

5/H-77 (vi) (Syllabus-2015)

2 0 1 8

(October)

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. Define sterilization. Discuss in detail the various methods of sterilization used in microbiology. $2+10=12$
2. Write short notes on any two of the following : $5\frac{1}{2}\times 2=11$
 - (a) Bacterial growth curve
 - (b) PPLOs
 - (c) Peptidoglycan layer

(Turn Over)

(2)

3. Define genetic recombination. How does genetic recombination take place in bacteria? $2+9=11$
4. Describe in detail the different mechanisms by which a pathogen evades the host defense system. 11
5. Write short notes on the role of microbes of any two of the following : $5\frac{1}{2}\times 2=11$
- (a) Penicillin production
 - (b) Hydrogen production
 - (c) Ethanol production
6. What do you mean by 'biogas'? Write in detail about biogas production from biomass. Also mention its applications. $1+6+4=11$
7. Discuss in detail of any two of the following : $5\frac{1}{2}\times 2=11$
- (a) Greenhouse effect
 - (b) GEMs
 - (c) Bioassessment of environmental quality
8. What is a biogeochemical cycle? How can prokaryote influence biogeochemical cycle? Discuss in detail the carbon cycle. $3+3+5=11$

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