Total No. of Questions :5] *[Total No. of Printed Pages :2*

Roll No .....

PY - 303

B.Pharmacy III Semester

Examination, June 2016

Pharmaceutical Chemistry - IV

(Organic Chemistry - II)

Time : Three Hours

Maximum Marks : 70

Note: i) Answer five questions. In each question part A, B, C is compulsory and D part has internal choice.

ii) All parts of each questions are to be attempted at one place.

iii) All questions carry equal marks, out of which part A and B (Max.50 words) carry 2 marks, part C (Max.100 words) carry 3 marks, part D (Max.400 words) carry 7 marks.

iv) Except numericals, Derivation, Design and Drawing etc.

1. a) Explain sigmatotropic rearrangements.
   b) Discuss mechanism of cyclo addition reaction.
   c) Explain catalysis by transition metal complexes.
   d) Discuss Hantzsch-Widman system of nomenclature for hetero mono cycles.

   OR

   Discuss theory of energy transfer characteristics of photoreactions.

2. a) Explain chemical behaviour of aromatic heterocycles.
   b) Discuss structural types of five membered and benzo-fused aromatic heterocycles.
   c) Explain selectivity and reactivity in hetero aromatic ring.
   d) Give synthesis, reactions and medicinal applications of aziridines and azetidines.

   OR

   Give synthesis, chemical reactivity and medicinal applications of pyrazole, imidazole and triazoles.

3. a) Name some medicinal agents giving their structures, nomenclature and therapeutic importance of benzo-fused five membered heterocycles.
   b) Name some medicinal agents giving their structure, nomenclature and therapeutic importance of six membered heterocycles with one and two hetero atoms.
   c) Exemplify medicinal agents with quinoline, isoquinoline and coumarin nuclei giving their structures and therapeutic importance.
   d) Give synthesis and therapeutic importance of drugs with Benzimidazole, Benzthiazide and Benztriazole nuclei.

   OR

   Give synthesis and therapeutic importance of drugs with pyridine, quinoline and coumarin heterocycles.

4. a) Write structures and nomenclature of medicinally important organic compounds with cyanide and isocyanide groups.
   b) Write structures and nomenclature of medicinally important organic compound containing nitro group.
   c) Write structures and nomenclature of medicinally important sulphur containing organic compounds.
   d) Discuss important methods of preparation, physical properties and chemical reactions of nitro compounds.

   OR

   Discuss methods of preparation, physical properties and chemical reactions of cyanides and isocyanides.

5. a) Explain nomenclature of fused heterocycles.
   b) Explain nomenclature of bridged heterocycles.
   c) Discuss tautomerism in imidazoles and pyrazoles.
   d) Discuss general chemical behaviour of aromatic heterocycles.

   OR

   Explain strain-bond angle and torsional strain and their consequences in small ring heterocycles.

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