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SE-6291

B. E. II (Sem. III) (Textile Processing) Examination

April / May – 2011

Organic Chemistry

Time : **3** Hours] [Total Marks : **100**

Instructions :

(1)

નીચે દર્શાવેલ ☛ નિશાનીવાળી વિગતો ઉત્તરવહી પર અવશ્ય લખવી.
Fillup strictly the details of ☛ signs on your answer book.

Name of the Examination :

☛ **B. E. 2 (Sem. 3) Textile Processing**

Name of the Subject :

☛ **Organic Chemistry**

☛ Subject Code No. : **6 2 9 1** ☛ Section No. (1, 2,.....) : **1&2**

Seat No. :

Student's Signature

(2) Give reactions and neat diagrams whenever necessary.
(3) Question 1 and 4 are compulsory and carries 20 marks each.
(4) Question 2, 3 and 5, 6 are of 15 marks each.

SECTION - I

1 (a) Fill in the blanks : **10**

(1) _____ bases are usually considered as nucleophilles.
(2) Organic reactions are _____ in nature.
(3) _____ rule is used to conduct the unsymmetrical alkenes and addition of HBr reaction is due to H_2O_2.
(4) The breaking of the covalent bond in a monomer so that each of the two species formed retains one electron of the shared pair is called _____.
(5) The formation of carbonium ions and carbanions is due to _____ fission.
(6) The formation of free radical is due to ____ fission.
(7) Reaction intermediates formed during the course of the reaction by the heterolytic fissions are ____ and ____.
(8) The attacking reagents are formed as _____ and ____.

(b) What is ester ? Explain preparation, properties and uses of any one ester in detail. **5**

(c) Discuss 1^0, 2^0 and 3^0 alcohol in detail. **5**

2 Attempt any **three** : **15**

(a) Explain reaction intermediates in detail.

(b) What is C = O compounds ? Give brief note on Aldehyde.

(c) Discuss alkyl halides in detail.

(d) What is Dipole moment and Pauli's principle; explain it.

3 Attempt any **five** : **15**

(i) Explain different types of organic reactions.

(ii) Distinguish between heterolytic and homolytic fission with examples.

(iii) Write a note on aryl halides with suitable examples.

(iv) Explain aprotic and protic solvent in detail.

(v) Explain the importance of electronic and mesomeric effect during any organic reaction.

(vi) Give information about orbits.

SECTION - II

4 (a) Fill in the blanks : **10**

(1) Pyridine contains _____ as a hetero atom.

(2) A mixture of two or more volatile liquids can be separated by _____ distillation.

(3) A substance when heated converted directly from solid to vapour state without melting is purified by _____.

(4) A carbon atom bonded to four different atoms or groups is called _____ carbon atom.

(5) The necessary condition for a molecule to exhibit optical isomerism is _____.

(6) According to Huckel Rule a system having aromatic character will have _____ π electrons.

(7) Distillation under reduced pressure means _____ distillation.

(8) To carry out ignition test _____ foil is used.

(9) _____ metal is used for elemental analysis.

(10) Aromatic, non halogenated substance gives sooty _____ flame.

(b) Define stereoisomerism. Distinguish between two types of stereoisomerism with suitable examples, in detail. **5**

(c) Define the term aromaticity. Explain the aromatic character of five member heterocyclic compounds. **5**

5 Answer any three : **15**

(1) Explain polynuclear hydrocarbons in detail. Write preparation, important reactions and uses of naphthalene.

(2) Write preparation, properties and reactions of pyrrole.

(3) Describe crystallization method for the purification of solid organic substance.

(4) Write in detail about the heterocyclic compound and classification.

6 Answer any five : **15**

(1) Write a brief note on simple distillation.

(2) Write preparation and important reactions of anthracene.

(3) Define : (a) Isomerism (b) Structural isomerism (c) Cis-isomer.

(4) Explain optical activity.

(5) Explain steam distillation.

(6) Write preparation, properties and reactions of thiophene.

(7) Explain solubility test to know the character of an organic compound.
