

U.G. 5th Semester Examination-2020**ENVIRONMENTAL SCIENCE****[HONOURS]****Course Code : ENVS-H-CC-L-11****(Environmental Biotechnology)**

Full Marks : 40

Time : $2\frac{1}{2}$ Hours*The figures in the right-hand margin indicate marks.**Candidates are required to give their answers in their own words as far as practicable.*

1. Answer any **five** of the following: $2 \times 5 = 10$
- Define integrated pest management.
 - What do you mean by central dogma?
 - Name two restriction endonuclease enzyme along with their respective restriction site.
 - Define bioremediation.
 - Write down the functions of nucleases.
 - What do you mean by DNA proof reading activity?
 - Differentiate between plasmid and episome.
 - Define methanogenesis.
2. Answer any **two** of the following: $5 \times 2 = 10$
- Explain the mechanism of phytoremediation with examples.

- Write a short note on cDNA library.
 - Illustrate the role of recombinant DNA technology in strain improvement.
 - Explain the post translational modifications of amino acids.
3. Answer any **two** of the following: $10 \times 2 = 20$
- What are cloning and expression vector? Describe the structure of a bacteriophage along with a neat sketch. $4 + 6 = 10$
 - State the major differences between DNA and RNA. What are the different forms of DNA? Explain with the help of a neat sketch the mechanism of DNA synthesis. $3 + 3 + 4 = 10$
 - Define vermicomposting. Explain in brief the role of vermicomposting in environmental management. Write down the methods of wastewater treatment with a diagram. $2 + 3 + 5 = 10$
 - Write short notes on the following:
 - Biocontrol of plant pathogens
 - Biological significances of different forms of RNAs $5 + 5 = 10$

[Turn over]