

Roll No. 

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Total No. of Pages : 02

Total No. of Questions : 10

B.Pharmacy (Sem.-2)

**PHARMACEUTICAL CHEMISTRY-III (Organic Chemistry-I)**

Subject Code : PHM-124

Paper ID : [D0110]

Time : 3 Hrs.

Max. Marks : 80

**INSTRUCTIONS TO CANDIDATES :**

1. SECTION-A is COMPULSORY consisting of FIFTEEN questions carrying TWO marks each.
2. SECTION-B contains FIVE questions carrying FIVE marks each and students have to attempt any FOUR questions.
3. SECTION-C contains FOUR questions carrying TEN marks each and students have to attempt any THREE questions.

**SECTION-A****Q1) Answer briefly :**

- (a) Differentiate between molecule and compound.
- (b) Define Protic and aprotic solvent.
- (c) Name various intermolecular forces.
- (d) Write the structure and IUPAC name for four membered cycloalkane having butyl substitution.
- (e) In crossed aldol condensation between an aldehyde and ketone, which one will act as carbanion acceptor and why?
- (f) Which one is more stable amongst  $3^\circ$ ,  $2^\circ$  and  $1^\circ$  carbocation?
- (g) Define n, iso, neo nomenclature.
- (h) Define enantiomer and diastomer.
- (i) Differentiate between internal and external compensation.
- (j) Why Pyridinium Chloro Chromate (PCC) is called special oxidizing agent?

- (k) State Markonikoff rule.
- (l) Explain Keto-enol tautomerism with example.
- (m) Why is aryl halide less reactive than vinyl halide?
- (n) Write the use of NBS.
- (o) Give a chemical test to differentiate between alkenes and alkanes.

### SECTION-B

- Q2) Discuss conformation of ethane and butane in detail.
- Q3) Note on addition of hydrogen halide to alkenes in presence and absence of peroxide with mechanism.
- Q4) Write down various reactions of diazonium salts.
- Q5) Mechanism of aldol and crossed aldol condensation.
- Q6) Discuss general mechanism of nitration and sulphonation in benzene.

### SECTION-C

- Q7) Explain Isomerism in detail with suitable examples.
- Q8) Explain various directive effects in electrophilic aromatic substitution in benzene. How do they effect the reactivity and orientation?
- Q9) With examples explain stereospecific and stereoselective reactions.
- Q10) Discuss SN1 and SN2 mechanism, kinetics and solvent preference in detail.