M.Sc. DEGREE EXAMINATION,APRIL 2020
II Year III Semester
Organic Chemistry - III

Time : 3 Hours **Max.marks :75**

Section A $(10 \times 2 = 20)$ Marks

Answer any **TEN** questions

1. What is finger print region in IR spectra?
2. What is the effect of solvent on vibrational frequency?
3. What do you mean by steric inhibition of resonance?
4. Give the Woodward Fieser rule for alkenes...
5. Define Chemical exchange in NMR.
6. What is NOE?
7. Give two differences between PMR and CMR
8. Sketch a C^{13} NMR to show the chemical shift.
9. What are molecular ion peaks?
10. Write down one application of nitrogen rule.
11. What is virtual; coupling?
12. What do you mean by Stokes and anti stokes lines?

Section B $(5 \times 5 = 25)$ Marks

Answer any **FIVE** questions

13. Discuss the effect of hydrogen bonding on vibrational frequency.
14. How are geometrical isomers differentiated by UV spectra?
15. With necessary graph explain Karplus curve.
16. Explain principle behind ^{13}C NMR
17. Write note on McLefferty rearrangement.
18. Discuss the use of NMR in polymer
19. Explain the use of Shift reagents with example.

Section C $(3 \times 10 = 30)$ Marks

Answer any **THREE** questions

20. Discuss the application of Raman spectra in structural determination..
21. Explain the use of UV spectra in the study of steric effect in aromatic compounds..
22. Briefly explain solid state NMR.
23. Write down a brief account of use of ^{13}C C NMR in structural elucidation.
24. Discuss the applications of MS in molecular weight determination..

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