essay on fungi as biocontrol agents?

(iv) Give an account of fungal biofertilizers?

(V) Discuss the role of fungi in production of medicine and proteins?

(Vi) Briefly write on fungi and human diseases?

Unit-4

Q1. Fill in the blanks (1 mark each)

- a) The degree of pathogenicity is known as ____
- b) The causal organism of a disease is called ____
- c) Diseases which occur all over the world and cause mass mortality are known as ____ disease.
- d) The causal organism of angular leaf spot of Cotton is ____
- e) White rust of crucifera is caused by ____
- f) Bordeaux mixture is named after a city in ____
- g) Pyrimidines are effective systemic fungicides against ____
- h) Bordeaux mixture Consists of ____ & ____

Q2. Short Answer type : (Within 2-3 sentences)

- a) Into how many categories the various methods adopted for control of plant disease are included?
- b) Name the fungus causing 'whip smut of Sugarcane'
- c) Name any 3 plant diseases occurring in India.
- d) Name the causal organism of early blight of potato
- e) What is pathogenesis?
- f) What is epidemiology?
- g) What is etiology?
- h) What is Infection?

Q3. Sort Answer type : (Within 75 words)

- a) Write the important symptoms of rust disease?
- b) Describe in brief the effect of infection of host physiology?
- c) What are the main objectives of phytopathology? Describe in brief?
- d) What is quarantine?
- e) What are systemic fungicides?
- f) Write a note on hyperparasitism?
- g) Differentiate the symptoms of downy mildews with that of powdery mildews
- h) Into how many categories the plant diseases are classified on the basis of severity of infection and geographical distribution?

Q4. Long Answer type : (Within 500 words)

- a) What is a disease? How plant diseases are classified on the basis of spread and severity of infection?
- b) How will you define pathogenesis? Give a detailed account of the phenomenon of infection.
- c) Describe the main symptoms, nature of causal organism and control of citrus canker?
- d) Describe the main symptoms, nature of causal organism and control of Black rust of wheat?
- e) Describe the main symptoms, nature of causal organism and control of Angular leaf spot of cotton.
- f) Describe the main symptoms, causal organism & control of yellow vein mosaic of Bhindi?
- g) Describe the symptoms, causal organism & control of Tobacco mosaic?
- h) Describe the symptoms, causal organism & control of Early Blight of Potato?