

U.G. 5th Semester Examination - 2021**ENVIRONMENTAL SCIENCE****[HONOURS]****Course Code : ENVS(H)CC-P-11/PR****[PRACTICAL]****(Environmental Biotechnology)**

Full Marks : 20

Time : 2 Hours

*The figures in the right-hand margin indicate marks.**Candidates are required to give their answer in their own words as far as practicable.*Answer **any two** of the following : $10 \times 2 = 20$

1. a) Write down the principle and procedure of catalase estimation. State the methods for carbohydrate and protein estimation.

$$5 + 2\frac{1}{2} + 2\frac{1}{2} = 10$$

- b) Write down the isolation and characterization procedure of bacteria from water sample. Explain the principle and procedure of Gram staining of bacterial samples. $5 + 5 = 10$
- c) Write down the methodology for counting the bacteria with help of spread plate technique.

Explain the principle and procedure of estimation of total chlorophyll from leaf sample. $5 + 5 = 10$

- d) Explain the principle and procedure of peroxidase estimation. Discuss the significance of peroxidase activity as a bioindicator of environmental pollution. $7 + 3 = 10$

[Turn over]