2 0 1 7

(April)

BOTANY

(Elective)

(Microbiology, Mycology and Plant Pathology)

(BOTELH–401)

Marks : 56

Time : 3 hours

*The figures in the margin indicate full marks
for the questions*

Answer five questions in total. Question No. **1**
is compulsory. Select the remaining **four** questions
one from each Section

1. Write short notes on the following :   4×4=16
   - *(a)* Archaebacteria
   - *(b)* Pasteurization
   - *(c)* Economic importance of lichens
   - *(d)* Koch's postulates

SECTION—I

2. With the help of suitable diagram, describe
   the ultrastructure of a bacterial cell.   10

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3. Explain with diagrams the lytic cycle of
   viruses.   10

SECTION—II

4. Describe various phases of a typical
   microbial growth curve.   10

5. Give a brief account on the role of microbes
   in decomposition of organic matter.   10

SECTION—III

6. What is heteroecious fungus? Describe the
   life cycle of *Puccinia*.   1+9=10

7. Write brief accounts on the following :   5×2=10
   - *(a)* Development of ascus
   - *(b)* Economic importance of fungi

SECTION—IV

8. Describe in brief disease symptoms, disease
   cycle and control measures of late blight of
   potato.   3+5+2=10

9. Write notes on the following :   5×2=10
   - *(a)* Dissemination of plant diseases
   - *(b)* Classification of plant diseases based on
     causal organisms

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2 0 1 8

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for the questions*

Answer **five** questions in total including
Question No. **1** which is compulsory and select the
remaining **four** questions, **one** from each Section

1. Write short notes on the following :   4×4=16

    (a) Mycoplasmas

    (b) Food spoilage and food poisoning

    (c) Ascus development

    (d) Disease cycle of early blight of potato

SECTION—I

2. Describe the binary fission and endospore formation in bacteria.   5+5=10

3. Describe the structure of TMV and bacteriophage T_4 with suitable diagram.

     5+5=10

SECTION—II

4. Classify microbes on the basis of nutrition giving example in each case.   10

5. What are antibiotics? Explain their mode of action.   2+8=10

SECTION—III

6. Give a brief outline of Ainsworth's classification of fungi mentioning identifying characters with examples.   10

7. Write notes on the following :   5+5=10

     (a) Vegetative structure in fungi

     (b) Growth forms of lichens

SECTION—IV

8. Give an account of biochemical defense mechanisms in plants against infection.   10

9. Write explanatory notes on the following :   5×2=10

     (a) Transmission of diseases

     (b) Citrus canker

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