Government General Degree College, Dantan-II
B. Sc (H) 4th Semester Internal Evaluation-2020

Subject: Chemistry **Paper: CC-10 (T+P)**

F.M: 20 (Theory) + 10 (Practical) **Time: 2 h**

Answer any **one question** from each Part.

Part A : Organic Chemistry (Theory)

1. (a) Ehtlene absorbs at 164 nm in the UV, whereas 1,3-butadiene absorbs at 217 nm. – Explain.
(b) The UV spectrum of phenol changes when the medium is changed from water to aqueous-alkai. – Explain.
(c) The UV absorption maximum of aniline in acidic solution almost the same as that of the benzene. – Explain.
(d) why UV-Vis Spectroscopy is called electronic spectroscopy.

2. (a) What is finger print region in IR-spectroscopy? Mention its usefulness.
(b) Why do primary amides show two N-H bands while secondary amides show only one in their IR-spectra.
(c) MeOH shows C-O stretch at 1034 cm^{-1} where as in EtOH the C-O stretch is observed at 1053 cm^{-1}. – Explain.
(d) The frequency of O-H stretch in phenol can be lowered by 40-100 cm^{-1} whenthe IR spectrum is recorded in benzene solution compare to CCl_4 solution. – Explain.

3. (a) What do you mean by spin-spin relaxation and spin-lattice relaxation in ^{1}H-NMR spectroscopy?
(b) Prove that for a particular nucleus $\nu \propto H_0$ in NMR spectroscopy.
(c) In ^{1}H-NMR spectroscopy how many signal will be there fort the following compounds – Acetone, cyclobutane, ethylalcohol,.

4. (a) Write short note on “Large ring synthesis: High dilution technique”.
(b) What do you mean by readily available starting material?
(c) Define the following term with suitable example.
FGI, FGA, SN and SE.

Part B : Organic Chemistry (Practical)

1. Write the principle involved for the estimation of glycine by Sörensen’s formol method
2. Describe the experimental procedure for the estimation of glucose by titration using Fehling’s solution
3. Write the principle involved for the estimation of vitamin-C (reduced)
4. Describe the experimental procedure for the estimation of aromatic amine (aniline) by bromination (Bromate-Bromide) method
5. Write the principle involved for the estimation of formaldehyde (Formalin)