Odd Semester, 2020

(Held in March, 2021)

BIOTECHNOLOGY

(Honours)

(Microbiology and Environmental Biotechnology)

Marks : 56

Time : 3 hours

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

Answer Question No. **1** which is compulsory and
any **four** from the rest

1. Write briefly on the following : 2×6=12

(a) Biopesticides

(b) Koch's postulates

(c) Pathogens

(d) PPLOs

(e) Antibiosis

(f) Fermentation

2. Define pure culture. Why is it important to obtain a pure culture? Describe the different techniques used to obtain a pure culture. 2+3+6=11

3. Define symbiosis. Discuss the role of N-fixing microbes in growth and development of the host plant. 2+9=11

4. Write short notes on any *two* of the following : 5½×2=11

(a) Genetic recombination in microbes by transduction

(b) Microbes in industrial production of drugs

(c) Microbial growth curve

5. Write short notes on any *two* of the following : 5½×2=11

(a) Microbial conversion of sugars to ethanol

(b) Microbial production of hydrogen

(c) Microbial degradation of pesticides

6. Define municipal wastes and industrial effluents. How would unmanaged waste disposal impact the environment? Describe the prospects of waste management and its treatment. 3+4+4=11

(3)

7. Elaborate on the following :   5½×2=11

    (a) Cause and consequences of ozone depletion

    (b) Role of GEMs in the environment

8. List different biological assessment methods of environmental quality. Discuss the importance of biotechnology in solving environmental problems.   3+8=11

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