

2406000102010502
EXAMINATION JANUARY 2024
BACHELOR OF MEDICINE AND BACHELOR OF SURGERY
(SECOND YEAR)
PHARMACOLOGY (PAPER - II) (NEW) (OMR)

[Time: As Per Schedule]

[Max. Marks: 100]

Instructions:

1. Fill up strictly the following details on your answer book
 - a. Name of the Examination : **BACHELOR OF MEDICINE AND BACHELOR OF SURGERY (SECOND YEAR)**
 - b. Name of the Subject : **PHARMACOLOGY (PAPER - II) (NEW) (OMR)**
 - c. Subject Code No : **2406000102010502**
2. Sketch neat and labelled diagram wherever necessary.
3. Figures to the right indicate full marks of the question.
4. All questions are compulsory.
5. Answer examples and precise and to the point.
6. Give examples and draw diagram if needed.
7. First 20 mins have been allotted to saved multiple choice questions.

Seat No:

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Student's Signature

Section I

Q.1 Multiple choice questions (MCQs)

20

(Each question carries one mark and there is no negative marking.)

- 1) Drugs that reduce myocardial remodeling in CHF include all of the following EXCEPT
 - a. Metoprolol
 - b. Enalapril
 - c. Digoxin
 - d. Spironolactone
- 2) Drug of choice for neurocysticercosis is:
 - a. Praziquantel
 - b. Albendazole
 - c. Levamisole
 - d. Piperazine
- 3) Organic nitrate can lead to the development of tolerance when used chronically. Which of the following preparation is least likely to develop tolerance
 - a. Sustained release oral nitroglycerine
 - b. Sublingual nitroglycerine
 - c. Transdermal nitroglycerine
 - d. Oral pentaerythritol tetranitrate

- 4) In the treatment of underdiagnosed megaloblastic anemia, vitamin B12 and folic acid should be given together because:
- Vitamin B12 deficiency may result in methylfolate trap
 - Vitamin B12 act as cofactor for dihydrofolate reductase
 - Folic acid alone causes improvement of anemic symptoms but neurological dysfunction continues
 - Folic acid is required for conversion of methylmalonyl-CoA to succinyl CoA
- 5) Mannitol is contraindicated in the following conditions EXCEPT
- Congestive heart failure
 - Cerebral heamorrhage
 - Increased intracranial tension
 - Pulmonary edema
- 6) Patient returns to her health care provider for routine monitoring after her hypertension regimen was modified. Labs reveal elevated serum potassium. Which is likely responsible for this hyperkalemia?
- Chlorthalidone.
 - Furosemide.
 - Losartan.
 - Nifedipine
- 7) Most specific antiemetic for chemotherapy induced vomiting is:
- Granisetron
 - Tegaserod
 - Domperidone
 - Doxylamine
- 8) All are used in treatment of amoebic liver abscess EXCEPT.
- Diloxanide furoate
 - Chloroquine
 - Metronidazole
 - Emetine
- 9) Androgen is used for following indications, EXCEPT
- Delayed puberty in males
 - Androgen replacement therapy in males
 - Carcinoma of prostate
 - Hereditary angioneurotic edema
- 10) A diabetic patient with bilateral renal artery stenosis requires drug for treatment of high blood pressure which of the following drug will be most appropriate for this patient?
- Hydrochlorothiazide
 - Enalapril
 - Metoprolol
 - Amlodipine

- 11) Which one of the statements regarding insulin in pregnancy is NOT correct
- It does not cross the placenta
 - Insulin requirement does not drop quickly after child birth
 - Reversible resistance to insulin often occurs during pregnancy
 - During pregnancy change over to Insulin is advisable to the patient on oral hypoglycemics
- 12) Which of the following anti-arrhythmic drug is least cardiotoxic
- Disopyramide
 - Amiodarone
 - Procainamide
 - Lidocaine
- 13) Despite their short half-life (2hrs) proton pump inhibitors cause prolonged suppression of acid secretion up to 48hrs because they are:
- Prodrug and undergo activation gradually
 - Exit from plasma & enter acid secretory canaliculi and stay there blocking acid secretion
 - Irreversible inhibitor of proton pump molecule
 - Available as enteric coated capsules, from which gradually released
- 14) A patient on lithium therapy was found to be hypertensive also. Which of the following antihypertensive drugs is contraindication in a patient on lithium therapy in order to prevent toxicity?
- Clonidine
 - Beta blockers
 - Calcium channel blockers
 - Diuretics
- 15) The antiretroviral drug which is also effective in chronic active hepatitis B infection is
- Zidovudine
 - Nelfinavir
 - Efavirenz
 - Lamivudine
- 16) Which of the following is not the component of emergency contraceptive pills?
- Ulipristal
 - Misoprostol
 - Ethinylestradiol
 - Levonorgestrel
- 17) The therapeutic effect of Sulfasalazine in ulcerative colitis is by
- Inhibitory action of unabsorbed drug on the abdominal flora
 - Breakdown of the drug in colon to release 5-aminosalicylic acid which suppresses inflammatory activity
 - Release of sulfapyridine having antibacterial activity
 - Systemic immunomodulatory effect of sulfapyridine

- 18) Which of the following is adverse effect of Cyclophosphamide?
- a. Cardiomyopathy
 - b. Neuropathy
 - c. Convulsion
 - d. Hemorrhagic cystitis
- 19) Which of the following is incorrect pair for drug and antidote for its toxicity/overdosage
- a. Heparin-Protamine sulfate
 - b. Isoniazid - Niacin
 - c. Digoxin - Digibind
 - d. Methotrexate - Folinic acid
- 20) Which amongst the following antimicrobials exhibits a long post antibiotic effect?
- a. Fluorouinolones
 - b. Macrolides
 - c. Beta-lactams
 - d. Tetracyclines

Q.2 Answer in Brief [any Five]:**15**

- a. Enlist Macrolides. Write their therapeutic uses.
- b. Write pharmacotherapy for typhoid fever.
- c. Give rationale for the use of (i) Aspirin in acute myocardial infarction (MI) and (ii) Adenosine in PSVT.
- d. Explain two commonly employed "insulin regimens for diabetes" with suitable diagram.
- e. Rationale of use of 'triple drug regimen' in non-healing peptic ulcer. Write any two regimens.
- f. Describe Topical drug therapy for Acne vulgaris.

Q.3 Write answer in details [any three]:**15**

- a. Enlist various glucocorticoids and describe their therapeutic uses. Mention ADRs of prednisolone when used for long term therapy.
- b. Classify antianginal drugs. Write formulations of nitrate available for different routes of administration with their indications. Describe briefly mechanism of action of nitrates in classical angina.
- c. Enumerate antiemetic drugs from different categories. Describe mechanism of action, adverse effects and therapeutic uses of metoclopramide.
- d. Enlist 1st line and 2nd line antitubercular drugs. Discuss two treatment regimens for Multidrug resistant tuberculosis (MDR) according to NTEP 2021 guideline.

Q.4 Answer the following questions based on the given case scenario:

10

A 45-year-old software engineer goes for routine health check-up. He denies past medical problems, but has been told that his blood pressure was little high. He has no complaints, takes no medications, tries to adhere to a healthy diet, and rarely exercises. On examination his BP was found to be 150/98 mmHg. Other investigations were normal. He is diagnosed as hypertension.

- a. What are the treatment options available for this patient? Which drug will you prefer for this patient according to JNC 8 criteria? (2+1)
- b. Write in detail mechanism; enumerate therapeutic uses and adverse effects of the drug which you have prescribed for this patient. (4)
- c. Write drug of choice for hypertensive emergency. Write its pharmacological basis for the same. (1+2)

Section II

Q.5 Answer in Brief [any Five]:

15

- a. Enumerate drugs used in treatment of helminths (worm infestation). Describe pharmacotherapy of filariasis.
- b. Comment on rationality of the following with giving pharmacological basis:
 - i) Imipenem + Cilastatin
 - ii) Sulfamethoxazole + Trimethoprim
- c. Elaborate role of β -Blockers in Congestive cardiac failure.
- d. Give reasons for the following:
 - (A) Mannitol is not given in pulmonary oedema.
 - (B) Acetazolamide is not used as diuretic.
- e. Write short note on "Clomiphene citrate"
- f. Enumerate parenteral iron formulations and write indications of parenteral iron therapy

Q.6 Write answer in details [any three]:

15

- a. Classify oral antidiabetic drugs. Write mechanism and advantages of metformin using in type II Diabetes mellitus.
- b. Enumerate Thrombolytics. Describe its mechanism and role in pharmacotherapy of acute myocardial infarction (MI). Write contraindications of thrombolytic therapy.
- c. Classify uterine stimulants. Describe pharmacological of action (on myometrium and mammary gland) and therapeutic uses of Oxytocin.

- d. What is artemisinin-based combination therapy (ACT)? Explain the rationale for combining the drugs in ACT to treat malaria. Write any two ACT regimens approved in India.

Q.7 Answer the following questions based on the given case scenario:

10

A 35-year-old woman came to the OPD with complaints of urinary urgency, pain and burning during urination, suprapubic discomfort and low-grade fluctuating fever for the past 2 days. She had 3-4 similar episodes over the last year, for which she took treatment from a local doctor. She is married, has 3 children and her last menstrual period was 10 days back. She is neither using nor is willing to use contraceptive. Physical examination reveals tenderness in the suprapubic region and body temperature 100.4 °F. A diagnosis of acute cystitis is made and she is advised to get urine culture and blood tests done. Since the patient has distressing urinary symptoms and was febrile, empirical antimicrobial treatment was started after urine has been collected for bacteriological testing.

- a. Write any two antimicrobial regimens for empirical treatment of this patient.
- b. Which drug would you prescribe to rapidly relieve urinary symptoms?
- c. Her gynaecologist decided to give long-term prophylactic drug therapy. Which drug (s) would be suitable for her? Why?
- d. Write indications for prophylaxis of urinary tract infection.

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