

V. P. AND R. P. T. P. SCIENCE COLLEGE
VALLABH VIDYANAGAR
B. Sc. INTERNAL EXAMINATION- 2017 (VIth SEMESTER)
SUBJECT : ORGANIC CHEMISTRY
COURSE CODE : US06CCHE01

DATE : 06-03-2017
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) Which of following compound is a triose ?
(a) (-)-Erythrose (b) (-)-Arabinose (c) D-(+)-Glyceraldehyde (d) (-)-Ribose.
- (ii) Which of following compound is act as dienophile in Diels-Alder cycloaddition reaction ?
(a) 1,3-butadiene (b) Ethylene (c) Cyclohexene (d) Trans-1,3-pentadiene.
- (iii) Which of the following compound is consider as a hydroaromatic compound ?
(a) Chrysene (b) Benzo[a]pyrene (c) Decalin (d) Anthracene.

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

- (i) How will you synthesize (+)-Mannose from (+)-Glucose.
(ii) Write the characteristics of pericyclic reaction.
(iii) Draw all the resonance hybrid structures for phenanthrene.

Q. 3 ANSWER THE FOLLOWING

- (a) (+)-Cellobiose is 4-O-(β -D-glucopyranosyl)-D-glucopyranose. **3**
(b) How will you convert (-)-arabinose to glucitol. **3**

OR

Q. 3 ANSWER THE FOLLOWING

- (a) (+)-Glucose is a pyranose and not a furanose. **3**
(b) Discuss the chemical constitutions of D-(+)-glucose by giving suitable chemical reaction. **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 \rightarrow ?
- (b) Justify with suitable example that [1,3]-C shift proceeds with inversion of configuration in the migrating group. **3**

[P.T.O.]

OR



Q. 4 ANSWER THE FOLLOWING

- (a) Giving suitable example, discuss the Diels-Alder reaction with favorable condition. 3
Which class of pericyclic reaction it belongs?
- (b) Ethylene in presence of light give cyclobutene but not by heating. 3

Q. 5 ANSWER THE FOLLOWING

- (a) Sulphonation play key role in the chemistry of naphthalene. 3
- (b) Outline a possible synthesis of **chrysene** by the Bogert-Cook method, starting from naphthalene and using any aliphatic or inorganic reagents. 3

OR

Q. 5 ANSWER THE FOLLOWING

- (a) Give **all detail steps** in the synthesis of 1,4,9-trimethylphenanthrene, starting from 1-methylnaphthalene and succinic anhydride. 3
- (b) 1-Nitronaphthalene on further nitration give 1,8-dinitronaphthalene as a major product. 3

THE END

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

