

UG 5th Semester Examination 2021

CHEMISTRY [Theory]

Course Code: CHEM-H-CC-12

Full Marks: 10

Answer any one questions

1. a. Explain fluorescence and phosphorescence in terms of singlet and triplet state.
- b. A certain system absorbs 3×10^{18} quanta of light per second on irradiation for 20 minutes 0.003 mole of the reactant was found to have reacted. Calculate the quantum yield for the process.

[6+4 = 10]

OR

2. a. Discuss the mechanism of heterogeneous catalytic reactions with the help of some examples.
- b. A drop of water, 0.4 cm in radius, is split up into 125 tiny drops. Find the increase in surface energy. [$\gamma_{\text{water}} = 72$ dynes/cm]

[6+4 = 10]