UG Even Semester (CBCS) Exam., May—2017

PHARMACEUTICAL SCIENCES

(2nd Semester)

Course No. : BPH–207 (C)

[Pharmaceutical Chemistry—III (Organic Chemistry—II)]

Full Marks : 75
Pass Marks : 30

Time : 3 hours

The figures in the margin indicate full marks for the questions

Answer **five** questions, taking **one** from each Unit

UNIT—I

1. What are , unsaturated carbonyl compounds? Give any two examples with common name and structures. Write down the preparation and synthetic importance of acetoacetic ester and malonic ester. 3+12=15

2. Give any two methods of preparation of , unsaturated carbonyl compounds. Write down the Haworth synthesis of naphthalene, anthracene and phenanthrene. 6+9=15

UNIT—II

3. Write a note on the nomenclature of heterocyclic compounds. Give the method of preparations and pharmaceutical importance of phenothiazine and furan. 5+10=15

4. Write down the method of preparations, physicochemical properties and pharmaceutical importance of the following (any *two*) : 7½×2=15

(a) Pyrrole

(b) Indole

(c) Pyridine

(d) Pyrazole

UNIT—III

5. Give the definition, reaction mechanism and synthetic application of the following (any *two*) : 7½×2=15

(a) Oppenauer oxidation

(b) Beckmann rearrangement

(c) Reformatsky reaction

(d) Mannich reaction

6. *(a)* Write down the mechanism and synthetic application of Meerwein-Pondorf–Verley reduction (or) Benzoin condensation. 7½

(b) Write down the mechanism and synthetic application of Knoevenagel reaction (or) Michael reaction. 7½

UNIT—IV

7. Discuss the structural elucidation of D-glucose. Classify carbohydrates with specific examples. Give the mechanism of fructosazone formation. 7+4+4=15

8. Write a note on disaccharides. How is glucose converted to fructose? Discuss the structure of starch. How is glucose identified with respect to oxidation reactions? 5+4+3+3=15

UNIT—V

9. Classify amino acids with examples. Give any two general method of preparation of amino acid. Write down the chemical structure of the nitrogenous bases of DNA and RNA. 5+5+5=15

10. What is the basic difference between fats, oils and waxes? Write a note on the structure of proteins. Discuss the process of polymerization reactions. 3+6+6=15

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