Duration :3 Hrs. **Course code:USBO501/02/2022 Total Marks: 100**

N.B.

1. All questions are compulsory.
2. Draw neat labelled diagrams wherever necessary.
3. All questions carry equal marks.

Q.1.	Answer the following questions in brief **(any two)**	20
a	Discuss sterilization of microbial cultures by filtration.	
b	Explain the minimal requirements of culture medium.	
c	Describe the methods for obtaining the pure cultures of microorganisms.	
d	Describe the methods of staining for the visualization of various structures in bacteria.	
Q.2.	Answer the following questions in brief **(any two)**	20
a	Describe the general characters of division Rhodophyta.	
b	Discuss the post fertilization changes in *Bactrachopermum*.	
c	Describe external and internal morphology of *Vaucheria* thallus.	
d	Describe the cell structure of *Pinnularia*. Add a note on its systematic position.	
Q.3	Answer the following questions in brief **(any two)**	20
a	Discuss the life cycle of *Puccinia*.	
b	Describe life cycle of *Agaricus*. Add a note on its systematic position.	
c	Describe the general characters of Deuteromycetes.	
d	Give the systematic position of *Alternaria*. Add a note on its life cycle.	
Q.4	Answer the following questions in brief **(any two)**	20
a	Give an account of the causal organism, symptoms and predisposing factors of damping off Seedling disease .	
b	Describe in detail the causal organism, symptoms, disease cycle and control measures of Citrus canker disease	
c	Describe in detail the symptoms, casual organism and disease cycle of white rust of Crucifers.	
d	Explain in brief the physical,chemical and biological control methods of plant diseases.	
Q.5	Answer the following questions in brief **(any four)**	20
a	Purpose of staining	
b	Systematic position of *Polysiphonia*	
c	Gongrosira stage in *Vaucheria*	
d	Systematic position of *Puccinia*	
e	Tikka disease of groundnut causal organism and control measures.	
f	Control measures of leaf curl of Papaya.	

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