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X—10—2019

FACULTY OF SCIENCE

B.Sc. (Third Year) (Fifth Semester) (Regular) EXAMINATION

OCTOBER/NOVEMBER, 2019

(CBCS Pattern)

CHEMISTRY

Paper-XII (DSEC-V)

(Organic and Inorganic Chemistry)

(Friday, 15-11-2019)

Time : 10.00 a.m. to 12.00 noon

Time—2 Hours

Maximum Marks—40

N.B. :— (i) Attempt All questions.

(ii) Figures to the right indicate full marks.

1. Solve any *three* of the following : 3×5=15
- (a) What are molecular compounds ? How are they classified ? Differentiate between them.
- (b) Give an account on chelation therapy.
- (c) Define geometrical isomerism. Discuss different types of geometrical isomerism in co-ordination number six with suitable example.
- (d) Discuss in brief the IUPAC nomenclature of co-ordination compounds with reference to :
- (i) Name of negative ligands
- (ii) Order of naming the ligands
- (iii) Number of ligands
- (iv) Name of central metal ion.
- (e) Explain how gadolinium and technetium complexes used as Imaging agents ?

P.T.O.

2. Solve any *three* of the following :

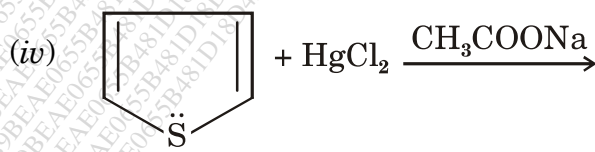
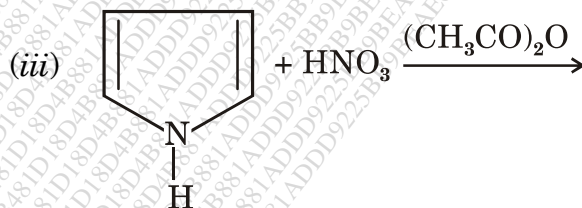
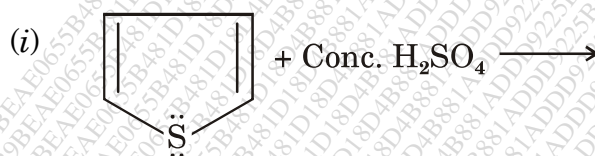
3×5=15

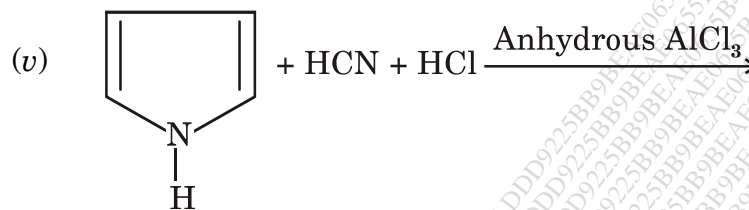
- (a) What are heterocyclic compounds ? How are they classified ?
- (b) Give synthesis and uses of the following drugs :
 - (i) Paludrine
 - (ii) Paracetamol.
- (c) Explain Witts theory and Armstrong theory of colour and chemical constitution with suitable example.
- (d) Discuss the chemical constitution of Ephedrine.
- (e) What are Herbicides and Rodenticides ? Offer the synthesis and uses of DDT ?

3. Solve any *two* of the following :

2×5=10

(a) Predict the product(s) :





(b) How will you prepare pyridine from :

(i) Acetylene

(ii) β -picoline

(iii) Pentamethylene diamine hydrochloride

Give physical properties of pyridine.

(c) What are drugs ? Write qualities of good drug.

(d) What are water-soluble vitamins ? Write structure, sources and deficiency diseases of vit. A₁ and Vit. E.