

W-2022

Seat Number

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PANKH-04

BP-501T

Medicinal Chemistry-II

(735501)

Total Pages : 4]

Max Marks : 75

Time : 3 Hours

Note : (1) Do not write anything on question paper except Seat No.

(2) Students should note, no supplement will be provided.

(3) All questions are compulsory.

(4) Figures to the right indicate full marks.

(5) Graph or diagram should be drawn with black ink pen.

1. (A) Select the appropriate option for the following MCQs : 10

(i) Which type of cell is histamine mostly produced in ?

(a) Eosinophil (b) Basophil

(c) Mast cell (d) Cytokines

(ii) Which term best describes the mechanism of action for fluoroquinolones ?

(a) Alkylating agent (b) Antisense agent

(c) Chain cutter (d) Topoisomerase poison

(iii) Which of the following drugs is a carbonic anhydrase inhibitor ?

(a) Acetazolamide (b) Amiloride

(c) Chlorambucil (d) Mannitol

P.T.O.

(iv) Anthracycline used for the cancer chemotherapy is :

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|---------------|------------------|
| (a) Etoposide | (b) Daunorubicin |
| (c) Vaptans | (d) Cisplatin |

(v) Cardioselective beta blocker :

- | | |
|----------------------|-----------------|
| (a) Metoprolol | (b) Propranolol |
| (c) Both (a) and (b) | (d) Neither |

(vi) Cyclophosphamide is commonly used in anticancer therapy.

Which of the following statements is not true of the above structure ?

- (a) It is relatively non-toxic
- (b) It acts as a prodrug
- (c) It cannot be taken orally
- (d) The structure is metabolized to release acrolein

(vii) Which of the following drugs is least preferred in long term treatment of hypertension ?

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|----------------|--------------------------|
| (a) Clonidine | (b) Propranolol |
| (c) Moxonidine | (d) Sodium nitroprusside |

(viii) Choose the correct thiazolidinediones drugs :

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|-------------------|-----------------|
| (a) Rosiglitazone | (b) Acarbose |
| (c) Nateglinide | (d) Repaglinide |

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- (ix) Flecainide.....
- (a) Increases conduction velocity
 - (b) Decreases conduction velocity
 - (c) Has no effect on conduction velocity.
 - (d) Can increase/decrease conduction velocity depending on concentration.

(x) Benzocaine block :

- | | |
|-------------------|----------------------|
| (a) Cl^- | (b) Na^+ |
| (c) K^+ | (d) Ca^{2+} |

(B) Answer the following questions :

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- (i) Draw the structure of cocaine.
- (ii) Outline the chemical synthesis of procaine.
- (iii) Draw structure and give IUPAC nomenclature of any *one* propylamine antihistamine.
- (iv) Classify antimetabolite with examples.
- (v) Draw the structure of any *two* anticoagulants.

2. Attempt any *two* of the following :

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- (i) Give classification of antidiabetic agents. Write a note on thiazolidinedione derivative. Outline synthesis to tolbutamide.
- (ii) Define cancer and give types of cancer. Explain chemistry, mode of action of nitrogen mustard.
- (iii) Explain the chemistry and SAR of cortisone.

3. Attempt any *seven* of the following :

- (i) Write a note on gastric proton pump inhibitor.
- (ii) Explain in brief about ACE inhibitor as antihypertensive agents.
- (iii) Add a note on potassium sparing diuretics.
- (iv) Classify Anti-arrhythmic drugs in detail.
- (v) Explain anti-hyperlipidemic agents with examples.
- (vi) Classify antineoplastic agents by giving *two* examples of each class.
- (vii) Explain chemistry and nomenclature of Dexamethasone.
- (viii) Write a note on anticoagulants.
- (ix) Give synthesis of :
 - (i) Diphenhydramine
 - (ii) Cimetidine.