

KATHMANDU UNIVERSITY
End Semester Examination
February/March, 2025

Marks Scored:

Level : B.Pharm.
Year : III

Course : PHAR 320
Semester : I

Exam Roll No. :

Time: 30 mins.

F. M. : 20

Registration No.:

Date :

03 MAR 2025

SECTION "A"

[20 Q. × 1 = 20 marks]

Choose and encircle the most appropriate option from each set of choices

- Which of the following is false for adrenal steroid hormones and their receptors?
 - Aldosterone activates both glucocorticoid and mineralocorticoid receptors
 - Cortisol is the major endogenous agonist of glucocorticoid receptors in humans
 - Polymorphisms in the aldosterone synthase gene are associated with hypertension.
 - Steroid therapy in humans can give rise to osteoporosis
- Which of the following is false for gonadal steroid hormones and their receptors?
 - Tamoxifen is used to treat breast cancer.
 - Progestogens reduce follicular maturation.
 - Aromatase inhibitors increase the accumulation of oestrogens
 - 5 α -reductase inhibitors may be used to reduce the progression of benign prostatic hyperplasia.
- In relation to thyroid disorders, which of the following is not true?
 - Carbimazole is associated with agranulocytosis
 - There is increased sympathetic activity in hyperthyroidism
 - Thioamides cause a rapid normalisation of thyroid levels
 - T3 combines to the nuclear thyroid hormone receptor
- Which of the following does not stimulate insulin secretion from β -cells of the islets of Langerhans?
 - Metformin
 - Glucose via ATP
 - Sulphonylureas
 - Incretin
- One of the following drugs is used in aplastic anemia and abused by some athletes:
 - Nandrolone
 - Mifepristone
 - Raloxifene
 - Letrozole
- Which of the following antibacterial agent works as a bacterial DNA Gyrase inhibitor?
 - Erythromycin
 - Amoxicillin
 - Chloramphenicol
 - Ciprofloxacin
- Which of the following can enhance ototoxicity as a complication in patients with hearing problem?
 - Erythromycin
 - Rifampicin
 - Chloramphenicol (oral)
 - Gentamicin
- Which of the following drug has mechanism of action as a "folate antagonist"?
 - Proguanil
 - Clotrimazole
 - Aciclovir
 - Zidovudine

9. All of the following are the properties of prostaglandins except:
 - a. Increase tone as well as amplitude of uterus
 - b. Helps cervical ripening
 - c. Effective in uterine evacuation for mid-trimester abortion
 - d. Prominent smooth muscle relaxant action, can postpone labor

10. Which of the following can cause aplastic anemia as a complication in patients?
 - a. Erythromycin
 - b. Amoxicillin
 - c. Chloramphenicol
 - d. Ciprofloxacin

11. Mechanism for resistance to B lactams includes:
 - a. Beta lactamase activity
 - b. Decreases drug permeability
 - c. Altered penicillin binding proteins
 - d. All of the above

12. One of the following is a property of Erythromycin:
 - a. Has enhanced activity at acidic pH
 - b. Cannot be given as an alternative to penicillin allergy
 - c. Estolate form can cause cholestatic jaundice
 - d. Can cause red man's syndrome

13. You're assessing a patient's medication list diagnosed with hypercalcemia. Which medication below is a hypocalcaemia hormone?
 - a. Calcitriol
 - b. Calciferol
 - c. Calcitonin
 - d. Alfa Calcidol

14. A persistent suppression of microbial growth that occurs after levels of antibiotic have fallen below the MIC is shown by:
 - a. Amikacin
 - b. Ceftriazone
 - c. Azithromicin
 - d. Clindamycin

15. One of the following anthelmintic can cause Mazzotii reaction:
 - a. Ivermectin
 - b. Niclosamide
 - c. Diethylcarbamazine
 - d. Praziquantel

16. Which of the following statements correctly pair the antifungal drugs with their likely mechanisms of action?
 - a. Amphotericin B- inhibits thymidylate synthetase
 - b. Griseofulvin - interferes with microtubule function
 - c. Flucytosine - inhibits fungal mycolic acid synthesis
 - d. Nystatin - inhibits ergosterol synthesis

17. Which of the following statements best explain the mechanism of antifungal action of amphotericin B?
 - a. Inhibition of topoisomerase II
 - b. Impairment of the normal permeability of fungal cell membrane
 - c. Blockade of fungal mitosis
 - d. Inhibition of fungal cytochrome P450 enzymes

18. Isoniazid can lead to one of the following adverse effects:
 - a. Rashes, fever, nausea, and vomiting.
 - b. Peripheral Neuritis
 - c. Flu-like syndrome with fever, chills, and myalgia
 - d. Blood dyscrasias

19. One of the following antileprotic drugs acts by interfering with template function of DNA of *M. Leprae*:
- a. Clarithromycin b. Dapsone c. Minocycline d. Clofazimine
20. One of the following drugs is indicated to kill cyst forming trophozoites in intestine during anoebiasis with no tissue action:
- a. Metronidazole b. 8 -hydroxyquinolines
c. Ornidazole d. Satranidazole

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SECTION "B"

[5 Q. × 3 = 15 marks]

Attempt ANY FIVE questions.

1. Mention two therapeutic uses and two adverse effects of octreotide.
2. Explain the MOA and ADRs of Zidovudine.
3. Explain the rationale for the combination of sulphamethoxazole and trimethoprim together. What are their therapeutic uses?
4. How does methenamine acts as a urinary antiseptics? Why is its enteric coated formulation preferred?
5. Write the mechanism of drug interaction between alcohol and metronidazole.
6. What is folic acid rescue in methotrexate therapy? Explain its basis.
7. Write short notes on:
 - a. HAART regimen
 - b. Dapsone therapy in leprosy

SECTION "C"

[5 Q. × 5 = 25 marks]

Attempt ANY FIVE questions.

8. Elaborate on MOA, therapeutic uses and ADRs of Vincristine as an anticancer agent.
9. Classify anthelmintic. Explain the MOA and therapeutic uses and ADRs of albendazole.
10. Enumerate aminoglycoside antibiotics. Write the MOA, common features and ADRs of any one of them.
11. What are the rationale behind the combined use of antimicrobials? List out the major disadvantages of such combination.
12. Classify uterine stimulants. Elaborate on the MOA, uses and ADRs of oxytocin.
13. How does clomiphene citrate act as an antiestrogen drug? State the rationale for its use in infertility due to failure of ovulation.
14. Explain the steps involved for thyroid hormone synthesis. Explain the MOA and uses of Levothyroxine.

SECTION "D"
[2 Q. × 7.5 = 15 marks]

Attempt ANY TWO questions.

15. Elaborate on the life cycle of malarial parasite. Classify antimalarial drugs and explain the therapeutic uses, MOA and ADRs of Chloroquine.
16. Classify and enumerate insulin preparations. Discuss the MOA of insulin and the treatment of diabetic ketoacidosis.
17. Classify antitubercular drugs. Explain the MOA, ADRs of commonly used first-line antitubercular drugs.