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RB-1345-46

Third Year B. Pharm. Examination

April / May – 2010

PH-303 : Medicinal Chemistry - I

Time : Hours] [Total Marks : **70**

RB-1345

Instruction :

નીચે દર્શાવેલ ☛ નિશાનીવાળી વિગતો ઉત્તરવહી પર અવશ્ય લખવી.
Fillup strictly the details of ☛ signs on your answer book.

Name of the Examination :

☛ **T. Y. B. Pharm.**

Name of the Subject :

☛ **PH-303 : Medicinal Chemistry - 1**

☛ Subject Code No. : 1 3 4 5 ☛ Section No. (1, 2,.....) : 1

Seat No. :

Student's Signature

1 (a) Draw the structure of following drugs and give their chemical name (any **six**) **6**

(i) Mebendazole

(ii) Ethionamide

(iii) Nor adrenaline

(iv) Penicillin G

(v) Atenolol

(vi) Cephalexin

(vii) Triprolidine

(viii) Sulphamethoxazole.

(b) Name the ring system present in the structure and mechanism of action of following drugs (any **five**) **5**

(i) Pyrazinamide

(ii) Itraconazole

(iii) Methotrexate

(iv) Pamaquine

(v) Omeprazole

(vi) Promethazine

(vii) Zidovudine

2 Attempt (any **four**) **12**

(i) Define classical and non-classical bio-isosterism and explain with examples.

(ii) Describe halogens used as antiseptic and disinfectant

(iii) Give chemical classification of anti-amoebic drugs with examples.

(iv) Explain the chemistry of prostaglandins

(v) Describe the structural requirement for antimuscarinic activity.

(vi) Dirrerentiate between depolarizing and non-depolarzing neuromuscular blocking agents.

3 Attempt (any **two**) **12**

(i) Explain the chemical degradation of penicillin and the importance of pH in it.

(ii) Describe the Analog based approach for drug discovery process.

(iii) Give SAR of H_1 receptor agonistic and antagonistic drugs.

RB-1346

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4 Justify the following statements (any **five**) **10**

(i) Bulkier substituent on terminal carbon of acetyl group in Acetylcholine results in antimuscarinic activity.

(ii) Nitro group in metronidazole is essential for anti-amoebic activity.

(iii) Imidazole ring as in histamine is not essential H_1 receptor agonistic activity.

(iv) Strong acidic and basic condition affects the stability and activity of tetracycline

(v) if the terminal primary amino group in epinephrine is replaced by smaller alkyl group β adrenoceptor activity increases.

(vi) Sparfloacin has lowest photo toxicity amongst reported fluoroquinolones.

5 Attempt (any **four**) **10**

(i) Explain the role of cholinesterase enzyme and drugs antagonizing its effect.

(ii) Classify with structures and mechanism of action of Anti-AIDS drugs

(iii) Describne chemical classes of antimetabolites as anticancer agents.

(iv) Classify with examples drugs used as immuno suppressant

(v) Classify antibubercular drugs and explain why drugs have been classified as first and second line agents.

(vi) Give the SAR for adrenergic agonist agents.

6 Outline the synthesis and give IUPAC name of the following (Any **five**) **15**

(i) Chlorpheniramine

(ii) Ranitidine

(iii) Pyrimethamine

(iv) Isoniazid

(v) Isoprenaline

(vi) Chloramphenicol

(vii) Neostigmine