

M.Sc.-Biotech.-IVS-(4.1)

2015

Full Marks : 40

Time : 2 Hours

*Answer any **four** questions from any one
Group as per your syllabus
All questions carry equal marks*

Group-A (New Syllabus)

(Environmental Biotechnology)

1. Give an account of the methodologies for environmental management.
2. Describe the application of biotechnological processes for control of air pollution.
3. Write notes on the following :
 - (a) Water hyacinth ponds for waste water treatment.
 - (b) Methods for measurement of water pollutants.
4. Describe the design, functions and limitations of a rotating drum reactor.
5. Write short notes on the following :
 - (a) Treatment of waste waters of sugar industry.
 - (b) Anaerobic digestion of sludge.
6. Describe the methods and environmental application of microbial immobilization of heavy metals.
7. Write short notes on the following :
 - (a) Degradative plasmids
 - (b) Root zone treatment as a means for phytoremediation.

(Turn over)

(2)

8. Describe the process of aerobic treatment of lignified solid wastes.

Group-B (*Old Syllabus*)

(Bioprocess Engineering and Technology)

1. Describe briefly on design and types of different bioreactor.
 2. Write short notes on the following :
 - (a) Pure Culture
 - (b) Microbial Growth.
 3. Describe briefly on fermentation process of involved in continuous bioreactors and their advantages.
 4. Write short notes on the following :
 - (a) Foam separation
 - (b) Precipitation and filtration
 5. Describe about the process of industrial production of Alcohol.
 6. Write short notes on the following :
 - (a) COD
 - (b) Photo-bioreactors
 7. What are single cell proteins ? Describe about the microorganisms used as single cell proteins.
 8. Write short notes on the following :
 - (a) Pasteurization
 - (b) Canning and packing.
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