

# Rajiv Gandhi University of Health Sciences, Karnataka

Second Semester B.Pharm Degree Examination – 16-Jun-2022

Time: Three Hours

Max. Marks: 75 Marks

## Pharmaceutical Organic Chemistry-I

**Q.P. CODE: 5006**

Your answers should be specific to the questions asked

Draw neat labeled diagrams wherever necessary

All the questions are compulsory

### LONG ESSAYS

**2 x 10 = 20 Marks**

1. Write the mechanism and stereochemistry for  $SN_2$  and  $SN_1$  reaction. List the differences between them.

**OR**

Explain the following with mechanisms. A) Aldol condensation b) Perkin's condensation

2. Write notes on a)  $SP^3$  Hybridization b) Ozonolysis c) Diel's Alder reaction

### SHORT ESSAYS

**7 x 5 = 35 Marks**

3. Explain the basicity and effect of substituents on aliphatic amines.

**OR**

Discuss the reaction mechanism in peroxide effect.

4. Write the kinetics and mechanism of  $E_1$  reaction.

**OR**

Explain the acidity carboxylic acids. Describe the effect of substituents on acidity.

5. Define and classify carbocations. Write the stability of carbocations.
6. What is Cannizzaro reaction? Explain its mechanism.
7. Write the general rules for IUPAC nomenclature of alkenes.
8. Give the structure a) 2-chloro pentane b) Hexanal c) Tertiary-butyl chloride d) Neopentyl bromide e) 3-chloro hex-1-yne
9. Write the structure and uses a) Ethyl alcohol b) chlorobutanol c) Trichloroethylene d) Ethanolamine e) Glycerol

### SHORT ANSWERS

**10 x 2 = 20 Marks**

10. What is Markovnikov's rule?
11. Explain benzoin condensation reaction.
12. Define electromeric effect with example.
13. Define nucleophile with examples.
14. Write structure and uses of a) Citric acid b) Ethylenediamine
15. Write structures and IUPAC name a) Formaldehyde b) Acetic acid
16. Write qualitative test a) Vanilin b) Salicylic acid.
17. Define and classify free radicals.
18. Write the structure and uses of ethylchloride and cinnamaldehyde.
19. Define positional isomerism with example.

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