Ref.No.: Ex/ PHARM/T/122/2018

Name of the Examinations: B.PHARMACY FIRST YEAR SECOND SEMESTER-2018

Subject: PHARMACEUTICAL CHEMISTRY-I Time: THREE HOURS Full Marks: 100

(ORGANIC-I)

Group-A

Answer any five questions taking at least two from each group

Q.1.a) How Raney Nickel is produced? What are the advantages of Raney Nickel? How aldehydes,ketones and alkyl halides are reduced to alkanes? Give examples in each case. 2x5=10

b)Explain the addition of diboranes to terminal and non-terminal alkenes with specific examples. 4

c) Explain Wurtz reaction with examples.Explain dipole-dipole interaction, bond opposition strain, steric strain, bond angle strain. 2+4=6

Q.2.a) What is Ozonolysis? What are the purposes of this reaction? What happens when dihalogen derivative of alkanes react separately with Zn/ Ethanol and Na/Ethanol. 4+2+4=10

b) Explain the oxidative cleavage reactions of olefinic bonds by different reagents? Give specific examples in each case. 5

c)Explain the free radical mechanism with specific examples related to olefins. 5

Q.3.a) What is vinylation reactions? Give at least three specific examples. 2+6=8

b) Explain following reactions with specific examples: i) Hunsdiecker reaction ii)Hydroboration reaction 3+3=6

c)Define SN-1 and SN-2 reactions with examples. What are the factors associated with alkyl groups? 2+2+2=6

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Group B

4. a) Write derived and IUPAC names of:

(i) Isopropyl alcohol, (ii) Normal butyl alcohol, (iii) Isobutyl alcohol, (iv) Tert-butyl alcohol and (v) Neopentyl alcohol.

b) How do you convert 1-butanol to 2-butanol and vice versa.

Discuss both conversions with chemical equations. 5 X 2 + 5 X 2 = 20

5. Discuss with chemical equations the role of active metals in the preparations of monohydric alcohols. 20

6. Discuss the use of (i) hydration of olefins and (ii) Grignard reagents in the preparations of monohydric alcohols. 10 + 10 = 20