

V. P. AND R. P. T. P. SCIENCE COLLEGE
VALLABH VIDYANAGAR
B. Sc. INTERNAL EXAMINATION- 2018 (VIth SEMESTER)
SUBJECT : ORGANIC CHEMISTRY
COURSE CODE : US06CCHE01

DATE : 12-03-2018
DAY : MONDAY

TIME : 11.00 a.m. TO 12.30 p.m.
TOTAL MARKS : 25

Q. 1 Choose and rewrite the correct option for the following **3**

- (i) (+)-Glyceraldehyde on reduction followed by oxidation give :
(a) Tartaric acid (b) (+)-Lactic acid (c) Xylose (d) (-)-Threose.
- (ii) Which of following compound is act as dienophile in Diels-Alder cycloaddition reaction ?
(a) 1,3-butadiene (b) Cyclohexene (c) Ethylene (d) Trans-1,3-pentadiene.
- (iii) Friedal-Craft acylation of naphthalene depends on:
(a) Catalyst (b) Temperature (c) Acylating agent (d) Solvent.

Q. 2 ANSWER THE FOLLOWING (ANY TWO) **4**

- (i) Do as directed : An aldohexose react with Br₂ which treated with pyridine followed by reduction with Na/Hg, CO₂.
- (ii) Write the characteristics of pericyclic reaction.
- (iii) C₁-C₂ bonds in naphthalene is shorter than C₂-C₃.

Q. 3 ANSWER THE FOLLOWING

- (a) (+)-Lactose is a galactoside and not a glucoside. **3**
- (b) Give **all detail steps** for the conversion of D-(+)-glucose to α-methylcaproic acid. **3**

OR

Q. 3 ANSWER THE FOLLOWING

- (a) (+)-Glucose is a pyranose and not a furanose. **3**
- (b) Give the reactions of cellulose with tremendous industrial importance. **3**

Q. 4 ANSWER THE FOLLOWING

- (a) Predict the product and give appropriate stereochemistry for the following. **3**
Trans, cis, trans-2,4,6-octatriene + heat → ?
- (b) What is Cope rearrangement ? Give supporting proof for the Cope rearrangement that **3**
undergo via radical pathways. **[P.T.O.]**

OR



Q. 4 ANSWER THE FOLLOWING

- (a) Giving suitable example, discuss the Diels-Alder reaction with favorable condition. 3
- (b) [4+2] thermal cyclization takes place readily but [2+2] thermal cyclization does not. 3

OR

Q. 5 ANSWER THE FOLLOWING

- (a) Sulphonation play key role in the chemistry of naphthalene. 3
- (b) Outline all steps in the synthesis of 1-methyl naphthalene starting from benzene and using any necessary aliphatic and inorganic reagents. 3

OR

Q. 5 ANSWER THE FOLLOWING

- (a) Electrophilic substitution reaction of naphthalene take place almost exclusively at the 1-position. 3
- (b) Give name of few potent carcinogenic hydrocarbons and discuss how do they induce human cancer ? 3

THE END

There is no short cut, except hard work with understanding to excel in examination.

