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MANIPAL UNIVERSITY
MELAKA MANIPAL MEDICAL COLLEGE (MANIPAL CAMPUS)
MBBS PHASE – I STAGE – II DEGREE EXAMINATION – MARCH 2017
SUBJECT : PHARMACOLOGY – PAPER I (ESSAY)

Monday, March 13, 2017

Time : 2.00 - 4.00 Hrs.

Max. Marks : 60

- 1A. Describe bioavailability and list two factors affecting bioavailability.
 1B. List two local anesthetic agents and explain their mechanism of action. (3+3 = 6 marks)
2. A 40 year old male who was on combination therapy for tuberculosis complains to his doctor that he is passing orange red coloured urine and also experiencing tingling and numbness in the upper extremities.
 2A. Identify the drug responsible for urine discoloration and explain its mechanism of action as an antitubercular drug.
 2B. Mention the drug responsible for tingling and numbness in upper extremities. (2½+½ = 3 marks)
- 3A. List two drugs used each in psoriasis and genital herpes.
 3B. List two groups of drugs with an example for each used in chronic prophylaxis of angina.
 3C. List two statins and mention their two adverse effects.
 3D. Explain the mechanism of action of digoxin.
 3E. Explain the term 'concentration dependent killing' with an example. (2+2+2+2+2 = 10 marks)
4. Enumerate two drugs belonging to following groups and list their two uses:
 4A. Proton pump inhibitors
 4B. GnRH agonists
 4C. ACE inhibitors (2×3 = 6 marks)
5. An experimental drug X, which acts via receptors, was administered to a rat and produced a 10 mmHg fall in blood pressure. The rat was then administered a drug Y, which produced no change in blood pressure. A curious undergraduate student administered both the drugs simultaneously. The blood pressure fell by 30 mmHg.
 5A. Which drug interaction was observed in this experiment?
 5B. List two other interactions that may be seen when two drugs are administered together. (1+1 = 2 marks)

- 6A. List two anticoagulants and explain the mechanism of action of any one of them.
- 6B. Describe the mechanism of action ofazole antifungals and list their two therapeutic uses.
- 6C. List two each rapid acting and short acting insulins and list two adverse effects of insulins.
- 6D. Explain the mechanism of action of succinylcholine and list its two adverse effects.
- 6E. Explain the contraceptive action of combined oral contraceptive pills and mention two health benefits of hormonal contraceptives.

(3+3+3+3+3 = 15 marks)

- 7. Explain the pharmacological basis for the following:
 - 7A. Metoclopramide is used in the treatment of diabetes associated gastroparesis.
 - 7B. Amoxicillin is combined with clavulanic acid in the treatment of streptococcal pharyngitis.
 - 7C. Morphine is contraindicated in patients with head injury.
 - 7D. Ibuprofen is used in fever.

(2×4 = 8 marks)

- 8A. Explain the antirheumatoid action of methotrexate.
- 8B. Explain the basis for using finasteride in the treatment of benign prostatic hypertrophy.
- 8C. Mention two therapeutic uses of selective α_1 -blockers and list two adverse effects of alpha blockers.
- 8D. Explain the mechanism of action of phenytoin.
- 8E. List two uses of metronidazole with organisms involved.

(2+2+2+2+2 = 10 marks)



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MBBS PHASE – I STAGE – II DEGREE EXAMINATION – MARCH 2017

SUBJECT : PHARMACOLOGY – PAPER II (MTF)

Monday, March 13, 2017

Time : 4.30 - 5.30 Hrs.

Max. Marks : 120

INSTRUCTIONS

1. For each statement, select T (True) or F (False) as your choice.
2. Indicate your choice by darkening the appropriate circle in the answer sheet provided.
3. Use only HB or 2B pencils to darken the circle.
4. Leave blank for Don't Know response.
5. Scoring systems is as follows :
 - For every **Correct** response 1 mark is awarded
 - For every **Wrong** response 0.5 mark is deducted
 - For every **Don't Know** response No mark is deducted
6. Indicate your Roll Number (Registration Number) clearly and correctly.
7. Do not write anything in the question paper.
8. The true/false statements are numbered 101 to 160 and 201 to 260 (Total 120 statements).
9. This question paper contains **04 pages**. Please make sure that the question paper provided to you has all the pages.

Following group of drugs reduce gastric acid secretion

- 101. Antacids
- 102. H₁ blockers
- 103. Prostaglandin analogues
- 104. Anticholinergics

Fluoroquinolones

- 105. Act by stimulating DNA gyrase
- 106. Primarily act against gram positive anaerobic bacteria
- 107. Are safe in pregnant women

Regarding antimalarials

- 108. Chloroquine alone can be used for radical cure of vivax malaria
- 109. Primaquine has a gametocidal action
- 110. Chloroquine is contraindicated in retinopathy

Drugs used in irritable bowel syndrome include

- 111. Desipramine
- 112. Senna
- 113. Dicyclomine

Drugs useful in viral hepatitis include

- 114. Interferon- α
- 115. Amantadine
- 116. Foscarnet

Drugs useful in peripheral vascular disease include

- 117. Pentoxifylline
- 118. Cilostazole
- 119. Nicorandil

Regarding beta blockers in the management of CCF

- 120. Atenolol is approved for the management of CCF
- 121. They decrease cardiac remodeling

122. They are used in the management of severe CCF

123. They prevent arrhythmias in these patients

Following diuretics are correctly matched with their site of action

- 124. Hydrochlorothiazide: distal convoluted tubule
- 125. Acetazolamide: cortical collecting tubules
- 126. Amiloride: proximal convoluted tubule
- 127. Bumetanide: thick ascending segment of loop of Henle

Regarding calcium channel blockers

- 128. They act on voltage gated L- type calcium channels
- 129. Verapamil is a dihydropyridine
- 130. Nifedipine causes bradycardia
- 131. Flunarizine is used for the prophylaxis of migraine

Drugs used in the treatment of erectile dysfunction include

- 132. Tadalafil
- 133. Danazol
- 134. Alprostadil
- 135. Bicalutamide

Following drugs are used in the treatment of leprosy

- 136. Rifampin
- 137. Clarithromycin
- 138. Ofloxacin
- 139. Chloramphenicol

Enzyme inducers include

- 140. Phenytoin
- 141. Sodium valproate
- 142. Ethanol
- 143. Allopurinol

Drugs used in acne vulgaris include

- 144. Retinoic acid
- 145. Adapalene
- 146. Psoralen
- 147. Benzoyl peroxide

Goals of antiretroviral therapy include

- 148. To achieve substantial suppression of viral replication in all cellular compartments
- 149. To decrease the emergence of drug resistant virus
- 150. To decrease the infectivity of the patient for other persons

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- 151. Is administered intravenously
- 152. Destroys parathyroid glands
- 153. Is contraindicated in pregnancy
- 154. Is preferred in young patients

Following drugs are correctly matched with their therapeutic uses

- 155. Misoprostol: to arrest threatened labour
- 156. Calcium gluconate: tetany
- 157. Magnesium sulphate: antepartum hemorrhage
- 158. Raloxifene: osteoporosis

Corticosteroids are used in

- 159. Bronchial asthma
- 160. The management of bacterial meningitis
- 201. Organ transplantation
- 202. Neurocysticercosis

Bromhexine

- 203. Opens disulphide bonds in mucoproteins
- 204. Increases lysosomal enzyme activity
- 205. Causes rhinorrhoea

Drugs used in the treatment of Alzheimer's disease include

- 206. Donepezil
- 207. Chlorpromazine
- 208. Rivastigmine
- 209. Galantamine

Regarding nasal decongestants

- 210. Xylometazoline is an example
- 211. They act by stimulating β_2 receptors
- 212. They can cause anosmia

Thiopentone sodium

- 213. Is an intravenous inducing agent
- 214. Undergoes redistribution
- 215. Is a respiratory depressant
- 216. Causes dose dependent increase in blood pressure

Azithromycin is

- 217. Longer acting compared to erythromycin
- 218. Acid labile
- 219. An enzyme inducer
- 220. Used in non-gonococcal urethritis

Drugs used in mania include

- 221. Lithium
- 222. Lamotrigine
- 223. Fluoxetine
- 224. Sodium valproate

Regarding cephalosporins

- 225. They are bacterial protein synthesis inhibitors
- 226. Cefoperazone has antipseudomonal activity
- 227. They are safe in patients allergic to penicillin
- 228. First generation cephalosporins are active against anaerobes

Adverse effects of anticholinergics include

- 229. Dry mouth
- 230. Diarrhoea
- 231. Blurred vision
- 232. Tachycardia

Following terms are correctly matched with their descriptions

- 233. Clinical pharmacology: Scientific study of drugs in humans
- 234. Prototype drug: Inactive form of the drug which gets activated in the body
- 235. Randomization: Concealment of the nature of treatment from subject
- 236. Proprietary name: Drug name assigned by United States Adopted Name council
- 237. Pharmacoeconomics: Science dealing with the cost of drug therapy

Regarding the various pharmacokinetic parameters of a drug

- 238. Clearance remains constant for drugs following zero order kinetics
- 239. Plasma half-life determines the frequency of drug administration
- 240. Maintenance dose is dependent on the clearance of the drug

Regarding subcutaneous route of drug administration

- 241. It is the preferred route in patients with shock
- 242. Absorption is slower as compared to intramuscular route
- 243. Irritant drugs can be injected by this route
- 244. Self-administration is not possible

Monitoring of plasma concentration of drugs is useful

- 245. When they have wide therapeutic range
- 246. For hit and run drugs
- 247. If inter-individual variation in drug response is large
- 248. To check patient compliance

Regarding phases of clinical trials

- 249. Phase I trials are performed on 100-300 volunteers
- 250. Phase II trials determine the efficacy of a new drug
- 251. Phase III trials are conducted at multiple centres
- 252. New drug application can be filed only after phase IV clinical trial

Regarding antimicrobial agents

- 253. Broad spectrum antimicrobial agents are active against a large variety of microorganisms
- 254. Bacteriostatic agents are preferred in immunocompromised individuals
- 255. Definitive therapy is started before causative organisms are identified
- 256. Combination of two or more antimicrobial agents reduces risk of resistance

Regarding antiplatelet drugs

- 257. Clopidogrel is a phosphodiesterase-III inhibitor
- 258. They cause bleeding
- 259. Abciximab blocks the GP IIb/IIIa receptor
- 260. They are used in thromboembolism

