B. PHARMACY THIRD YEAR SECOND SEMESTER – 2018

Medicinal Chemistry II

Time : 3 hours **Full Marks 100**

Answer any five questions taking at least ONE from each group. Answers to all parts of a question should be written in the same place.

Group A

1. (a) Give classification of antihypertensive agents with examples. [5

   (b) Outline synthesis of any one antihypertensive drug having each of the following nuclei/fragments

   (i) Pyrimidine-N-oxide (ii) Tetrazole (iii) Dihydropyridine [3 x 5

2. Write notes on:

   (i) Cardiac glycosides

   (ii) Papaverine

   (iii) Isosorbide dinitrate [10+5+5

3. Give synthesis and mechanism of action of the followings: [4 x 5

   (i) Lidocaine

   (ii) Phenytoin

   (iii) Disopyramide

   (iv) Encainide

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GROUP - B

Answer any five questions taking at least one question from each group

Q.1.a) What are the stages of General Anesthesia? Outline the synthesis of Fentanyl Citrate? 5+5

b) Briefly explain the S.A.R of anilides. Outline the synthesis of Ropivacaine and mention it's superiority over other drugs. 4+4+2

Q.3.a) What are the M.O.A.s of Benzodiazepines?

b) Why a diverse range of therapeutic applications are indicated for benzodiazepines?

c) Outline the synthesis of an anxiolytic drug. Mention the structural changes incorporated in benzodiazepine ring.

d) How barbituric acid is synthesized? Discuss the S.A.R. points of barbiturates.4+2+6+2+3+3

Q.6.a)What are the M.O.A.'s of GABA analogs and Valproates? Give the synthesis of sodium valproate and one of the GABA analogs.

b) What are the typical and atypical anti psychotic agents? Give examples.

Discuss the S.A.R. points of a group belonging to typical antipsychotic agents. 2+2+3+3+4+2+4

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Group C

Answer at least *one* question

7. Write a note on Osmotic diuretics. 20

8. (i) How do you prepare:

a) Benzothiazide, b) Bendroflumethiazide and c) Polythiazide.

Discuss synthetic steps with chemical equations.

(ii) Discuss the structure-activity relationship of benzothiadiazines. 5 X 3 + 5 = 20