

**PSG COLLEGE OF ARTS & SCIENCE**  
(AUTONOMOUS)

**MSc DEGREE EXAMINATION JUNE 2018**  
(First Semester)

Branch - **CHEMISTRY**

**ORGANIC CHEMISTRY -1**

Time : Three Hours

Maximum : 75 Marks

Answer ALL questions

ALL questions carry **EQUAL** marks

(5 x 15 = 75)

- 1 a With a suitable example, explain inductive effect. (4)
- b Give an account on hyper conjugation. (4)
- c What is primary and secondary kinetic isotopic effects? Explain. (7)

OR

- d Discuss any two non kinetic method of study of reaction mechanism, (8)
- e Write note on Hammett and Taft equation. (5)
- f What is microscopic reversibility? (2)
  
- 2 a Explain the inter conversion of Fischer, Newman and Sawhorse projection formula with suitable example. (6)
- b Give an account on optical isomerism in biphenyls. (6)
- c Write short note on asymmetric synthesis. (3)

OR

- d Discuss the conformation and stereochemistry of disubstituted cyclohexane. (8)
- e Describe the determination of configuration of aldoximes and ketoximes with suitable example. (7)
  
- 3 a Discuss the effect of solvent on nucleophilic substitution reactions. (5)
- b Write the stereochemistry of SN<sup>2</sup> reaction. (5)
- c Discuss the reactivity of benzyne intermediate. (5)

OR

- d Explain neighbouring group participation with suitable example. (5)
- e Neatly give the mechanism of Zeigler alkylation and Chichibabin reaction. (10)
  
- 4 a Elucidate the structure of quinine. (10)
- b Write a short note on starch and cellulose. (5)

OR

- c Elucidate the structure of thiamine. (10)
- d Write note on structure and conformation of sucrose. (5)
  
- 5 a Describe the synthesis, reactivity and applications of pyrazoles. (10)
- b Write a note on chemistry of luteoline. (5)

OR

- c Give an account on structure and synthesis of flavones.