

PARUL UNIVERSITY
FACULTY OF PHARMACY
Pharm.D, October – 2018 Examination

Year: 1**Subject Code: 08207104****Subject Name: Pharmaceutical Organic Chemistry****Date: 25/10/2018****Time: 10:00 am to 1:00 pm****Total Marks: 70****Instructions**

1. Figures to the right indicate maximum marks.
2. Make suitable assumptions wherever necessary.

Q.1 Essay Type Questions. (any 2 out of 3) (15 Mark Each) (30)

1. What is dehydrohalogenation reaction? Discuss the mechanism, orientation and reactivity of E₁ and E₂ reactions. Explain the addition of hydrogen bromide to alkene in presence of peroxide with mechanism.
2. Enlist various electrophilic aromatic substitution reactions. Write any two with mechanism. Explain in detail halogens are deactivating but ortho-para directing in aromatic electrophilic substitution of benzene.
3. What is nucleophile and leaving groups? Explain reaction, mechanism, kinetics, reactivity and stereochemistry of SN₁ and SN₂ reactions.

Q.2 Short Essay Type Questions. (any 4 out of 5) (5 Mark Each) (20)

1. What is free radical? Explain in detail stability of free radical.
2. Write about orientation and reactivity of free radical addition to conjugated dienes.
3. Explain the mechanism and reactions of crossed aldol condensation with examples.
4. Explain various oxidation and reduction reactions with examples.
5. Explain bimolecular displacement mechanism.

Q.3 Short Answers. (2 Mark Each) (20)

1. Explain Bayer Strain theory.
2. Explain Briefly saytzeff rule.
3. Write a note on Kolbe synthesis
4. Write a note on protic and aprotic solvents.
5. Explain acid base theories.
6. Explain resonance effect with example.
7. Write medicinal uses of vaniline and Glyceryl trinitrate.
8. Give preparation and assay of aspirin
9. Discuss effects of substituent on acidity.
10. Draw the structures of followings.
 - a) 3-ethyl-4-methylpent-1-ene
 - b) 3-phenylpropenoic acid