U.G. 1st Semester Examination - 2020
ENVIRONMENTAL SCIENCE
[HONOURS]
Course Code : ENVS-H-CC-P-02
(Environmental Chemistry and Environmental Physics)
[PRACTICAL]

Full Marks : 20   Time : 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. a) Write the difference between primary and secondary standard solutions.

    b) Calculate the amount of oxalic acid to be taken to prepare 250ml(N/10) solution of it.

    c) What does alkalinity of water mean?

                                   3+4+3=10

2. a) What do you mean by hardness of water?

    b) A waste water sample contains 50mg/L of Ca^{2+} and 36.5mg/L of Mg^{2+}. What is the total hardness of the water sample in mg/L as $CaCO_3$?

    c) State the principle and procedure for the determination of soil organic matter.

                                   2+3+5=10

3. a) What is the biological importance of iron?

    b) A solid is known to contain iron(III). Outline how you could determine the iron content using a redox titration with standard potassium dichromate solution.

    c) Give the redox reaction that takes place between iron(II) and potassium permanganate during estimation of iron at room temperature.

                                   2+6+2=10

4. a) Distinguish between renewable and non-renewable energy.

    b) Define biomass. What are the popular biomass sources used in India?

    c) Illustrate the standard process of biogas production with a sketch.   3+3+4=10

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