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UH-8049

B. E. II (Sem. III) (Chemical) Examination

May/June – 2012

Organic Chemistry & Unit Process

(New Course)

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. II (Sem. III) (Chemical)**

Name of the Subject :

☛ **Organic Chemistry & Unit Process (New)**

☛ Subject Code No. : **8 0 4 9** ☛ Section No. (1, 2,.....) : **Nil**

Seat No. :

Student's Signature

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

(1) Tetraenthyl lead is added to gasoline to minimize _____.

(2) The carbon atom attached to four different groups is known as _____ carbon atom.

(3) Picric acid is an example of _____ dyes.

(4) Covalent bond is formed by _____ of electrons.

(5) Nitration of benzene is carried out by using _____ in presence of _____.

(6) In 3° alkyl halides halogen containing carbon is attached with another _____ carbon atoms.

(7) o-Xylene and m-Xylene are the examples of _____ isomers.

(8) The group present in a molecule together with a chromophore which is capable to intensify the colour is called _____.

(9) Fischer - Tropsch processes is used to prepare _____.

(b) Define the following. **10**

(1) Inductive effect (2) Octance numebr

(3) Structural isomerism (4) Polymerization

(5) Substitution reaction (6) Dyes

(7) Chromophore (8) Heterolytic fission

(9) Cracking (10) Isomerism

2 Attempt any three. **15**

(1) Explain fractional distillation of the crude oil in detail.

(2) Explain modern theory of colour.

(3) Discuss geometrical isomerism in tartaric acid in detail.

(4) Explain sulphonation in detail.

3 Attempt any five. **15**

(1) Differentiate electromeric effect and inductive effect.

(2) Write preparation and uses of chloroform.

(3) Write a note on berguis process to prepare synthetic petrol.

(4) Write preparation and uses of acetone.

(5) Define carbonium ion, carbanion and free radicals.

(6) Explain preparation and properties of Tetraenthyl lead.

4 (a) Short answers question. **10**

(1) Give examples of polynuclear aromatic compound.

(2) What is hetero atom ?

(3) Define disaccharide.

(4) Write properties of benzene.

(5) Define carbohydrates.

(b) Short answers question. **10**

(1) Explain nitration of naphthalene.

(2) Distinguish between natural and synthetic polymers.

(3) Write the conversion of aldose to ketose.

(4) Uses of aromatic compound - phenol.

(5) What do you mean by protein ?

5 Attempt any three : **15**

(1) Explain the reaction mechanism and applications of Perkin reaction.

(2) Write preparation, properties and uses of Furan.

(3) Explain the manufacturing of Glucose.

(4) Give classification of carbohydrates with examples.

6 Attempt any five. **15**

(1) Write the names of any six heterocyclic compounds.

(2) Describe the manufacture of soap.

(3) Discuss about the general physical properties of carboxylic acids.

(4) Explain the sulphonation of naphthalene.

(5) Write a note on detergents.

(6) Write a note on Cannizzaro reaction.
