Q.P. CODE: 38011

N. B. (1) All questions are compulsory   **Marks: 70**
         (2) Figures to the right indicate full marks

Q 1a. Answer the following   12
    (i)   Define
          1) Pharmacodynamics
          2) Pharmacokinetics
    (ii)   Explain following terms i.e. bioavailability and bioequivalence
    (iii)   Explain the term 'receptor' and classify with examples
    (iv)   Classify muscarinic receptors and give example of selective antagonist for
          each subtype
    (v)   Give mechanism of action of Enalapril
    (vi)   Why HDL is known as good cholesterol?
Q 1b. (i) Explain the term "inverse agonist" with example   3
    (ii) Classify antiarrhythmic drugs
    (iii) Enlist factors affecting drug absorption
Q 2 (a) Answer any two of the following   8
    (i)   Discuss in-detail pharmacological actions of adrenaline
    (ii)   Classify skeletal muscle relaxants. Differentiate between depolarizing and
         non-depolarizing muscle relaxants.
    (iii)   Describe synthesis, storage, and hydrolysis of acetylcholine
Q 2 (b) Answer any one of the following   3
    (i)   Discuss nephrotoxicity and related causes
    (ii)   Classify routes of administration and discuss advantages and
         disadvantages of parenteral route over topical route
Q 3 (a) Answer any two of the following   8
    (i)   Classify beta blockers and give their role in the management of
         cardiovascular diseases
    (ii)   Classify anti-anginal drugs and write a note on combination therapy used
         in the treatment of angina
    (iii)   Classify anti-hyperlipidemic drugs. Write a note on fibrates

Q 3 (b) Answer any one of the following   3
    (i)   Give mechanism of action of organic nitrates
    (ii)   Write a note on sodium channel blockers with examples
Q 4 (a) Answer any two of the following   8
    (i)   Describe synthesis, storage, release, and metabolism of catecholamines
    (ii)   Explain in-detail the therapeutic effects of parasympatholytics
    (iii)   Classify adrenergic receptors and discuss therapeutic uses of selective
         agonist and antagonist for each subtype of receptor
Q 4 (b) Answer any one of the following   3
    (i)   Classify anticholinesterases and discuss related therapeutic use
    (ii)   Explain the mechanism of action of olmesartan
Q 5 (a) Answer any two of the following   8
    (i)   What are GPC receptors? Explain role of secondary messengers with
         example
    (ii)   Discuss ligand gated ion channel receptors in-detail
    (iii)   What are nuclear receptors? Explain the mechanism of action of drugs
         acting on nuclear receptors

Q 5 (b) Answer any one of the following   3
    (i)   Discuss various routes of excretion with examples of drugs
    (ii)   Describe phase I reactions in-detail
Q 6 (a) Answer any two of the following   8
    (i)   Classify diuretics. Discuss role of carbonic anhydrase inhibitors in-detail
    (ii)   Discuss therapeutic uses and complication of diuretics
    (iii)   Compare and contrast loop diuretics with thiazide diuretics
Q 6 (b) Answer any one of the following   3
    (i)   How does gender and body weight affect drug action?
    (ii)   Explain how pathological conditions affect drug action

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