B.Sc. (Honours) Examination, 2017

Semester-II

Botany

Course: BBC-21 (Core)

(Mycology and Plant Pathology)

Time: 3 Hours **Full Marks: 40**

Questions are of value as indicated in the margin.

1. Answer ***any eight*** of the following questions: 1x8=8
   a) In which group of fungi dolipore septum is found?
   b) State the ploidy nature of aeciospore and basidiospore.
   c) What are rhizines?
   d) What are capsomers? How many capsomers are found in TMV?
   e) Name the principal organism used in production of surface cheese.
   f) What is trama?
   g) Name the lichen from where Litmus is extracted.
   h) What are rami and metulae?
   i) Write down the composition of Bordeaux mixture.
   j) Name the perfect stage of the pathogen causing wilt of pigeon pea.
   k) Name one antifungal antibiotic with its mode of action.
   l) Why *Agrobacterium tumefaciens* is unable to infect monocot plants?
2. Answer ***any two*** of the following:
   (a) What are the unique properties of fungi? Briefly describe different methods of sexual reproduction of fungi with suitable diagrams. 3+5=8
   (b) What are the methods of vegetative reproduction in *Saccharomyces cerevisiae*? Describe different types of life cycle patterns found in yeast with suitable examples. Mention the economic importance of *S. cerevisiae.* 2+4+2=8
   (c) Write short notes on: 2x4=8
      (i) Parasexuality in fungi
      (ii) Role of fungi in cholesterol lowering and immunosuppression
      (iii) Nutritional values of mushroom
      (iv) Clamp connection
3. Answer ***any two*** of the following:
   (a) Characterize the causal organism of late blight of potato. Briefly describe the symptoms, disease cycle and suitable management strategies for this disease. 1+(2+3+2)=8
   (b) Differentiate between host specific toxin (HST) and non host specific toxin (NHST). Name one HST and one NHST with their producing organisms, chemical nature and mechanisms of action. 2+6=8
   (c) Write short notes on: 2x4=8
      (i) Systemic fungicides
      (ii) Role of pathogenic cellulases in host entry process
      (iii) Pre infective chemical defense
      (iv) PR proteins
