U.G. 5th Semester Examination - 2021

CHEMISTRY

[HONOURS]

Course Code : CHEM(H)CC-P-12/PR

[PRACTICAL]

Full Marks : 20   Time : 2 Hours

The figures in the right-hand margin indicate marks.

Candidates are required to given their answer in their own words as far as practicable.

Answer any **four** questions from the following: 5×4=20

1. Define molar extinction coefficient. What is the unit of molar extinction coefficient? How will you test the validity of Lambert-Beer's Law for $K_2Cr_2O_7$ solution?   1+1+3

2. Distinguish between surface-tension and surface energy. What is unit of surface-tension? What is the basis of determining surface-tension of a liquid using a stalagmometer?   1+1+3

3. What is the Critical Micelle Concentration (CMC) of surfactants? How is the CMC of a surfactant determined spectrophotometrically?   1+4

[Turn over]

4. What is the unit of second order rate constant? Briefly discuss the principle for the spectrophotometrical study of the kinetics of the reaction between $S_2O_8^{2-}$ and I^-.   1+4

5. What are acid-base indicators? Give examples. How is the pH of an unknown buffer measured spectrophotometrically?   1+1+3

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