

- N. B. (1) All questions are compulsory
(2) Figures to the right indicate full marks

Q 1a. Answer the following

16

- (i) "Higher protein binding capacity results in increase in duration of action". True or false with justification
- (ii) Discuss following terms i.e. 'inverse agonist' and 'bioequivalence'
- (iii) Define plasma half life and discuss related significance
- (iv) Explain the term 'receptor' and classify with examples
- (v) Classify adrenergic receptors and give example of selective antagonist for each subtype
- (vi) Enlist factors affecting drug absorption
- (vii) Biotransformation is process of detoxification-True or false with justification
- (viii) Define 'drug intolerance' and 'placebo' effect.

Q 1b. (i) Give mechanism of action of Furosemide

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- (ii) Classify skeletal muscle relaxants
- (iii) Enlist side effects of atropine
- (iv) Define therapeutic index?

Q 2 (a) Answer **any two** of the following

8

- (i) Describe synthesis, storage, release, and metabolism of catecholamine
- (ii) What are ganglion blocking agents? Compare and contrast between depolarizing and non-depolarizing agents.
- (iii) Explain in-detail therapeutic effects of anticholinergic drugs

Q 2 (b) Answer **any one** of the following

4

- (i) Discuss factors affecting drug action
- (ii) Classify routes of administration and discuss advantages and disadvantages of oral route over parenteral route

Q 3 (a) Answer **any two** of the following

8

- (i) Classify anti-anginal agents and add a note on considered combination therapy in treatment
- (ii) Classify antiarrhythmic agents and discuss the role of Sodium channel blockers in-detail
- (iii) Classify drugs used in antihyperlipidemic therapy and write a note on fibrates

Q 3 (b) Answer **any one** of the following

4

- (i) Describe mechanism of action of digitalis and related role in the treatment of congestive heart failure
- (ii) Write a note on calcium channel blockers with examples & therapeutic use

- Q 4 (a) Answer **any two** of the following 8
- Classify anticholinesterases and discuss related therapeutic use
 - Describe synthesis, storage, release, and metabolism of acetylcholine
 - Explain in-detail the therapeutic effects of sympatholytics
- Q 4 (b) Answer **any one** of the following 4
- Discuss the therapeutic role of adrenaline in-detail
 - Classify cholinergic receptors and discuss therapeutic uses of selective agonist and antagonist for each subtype of receptor
- Q 5 (a) Answer **any two** of the following 8
- Discuss physiology of GPCR and also explain the role of secondary messengers.
 - Describe enzyme-linked receptors in-detail
 - What are nuclear receptors? Explain related mechanism of action with example
- Q 5 (b) Answer **any one** of the following 4
- Classify phase II reaction with example and write a note on any one reaction
 - Discuss all routes of excretion with examples of a drug
- Q 6 (a) Answer **any two** of the following 8
- Write a note on potassium sparing diuretics and related therapeutic use
 - Discuss therapeutic uses and complication of diuretics
 - Describe role of carbonic anhydrase inhibitors and loop diuretic in the treatment of hypertension
- Q 6 (b) Answer **any one** of the following 4
- Write a short note on drug tolerance & dependence?
 - Explain how route of administration, body weight & gender affects drug action
