

Time: 3 Hours

Marks: 80

Question no. 1 is compulsory.

Attempt any 3 out of remaining questions.

Draw diagrams wherever necessary.

Q1. Write short note on: (ANY 4)

(5X4=20)

- a) Algae b) Turbidostat c) Resistance mechanism
- d) Overlay method e) Streak-plate method

Q2. a) What are bacterial toxins? Discuss their mode of action. (10)

b) State and describe any **two** fungal infections. (10)

Q3. a) Discuss the nutritional requirements of microorganisms. (10)

b) What is a media? Describe selective and differential media. (10)

Q4. a) Distinguish between continuous culture and Batch culture. (08)

b) Explain various phases of microbial growth with reference to growth curve. (06)

c) What is synchronous culture? (06)

Q5. a) Explain the application of autoclave and hot air oven for control of microbial growth. (10)

b) Describe any **two** chemical methods of microbial sterilization. (10)

Q6) a) Discuss various anti-bacterial drugs and their mechanisms. (10)

b) Explain the role of soil as a habitat for microorganisms and state its physico-chemical properties. (10)