



RAN-2106000102020101

IInd M.B.B.S. Examination January - 2023

Department of Pharmacology, (Paper -I)

Time: 3 Hours |

[Total Marks: 100

સૂચના : / Instructions

- (1) નીચે દર્શાવેલ ❖ નિશાનીવાળી વિગતો ઉત્તરવર્તી પર અવશ્ય લખવી.
Fill up strictly the details of ❖ signs on your answer book

Name of the Examination:

IInd M.B.B.S.

Name of the Subject :

Department of Pharmacology, (Paper -I)

Subject Code No.: 2106000102020101

Seat No.:

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Student's Signature _____

- (2) Encircle the single most appropriate answer.
(3) Each question carries one mark and there is no negative marking.
(4) Overwriting is not allowed.

Q. 1 Multiple Choice Questions (MCQs)

[Marks 20]

1. All of the following statements for COX-2 are correct EXCEPT :
 - a. Induced at the site of inflammation
 - b. Activation of COX-2 leads to ulcer protective effect on gastric mucosa
 - c. It is constitutionally expressed on some cell surfaces
 - d. It is utilized in generation of eicosanoids with a ring structure
2. Which of the following drug is commonly used in narcoanalysis?
 - a. Atropine sulfate
 - b. Scopolamine hydrochloride
 - c. Phenobarbitone
 - d. Morphine

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[1]

[P.T.O.]

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3. For which of the following drugs a warning is written: 'To be sold by retail on the prescription of registered medical practitioner only'.
 - a. Schedule C
 - b. Schedule X
 - c. Schedule Y
 - d. Schedule H
4. Antihistaminics used for motion sickness is :
 - a. Cetirizine
 - b. Meclizine
 - c. Diphenhydramine
 - d. Fexofenadine
5. The sympathetic and parasympathetic systems exert functionally opposite influences on the following parameters except:
 - a. Heart rate
 - b. Atrial refractory period
 - c. Pupil diameter
 - d. Intestinal motility
6. Gastric lavage is contraindicated in :
 - a. Salicylate poisoning
 - b. Organophosphate poisoning
 - c. Kerosene poisoning
 - d. Morphine poisoning
7. Regarding efficacy and potency of a drug all are true EXCEPT :
 - a. In a clinical setup, efficacy is more important than potency
 - b. In the log dose response curve, the height of the curve corresponds with efficacy
 - c. ED_{50} of the drug corresponds to the efficacy
 - d. Drugs that produce similar pharmacological effect can have different levels of efficacy
8. Tachyphylaxis is seen after use of:
 - a. Tamoxifen
 - b. Ephedrine
 - c. Morphine
 - d. Chlorpromazine
9. Correctly matched pair of heavy metal and its respective chelating agent is :
 - a. Iron - BAL
 - b. Mercury - Calcium disodium edetate
 - c. Copper - d-penicillamine
 - d. Arsenic - Desferioxamine

10. Caution is advised for the use of Aspirin in which of the following group of patients :
 - a. In diabetics - can cause hyperglycaemia
 - b. In children with viral disease - risk of acute renal failure
 - c. In gout - can increase serum uric acid levels
 - d. In pregnancy- risk of teratogenicity
11. Timolol eye drops are preferred over pilocarpine eye drops by glaucoma patients because :
 - a. Timolol is more effective than pilocarpine
 - b. Timolol acts by enhancing uveo-scleral outflow
 - c. Timolol produces less ocular side effects
 - d. There are no contraindications to timolol
12. Use of morphine in preanaesthetic medication:
 - a. Is routine except in the presence of contraindications
 - b. Is restricted to patients being anaesthetised with ether
 - c. Should be made only in combination with atropine
 - d. Is restricted mostly to patients in pain preoperatively
13. A drug competes with ACh for receptors at the motor end plate affect skeletal muscle as it
 - a. produces uncontrolled muscle spasms
 - b. causes the muscles to contract and be unable to relax
 - c. causes muscles to relax and be unable to contract
 - d. makes the muscles more excitable
14. Transdermal drug delivery systems offer the following advantages EXCEPT :
 - a. Produces high peak plasma concentration of the drug
 - b. Produces smooth and non-fluctuating plasma concentration of the drug
 - c. Minimises inter-individual variations in the achieved plasma drug concentration
 - d. Avoids hepatic first-pass metabolism of the drug
15. Therapeutic index is an assessment of:
 - a. Potency of drug
 - b. Onset of action
 - c. Duration of action
 - d. Margin of safety
16. All of the following statements for flumazenil are true EXCEPT :
 - a. It is a specific antagonist of benzodiazepines
 - b. It may be used to treat barbiturate poisoning
 - c. It is given intravenously
 - d. It acts on same site on GABA channels where benzodiazepines bind

17. When is Ketamine NOT preferred as an anaesthetic agent ?
- Glaucoma
 - Emergency conditions with full stomach
 - Short surgeries in asthmatic patients
 - For dissociative anaesthesia
18. Drug of choice for alcohol withdrawal is :
- Chlordiazepoxide
 - Disulfiram
 - Naltrexone
 - Diazepam
19. The most vulnerable period of pregnancy for the causation of foetal malformations due to drugs is:
- 18-55 days of gestation
 - 56-84 days of gestation
 - Second trimester
 - 36 weeks onwards
20. In drug metabolism, hepatic cytochrome P-450 (CYP-450) system is responsible for :
- Phase I reactions
 - Phase II reactions
 - Both (a) and (b)
 - Converting hydrophilic metabolites to lipophilic metabolites

SECTION I

Instructions:

- Answers should be precise and to the point.
- Give examples and figures if needed.
- First 20 mins have been allotted to solve multiple choice questions.

Q. 2 Answer in brief [any five] :

[3×5=15]

- First order versus zero order kinetics.
- Explain microsomal enzyme inhibition with suitable examples.
- Write differences between neostigmine and physostigmine.
- Short note on "Placebo".
- Write in brief therapeutic uses and adverse effects of selective COX-2 inhibitors.
- Define drug antagonism. Mention its types with suitable examples.

Q. 3 Write short notes [any three] : [5×3=15]

- Enumerate various drugs for glaucoma. Discuss the pharmacotherapy for angle closure glaucoma.
- Classify β - blocker drugs. Discuss their therapeutic uses and adverse effect profile.
- Describe the concept of potency and efficacy of drugs with suitable examples and graphs.
- Mention various atropine substitutes and/or derivatives. Describe their clinical uses.

Q. 4 Case based questions : [10×1=10]

A 36-year-old female presented to the rheumatology department with chief complaints of pain, swelling and morning stiffness of small joints of both hands along with increased fatigue in the last 3-4 months. Her physical examination and laboratory investigations were suggestive of rheumatoid arthritis. She was prescribed tablet methotrexate 15 mg once a week for two months and tablet aceclofenac 100 mg once a day for one month for her condition.

Answer the following questions :

- Explain the rationale behind prescribing the above-mentioned drugs for initial episode. What are the main adverse effects to be anticipated in this patient?
Mention the precautions to be taken while the patient is on these medications. [2+1+2]
- Classify disease modifying anti-rheumatoid drugs. [2]
- What is the pharmacological basis of prescribing corticosteroids during the course of the disease? [3]

SECTION II

Q. 5 Answer in brief [any five] : [3×5=15]

- Explain in brief "Pharmacovigilance".
- Typical versus atypical antipsychotic agents.
- Short note of management of methanol poisoning.
- Enlist agents used in spinal anaesthesia along with complications of spinal anaesthesia.
- Name two mucolytic agents. Explain briefly role of mucolytic in the treatment of cough.
- Write a note on pre-anaesthetic medications along with its uses.

Q. 6 **Write short notes [any three] :** **[5×3=15]**

- Mention various neuromuscular blocking agents. Explain the difference between non-depolarizing and depolarizing block. Write any two therapeutic uses of succinylcholine.
- Enumerate various anti-epileptic agents. Explain the pharmacological basis of phenytoin in grand mal epilepsy. Describe drug-drug interactions of phenytoin.
- Phases of clinical trial.
- Classify anti-asthmatic drugs. Discuss the treatment for acute attack of bronchial asthma.

Q. 7 **Case based questions :** **[10×1=10]**

A 50-year-old male patient presents to the medicine out-patient department with tremors at rest in one hand, difficulty in initiating movements, mask like face, defective posture and gait along with dementia. After a thorough clinical and central nervous system examination, he was diagnosed as a case of parkinson's disease. The clinician prescribed a combination of levodopa 100 mg and carbidopa 10 mg orally once daily for one month. The patient was asked to visit for follow-up after a month.

Answer the following questions :

- Explain the rationale for prescribing a fixed dose combination of levodopa + carbidopa.
Discuss the consequences of initial as well as prolonged levodopa therapy. [2 + 2]
- Classify the drugs prescribed for parkinsonism. [2]
- What is drug induced parkinsonism? How will you treat such a case? [2]
- Mention recent developments in the treatment of parkinsonism. [2]