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MEVE-13

M. SC. (ENVIRONMENTAL SCIENCE)

Term-End Examination

June, 2024

MEVE-13 : ENVIRONMENTAL BIOTECHNOLOGY

Time : 3 Hours

Maximum Marks : 100

Note : Answer any *ten* questions. All questions carry equal marks.

1. What is environmental biotechnology ? Describe the application of environmental biotechnology in environmental cleanup. 3+7=10
2. What is activated sludge ? Give detailed treatment process and its advantages. 8+2=10
3. Describe the process of landfilling composting and vermicomposting. 10
4. Discuss the application of nanotechnology in bioremediation and recovery of products. 10
5. Write short notes on any *two* of the following :
5+5=10
 - (a) Degradation of cellulose
 - (b) Degradation of lignin
 - (c) Use of agrowaste in mushroom cultivation

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6. Define silage. Describe the process of ensiling and silage production. 2+8=10
7. Describe major sources, types of xenobiotics and their degradation. 10
8. Write down the salient features of bioremediation. Give its advantages and limitations. 8+2=10
9. Write a note on biofilters and bioreactors and their applications. 5+5=10
10. Define phytoremediation. Describe mechanism and process of phytoremediation. 2+8=10
11. Explain categories of biofuels. Discuss the limitation and potential of various categories of biofuel. 5+5=10
12. Describe salient features of bioplastics, their applications and challenges. 10
13. Write short notes on the following : 5×2=10
 - (a) Biomarker
 - (b) Biobleaching
14. Describe nitrogen fixing biofertilizers and phosphorus contributing biofertilizers with suitable examples. 10