

Question Paper

Exam Date & Time: 28-Nov-2023 (10:00 AM - 01:00 PM)



MANIPAL ACADEMY OF HIGHER EDUCATION

Pharmacology II [PHA-BP503T - S3]

Marks: 75

Duration: 180 mins.

I Multiple Choice Questions (MCQs)

Answer all the questions.

Section Duration: 30 mins

- 1) Prominent and dose related side effect of Amrinone (1)
- [Hyperapnoea](#)
 - [Thrombocytopenia](#)
 - [Atrial extrasystole](#)
 - [Leukocytopenia](#)
- 2) A diuretic which causes 20% Na⁺ excretion (1)
- [Amiloride](#)
 - [Spironolactone](#)
 - [Mannitol](#)
 - [Acetazolamide](#)
- 3) Methotrexate is a commonly prescribed disease-modifying anti-rheumatic drug (DMARD) for RA. Its primary mode of action involves: (1)
- [Inhibiting interleukin-1 \(IL-1\)](#)
 - [Blocking tumor necrosis factor-alpha \(TNF- \$\alpha\$ \)](#)
 - [Suppressing T-cell activation](#)
 - [Inhibiting cyclooxygenase \(COX\) enzymes](#)
- 4) Acarbose is commonly prescribed: (1)
- [Before meals](#)
 - [After meals](#)
 - [Irrespective of meal timing](#)
 - [Once daily in the morning](#)
- 5) Active transport in the jejunum has been demonstrated for analogs of (1)
- [Vitamin K4](#)
 - [Vitamin K3](#)
 - [Vitamin K2](#)
 - [Vitamin K1](#)
- 6) Antihypertensive combination to be avoided (1)
- [ACE inhibitor / ARB + CCB](#)
 - [Verapamil or diltiazem with \$\beta\$ blocker](#)
 - [\$\beta\$ blocker + prazosin](#)

- [ACE inhibitor / ARB + \$\beta\$ blocker](#)
- 7) Combination with which class of drugs reduces the anticoagulant action? (1)
- [Oral contraceptives](#)
[Broad spectrum antibiotics](#)
[Newer cephalosporins](#)
[Long acting sulfonamides](#)
- 8) Which of the following is a common side effect of systemic steroid use in bone health? (1)
- [Osteoporosis](#)
[Osteomalacia](#)
[Paget's disease](#)
[Rheumatoid arthritis](#)
- 9) Propylthiouracil (PTU) differs from methimazole in its action by: (1)
- [Increasing thyroid hormone synthesis](#)
[Reducing thyroid hormone secretion](#)
[Inhibiting peripheral conversion of T4 to T3](#)
[Enhancing iodine uptake by the thyroid gland](#)
- 10) What is the primary intracellular signaling pathway activated upon insulin binding to its receptor? (1)
- [Phosphoinositide 3-kinase \(PI3K\) pathway](#)
[cAMP pathway](#)
[JAK-STAT pathway](#)
[MAP kinase pathway](#)
- 11) This calcium channel blocker releases endothelial nitric oxide and claims to retard atherosclerosis (1)
- [Amlodipine](#)
[Nitrendipine](#)
[Nimodipine](#)
[Lacidipine](#)
- 12) An extrinsic agent which activates the conversion of plasminogen to plasmin (1)
- [Kallikrein](#)
[Aprotinin](#)
[Urokinase](#)
[Tranexaemic acid](#)
- 13) Osmotic diuresis, caused by substances like mannitol, primarily occurs in which part of the nephron? (1)
- [Proximal convoluted tubule](#)
[Ascending loop of Henle](#)
[Distal convoluted tubule](#)
[Collecting duct](#)
- 14) Excess secretion of prolactin (PRL) can lead to: (1)
- [Hypothyroidism](#)
[Hyperthyroidism](#)
[Galactorrhea and menstrual irregularities](#)

- [Cushing's syndrome](#)
- 15) The mechanism of action of SGLT-2 inhibitors involves: (1)
- [Inhibiting glucose production in the liver](#)
[Increasing insulin secretion from the pancreas](#)
[Blocking glucose reabsorption in the renal tubules](#)
[Enhancing glucose uptake in muscle cells](#)
- 16) Choose the anti-arrhythmic drug which has high pro-arrhythmic potential (1)
- [Procainamide](#)
[Flecainide](#)
[Lidocaine](#)
[Disopyramide](#)
- 17) Among one of the following clinical conditions, antiplatelet drugs are not given (1)
- [Coronary angioplasty](#)
[Coronary artery disease](#)
[Peripheral vascular disease](#)
[Menorrhagic disease](#)
- 18) What does the term "interpolation" signify in the context of bioassays? (1)
- [Estimating values between known points on a standard curve](#)
[Calculating the upper limit of quantification](#)
[Measuring the standard deviation of sample replicates](#)
[Determining outliers in sample concentrations](#)
- 19) What is the primary mechanism of action of Finasteride? (1)
- [Inhibition of androgen receptor activation](#)
[Blocking of 5-alpha-reductase enzyme](#)
[Enhancement of testosterone production](#)
[Antagonism of estrogen receptors](#)
- 20) How do anti-estrogens differ from aromatase inhibitors in breast cancer therapy? (1)
- [Aromatase inhibitors block estrogen receptors, while anti-estrogens inhibit estrogen synthesis.](#)
[Aromatase inhibitors suppress the action of estrogen, while anti-estrogens block estrogen receptors.](#)
[Aromatase inhibitors enhance estrogen production, while anti-estrogens decrease estrogen levels.](#)
[Aromatase inhibitors function by activating estrogen receptors, while anti-estrogens antagonize these receptors.](#)

II Long Answers

Answer all the questions.

- 1) Classify antidiabetic drugs with examples. Describe the mechanism of action of insulin and Pioglitazone. Write a note on insulin preparations. (10)
- 2) Discuss the mechanism of anti-inflammatory and immune suppressant action of corticosteroids? List out the toxic effects of steroids (10)

III Short Answers

Answer all the questions.

- 1) Write a short note on management of shock (5)
- 2) Depict the degradation pathway of arachidonic acid. Write a note on the arachidonate metabolites and site of action of drugs affecting them (5)
- 3) Clasify Diuretics with examples. Explain the mechanism of action of Amiloride (5)
- 4) Discuss the mechanisms of actions of female oral contraceptives. (5)
- 5) With a schematic representation, explain the absorption of dietary cholesterol. Show the targets of various drugs that affect cholesterol absorption (5)
- 6) Describe the mechanism of action of digitalis. Enumerate its toxicities. (5)
- 7) Explain the synthesis of thyroid hormones. How do the antithyroid drugs interfere with this process? List the adverse effects of antithyroid drugs. (5)

-----End-----