C. ABDUL HAKEEM COLLEGE (AUTONOMOUS),
MELVISHARAM - 632 509.
SEMESTER EXAMINATIONS, NOVEMBER - 2018

M.Sc., CHEMISTRY **SEMESTER III**

P15MCH301 – ORGANIC SPECTROSCOPY AND NATURAL PRODUCTS

Time: Three Hours Maximum: 75 Marks

SECTION - A (5 X 6 = 30 Marks)

Answer **ALL** Questions.

1. a) Discuss the various types of electronic transistion.

(Or)

b) Write notes on i) Functional group region ii) Finger print region.

2. a) What is Coupling Constant? What are the factors that govern coulpling constant?

(Or)

b) Explain the shift reagents in NMR spectroscopy.

3. a) Discuss the chemical ionization(CI) mass spectroscopy.

(Or)

b) Describe axial haloketone rule.

4. a) Write a note on the Hofmann exhaustine methylation in alkaloids.

(Or)

b) Establish the structure of Camphor.

5. a) Describe the conversion of cholestereol to progesterone.

(Or)

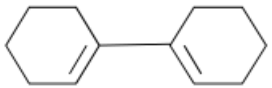
b) Discuss the synthesis of imidazole.

SECTION - B (3 X 15 = 45 Marks)

Answer **ANY THREE** Questions.

6. a) Explain the steps involved in Woodward-Fieser rules for calculating absorption maximum in Dienes.

b) Calculate absorption maximum for



c) Calculate λ_{max} for the given structure.

7. a) Discuss the application of NMR spectroscopy.

b) Explain the fourier transform NMR spectroscopy.

8. Explain the following in Mass spectroscopy.

a) Homolytic cleavage.

b) Heterolylic cleavage.

9. Establish the structure of Citral.

10. Write notes on:

a) Anthocyanin.
b) Guanine.
c) Oxazole.
d) Cytocine.

****