



R-3841
M. Sc. (Sem. VI) (Integrated Biotechnology)
Examination
May / June – 2010
IBT-604 : Environmental Biotechnology
(New Course)

Time : 3 Hours]

[Total Marks : 70

Instructions :

(1)

<p>नीचे दृशविवेक निशानीवाणी विगतो उत्तरवडी पर अवश्य लखवी. Fillup strictly the details of signs on your answer book.</p> <p>Name of the Examination :</p> <p>M. Sc. (Sem. 6) (Integrated Biotechnology)</p> <p>Name of the Subject :</p> <p>IBT-604 : Environmental Biotechnology (New)</p> <p>Subject Code No. : 3 8 4 1 Section No. (1, 2,.....): 1&2</p>	<p>Seat No. :</p> <table border="1" style="width: 100%; height: 20px;"><tr><td style="width: 15%;"></td><td style="width: 15%;"></td><td style="width: 15%;"></td><td style="width: 15%;"></td><td style="width: 15%;"></td><td style="width: 15%;"></td></tr></table> <div style="border: 1px solid black; border-radius: 15px; height: 60px; margin-top: 10px; display: flex; align-items: center; justify-content: center; padding: 10px;">Student's Signature</div>						

- (2) Figures to the right indicate full marks of the question.
- (3) Draw neat and labeled diagram whenever necessary.
- (4) Both sections must be written in **separate** answer books.

SECTION - I

- 1 Attempt the following : 5
 - (1) What is ATS ? Give its application in Phytoremediation.
 - (2) What is return activated sludge (RAS) ? Give its significance.
 - (3) Define the term : Soil Banking. Give its application.
 - (4) Explain : Methanogenesis. Give one example of Acetoclastic methanogen.
 - (5) What is carbon sequestration ? Give its significance.
- 2 What is bulking sludge ? Name several important 10
microbial groups that contribute to this problem. Explain
in detail construction and biochemistry of Trickling filter.

OR

2 Describe the major types of phytoremediation. What is the role of microorganisms in each of these processes ? 10

3 Define Sewage. Give characteristics of Sewage. How sewage can be treated in modern era ? 10

OR

3 Describe in detail degradation Aromatic and aliphatic hydrocarbons. 10

4 State the general characters of any two : 10

- (a) Anaerobic sludge digestion
- (b) Removal of N and P by ASP
- (c) Biosolids - their classes

SECTION - II

1 Attempt the following : 5

- (1) Give two examples of microbes which can produce Biopolymer.
- (2) What is Biodiversity ?
- (3) What is Red Data book ?
- (4) Explain the term bioleaching.
- (5) Define biofertilizer.

2 Explain in detail various methods involved in metals recovery from low grade ore. 10

OR

2 Enlist the threatened species and discuss in detail the major factors affecting to loss of biodiversity. 10

3 What is transgenic crop ? Give few examples of it. Explain its socio-economic impact. 10

OR

3 Elaborate a note on "Methods for conservation of Biodiversity". 10

4 Write short notes on any two : 10

- (a) Biodiversity and IPR
- (b) Micropropagation : a remedy for reforestation
- (c) Biopesticides.