PSG COLLEGE OF ARTS & SCIENCE
(AUTONOMOUS)

MSc DEGREE EXAMINATION MAY 2019
(Second Semester)

Branch - CHEMISTRY

ORGANIC CHEMISTRY

Time : Three Hours Maximum : 75 Marks

Answer ALL questions
ALL questions carry EQUAL marks (5 x 15 = 75)

t a Discuss the structural and solvent effect in S_E2 and S_E1 reaction. (6)

b Write note on: (i) diazocoupling reaction (ii) nitrosation reaction (2+2)

c Describe the structure of carbine. (5)

OR

d What is the role of anhydrous $A1C1_3$ in Freidal-Crafts reaction? (4)

e Explain the nitration reaction with mechanism and also mention the role of nitric acid in the nitration reaction. (5)

f Give the mechanism of the following reaction.
(i) Gattermann Koch (ii) Hofmann-Martius reaction. (6)

2 a Compare El, E2 and El_CB elimination reaction. (5)

b Explain the stereochemistry of E2 reaction. (4)

c Discuss the following rule with suitable example.
(i) Bredt's rule (ii) Saytzeff s rule. , (3+3)

OR

d Write note on the partial reduction of aromatic hydrocarbon. (4)

e Give the application of Se02 oxidation. (5)

f Compare MPV reduction and Oppenaur oxidation. (6)

3 a Hydrocarbonation isaregion-specific reaction - explain. (4)

b Discuss the stereochemistry of hydroxylation reaction with suitable example. (6)

c Discuss briefly about the reactivity of electrophilic addition reaction in olefin. (5)

OR

d Peroxide effect is observed only in the addition of HBr and not in the addition of HC1 andHI - why? (3)

e Write down the mechanism of the following reaction.
(i) Mannich reaction (ii) Benzoin condensation. (4+4)

4 a What are the factors influence the enzymes action? (5)

b Describe N-terminal and C-terminal residue analysis in protein. (6)

c List out the functions of DNA. (4)

OR

d Write note on Merifield peptide synthesis. (4)

e What are enzymes? Discuss the mechanism of enzyme catalysis. (6)

f Describe he chemical constituent of DNA. (5)

5 a $LiAlH_4$ is not a specific reducing agent as compare to $NaBH_4$ - explain. (4)

b Discuss the synthetic application of Gilman's reagent in organic synthesis. (5)

c Give the mechanism of Wilkinson catalyst in the hydrogenation reaction. (6)

OR

d Write the any three synthetic application of the following reagent.
(i)DDQ (ii)DCC (5)

e Explain the stereochemistry of $LiAlH_4$ reduction. (6)

f How are cyclic ketones obtained using dithiane? (4)

z-z-z **END**