

B.Sc. (Honours) Examination, 2019

Semester-II (CBCS)

Botany

Paper: CC-3 (Core)

(Mycology and Phytopathology)

Time: Three Hours

Full Marks: 40

Questions are of value as indicated in the margin

(Answer question No. 1 and any four from the rest)

1. Answer any *eight* from the following questions: 1x8=8
 - a) State two unique properties of Mycoplasma
 - b) Name two double stranded RNA virus, which are pathogenic to plants
 - c) What is the unique lipid found in the cell membrane of true fungi?
 - d) Why are Oomycetous fungi not considered as true fungi?
 - e) State the composition of Bordeaux mixture
 - f) Why are monocots not infected by *Agrobacterium tumefaciens*?
 - g) In which Phylum, do most of the plant pathogenic bacteria belong?
 - h) What is Hartig's net?
 - i) Name the primary and secondary inocula of the late blight of potato pathogen
 - j) Name one antifungal antibiotic that inhibits fungal cell wall biosynthesis
 - k) Name the monomer of chitin
 - l) Distinguish between hypertrophy and hyperplasia.
2. Name two edible mushrooms. What is spawn? How is it prepared? Discuss the nutritional value of mushroom. Describe briefly the cultivation process of any mushroom. 1+1+2+2+2=8
3. Describe different types of lichens citing examples. Draw a neat sketch of the internal anatomy of a foliose lichen thallus. Discuss the economic importance of lichen. 2+3+3=8
4. Describe the role of different enzymes in the entry process by a virulent fungal pathogen into a susceptible host through the cell wall. Distinguish between white- and brown- rot fungi. Name two cell wall proteins of plants. 3+3+1+1=8
5. Answer the following: 2x4=8
 - a) Give a comparative account of the conidial structures of *Alternaria solani*, *Helminthosporium oryzae* and *Fusarium oxysporum*
 - b) Name two rot causing pathogens of plants and state atleast one characteristic feature of each.
 - c) Characterize the pathogen of bacterial blight of rice.
 - d) What are different spore forms found in the life cycle of *Puccinia graminis pv tritici* and mention their ploidy levels.

P.T.O.

(2)

6. Write short notes on:

2×4=8

- a) Ascus development in *Ascobolus* sp.
- b) Role of fungi in production of cholesterol lowering- and immunosuppressive- agents
- c) Tab-toxin
- d) Types of Aflatoxin

7. Write notes on:

2×4=8

- a) Systemic fungicides
 - b) Hyperparasites
 - c) Difference between SAR and ISR
 - d) Constitutive chemical defence in plants with suitable examples
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