Madhya Pradesh Medical Science University, Jabalpur

MBBS Second Professional Examination June-2023

Subject- Pharmacology

Paper- I (new scheme)

Time: 3:00 Hours ***Maximum Marks :100***

Instructions:

a) *All questions are compulsory*
b) *Draw diagrams wherever necessary*
c) *Answers of Questions and Sub-questions must be written strictly according to serial order of question paper.*
d) *MCQ has to be answered in theory answer book*
e) *Please write MCQ answer neatly and in serial order with black or blue pen in brackets; for example: - 1. (a) 2. (c)*
f) *MCQ has to be answered only once, any kind of repetition or cutting or erasing or whitener will be considered as malpractice, such answers will not be counted in marks and action will be taken according to UFM rules of university.*
g) *Subjective answer should be answered in up to 30 words per marks. For example, if a question having 2 marks should answered in up to 60 marks.*

Q1. Total MCQs: 10 10 x 1 = 10

1. A 26-year-old woman from Banjli village, Ratlam presents to the OPD of General Medicine with progressive fatigability and diplopia. She is currently receiving neostigmine for treatment and claims good compliance. Physical examination reveals bilateral ptosis. Infusion of low-dose edrophonium elicits a significant improvement in her muscle strength. Which of the following is the best next step in managing this patient?			
(a) Increase neostigmine dosage	(b) Add atropine	(c) Administer pralidoxime	(d) Stop neostigmine temporarily

2. A pack of girl scouts from Madhyapradesh reports to the emergency department after consuming numerous "wild mushrooms" during a nature walk and camping trip in the outskirts of Shillong, Meghalaya. In order to be sure that they suffer from excessive cholinergic stimulation from the Inocybe spp. and can be appropriately treated with Atropine, your physical examination should include the following signs:			
(a) Mydriasis and increased heart rate	(b) Miosis, flushing, dry skin and increased heart rate	(c) Dry skin, tachycardia, mental confusion	(d) Excessive sweating, miosis, difficulty breathing, and bradycardia

3. Mr. Santosh Jha is a 66-year-old male who presents to your clinic with a several-month history of straining during urination, hesitancy, and intermittent urinary flow. Rectal examination revealed a markedly enlarged prostate. Upon reviewing Mr. Jha's medical record, you also note that his blood pressure was high (160-170/95-100mmHg) during his last several check-ups. He is not taking any medications. Which of the following drugs would address both of this patient's current problems?			
(a) Propranolol	(b) Prazosin	(c) Dopamine	(d) Phenylephrine

4. A 38-year-old man has his blood pressure measured on 3 different occasions in the clinic, yielding values of 145/95, 160/105, and 150/100. A careful history reveals that he has had a couple of acute gouty attacks in the last 2 years & he is currently taking allopurinol. The decision is made to treat with a suitable blood pressure-lowering drug. Which of the following drugs should the physician cautiously AVOID because of his concomitant hyperuricemia?			
(a) Captopril	(b) Propranolol	(c) Nifedipine	(d) Hydrochlorthiazide

5. A diuretic which acts in the thick ascending loop of nephron would cause:			
(a) Hyporenininemia, Hypermagnesemia, and Metabolic acidosis	(b) Hypercalcemia, hypermagnesemia, and hyperkalemia	(c) Hyperglycemia, hyperlipidemia, hypokalemia and hyperuricemia	(d) Hypokalemia, hypomagnesemia & preferential vasodilation in renal vasculature

6. A 50-year-old Caucasian male is brought to the emergency unit with severe dizziness and confusion. He states that he had an episode of chest pain and took several tablets of nitroglycerin. His current medications include a daily aspirin for heart attack prevention, an occasional aspirin for headaches, and occasionally Sildenafil for erectile dysfunction. His blood pressure is 60/30mmHg and his heart rate is 120 beats/min. Which of the following cellular changes is the most likely responsible for the patient's symptoms?			
(a) Receptor downregulation	(b) Gs protein phosphorylation	(c) Cyclic GMP accumulation	(d) Tyrosine kinase activity

7. A class of antianginal medications with multiple mechanisms of action that include: decreased preload, decreased oxygen demand, decreased afterload (at high doses), and increased myocardial oxygen delivery by dilating large epicardial arteries.			
(a) Beta blocker	(b) Dihydropyridine calcium channel blocker	(c) Nondihydropyridine calcium channel blocker	(d) Nitrate

8. A 43-year-old, insulin-dependent diabetic patient is diagnosed with hypertension and begins therapy with an antihypertensive agent. Three days later, he measures his blood glucose at home and finds that it is 33 mg/dL. He recalibrates his glucose testing apparatus and repeats the test, only to find that the first reading was accurate. He is concerned that his hypoglycemia did not produce the normal premonitory signs and symptoms. Which of the following medications was MOST LIKELY prescribed to treat his hypertension?			
(a) Prazocin	(b) Propranolol	(c) Hydrochlorthiazide	(d) Captopril

9. A 5-year-old male child with no previous medical history is brought to the Emergency Unit by his mother because he accidentally ingested a large dose of rat poison (which has Vitamin K epoxide Reductase Inhibitor as an active ingredient). He is conscious but appears quite agitated. On physical exam, he is found to have a blood pressure of 110/70 and a heart rate of 90. Labs are significant for an elevated PT but a normal aPTT. The patient should be immediately treated with:			
(a) Protamine	(b) Flumazenil	(c) Fresh frozen plasma	(d) Atropine

10. A 58-year-old alcoholic with chronic obstructive lung disease secondary to cigarette smoking is presently receiving theophylline as a bronchodilator for his lung disease. Serum levels of theophylline are persistently lower than expected for the prescribed dose. The patient's wife is responsible for administering the medicine each day and states that she has not missed any doses. Which of the following is the most likely explanation for these laboratory findings?			
(a) Cirrhosis of the liver	(b) Decreased absorption	(c) Enhanced liver metabolism	(d) Noncompliance

Q2. Long Answer Questions 2 x 20 = 40

a. Classify drugs used for treatment of peptic ulcer and discuss therapeutic uses and adverse effects of proton pump inhibitors.
b. Classify antihypertensive drugs and discuss adverse effects and advantages of using ACE Inhibitors as antihypertensive drugs.

Q3. Brief Answer Questions 6 x 05 = 30

a. Discuss management of Organophosphate poisoning.
b. Discuss Drug-drug Interaction at various Pharmacokinetic & Pharmacodynamic levels.
c. Discuss pharmacotherapy for Status Asthmaticus.
d. Write a short note on the treatment of angle closure glaucoma.
e. Write a short note on drugs for prophylaxis of migraine.
f. Write a short note on the treatment of stable angina.

Q4. Short Answer Questions 10 x 2 = 20

a. Name two parenteral iron preparations.
b. Name two anti-secretary anti-motility drugs for the treatment of diarrhea.
c. Name two common side effects of Amlodipine.
d. Name two potassium-sparing diuretics.
e. Name two antihypertensive drugs commonly used to treat eclampsia.
f. Justify why Dextromethorphan is preferred over codeine as an antitussive.
g. Explain why Folic acid alone should not be given in patients with megaloblastic anemia due to vitamin B12 deficiency.
h. Explain why LMW (Low molecular weight heparin) Heparin is preferred to UFH (Unfractionated Heparin) for treatment and maintenance of Deep Vein Thrombosis (DVT).
i. Explain clinically important side effects of statins drug therapy with preventive measures for the same.
j. Enumerate clinical indications of Anticholinergic drugs.