

MANIPAL UNIVERSITY

MBBS PHASE I STAGE II DEGREE EXAMINATION – MARCH 2016

SUBJECT: PHARMACOLOGY – I (ESSAY)

Friday, March 11, 2016

Time: 09:00 – 11:00 Hrs.

Max. Marks: 60

✍ Answer ALL the questions.

1. Answer the following:

- 1A. List two advantages and two disadvantages of transdermal route and mention two drugs that can be given by this route.
- 1B. Explain the mechanism of action of acyclovir and list its two adverse effects.
- 1C. Explain the mechanism of action of albendazole and list its two therapeutic uses.
- 1D. List four common properties of aminoglycosides and mention two drugs belonging to this group.

(3+3+3+3 = 12 marks)

2. An 82-year-old woman develops left ventricular failure following myocardial infarction and needs a diuretic for treatment of pulmonary edema.

- 2A. Which diuretic would be most appropriate in this patient? Mention the route by which it is administered.
- 2B. Explain how it relieves pulmonary edema.
- 2C. List its two adverse effects.

(1+2+1 = 4 marks)

3. Explain the pharmacological basis for the following:

- 3A. Lignocaine is coadministered with adrenaline prior to minor surgery
- 3B. Nitroglycerine is used in angina pectoris
- 3C. Imipenem is combined with cilastatin

(2×3 = 6 marks)

4. 27 year old Raghu was prescribed 100 mg of phenytoin to be taken thrice a day for his epilepsy. He suffered an episode of seizure after 1 month of therapy. Following this he visited his physician, who decided on therapeutic drug monitoring (TDM).

- 4A. Is TDM required for the above patient? Justify your answer.
- 4B. Explain the antiepileptic action of phenytoin.

(2+2 = 4 marks)

5. Choose the appropriate drug from the given pair for the condition mentioned below and justify the same:

5A. Aspirin/paracetamol for a 3 year old child with viral fever

5B. Metoclopramide/domperidone for treating vomiting in a 52 year old man on levodopa therapy
(2×2 = 4 marks)

6. Describe the following terms with a suitable example:

6A. Tolerance

6B. Expectorants

6C. Enterohepatic cycling

6D. Chemoprophylaxis

(2×4 = 8 marks)

7. List two drugs useful in following conditions and explain the mechanism of action of any one of them:

7A. Parkinson's disease

7B. Bronchial asthma

7C. Open angle glaucoma

7D. Type 2 diabetes mellitus

(3×4 = 12 marks)

8. Answer the following:

8A. Explain the mechanism of action of cotrimoxazole and mention its one therapeutic use with the causative organism.

8B. Explain "WHO analgesic ladder" in pain management.

8C. Mention two first generation and two second generation antihistaminics.

8D. List two classes of anticancer agents with an example for each.

(3+3+2+2 = 10 marks)



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MANIPAL UNIVERSITY
MBBS PHASE I STAGE II DEGREE EXAMINATION – MARCH 2016
SUBJECT: PHARMACOLOGY – II (MCQs)

Friday, March 11, 2016

Time: 11:30 – 12:30 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 terms are correctly matched with corresponding statements

101. Chemotherapy – deals with the treatment of cancer and infectious diseases
102. Pharmacoeconomics - compares the costs and consequences of drug therapy
103. Pharmacokinetics - deals with drug action
104. Generic name – is the name given by the manufacturer

Following are parental preparations of iron

105. Iron sorbitol-citrate
106. Iron sulphate
107. Iron fumerate
108. Iron dextran

Regarding biotransformation

109. All drugs undergo phase I reactions
110. It is essential for activating prodrugs
111. Sodium valproate inhibits hepatic microsomal enzymes
112. Genetic factors do not affect biotransformation

Drugs

113. Are eliminated mainly through kidneys
114. Bound to plasma proteins have large volume of distribution
115. Following first order kinetics need 4 to 5 half-lives to achieve steady state plasma concentration
116. Administered by intravenous route have high bioavailability

During clinical trials

117. An IND is filed after phase III
118. Efficacy is established in phase I
119. Placebo is used to minimize bias
120. Informed consent is always necessary

Morphine

121. Is used for cough
122. Is contraindicated in head injury
123. Overdose is treated with methadone

124. In high dose causes pupillary dilatation

Following antiplatelet drugs are correctly matched with their mechanism

125. Dipyridamole – ADP receptor antagonist
126. Ticlopidine – Phosphodiesterase inhibitor
127. Abciximab – GP IIb/IIIa receptor antagonist
128. Tirofiban - TXA₂ synthesis inhibitor

Following are the advantages of LMWHs over unfractionated heparin

129. They can be administered orally
130. They have a shorter elimination half-life
131. They do not need aPTT monitoring
132. The incidence of thrombocytopenia is low

Following drugs are correctly matched with their adverse effects

133. Atorvastatin – myositis
134. Nicotinic acid – hepatic dysfunction
135. Atropine – bradycardia
136. Prazosin – hypotension

Regarding adrenergic agonists

137. Dobutamine is a cardiac depressant
138. Oxymetazoline is a nasal decongestant
139. Phenylephrine causes constriction of pupil
140. Adrenaline is contraindicated in patients with hypertension

Regarding skeletal muscle relaxants

141. Succinylcholine can cause hyperkalemia
142. d-TC acts by depolarizing neuromuscular junction
143. Dantrolene is used in malignant hyperthermia
144. Chlorzoxazone is a non-depolarising neuromuscular blocker

Benzodiazepines

145. Act by inhibiting GABA_A receptors

- 146. Have an antidote
- 147. Significantly alter sleep architecture
- 148. Increase suicidal tendencies

Intravenous general anesthetic agents include

- 149. Ketamine
- 150. Isoflurane
- 151. Propofol
- 152. Halothane

Following are advantages of atypical antipsychotic agents over typical antipsychotics

- 153. They do not cause extrapyramidal symptoms
- 154. They have antiemetic effect
- 155. They are effective in patients refractory to typical neuroleptics
- 156. They improve negative symptoms of schizophrenia

Following drugs are used in Huntington's chorea

- 157. Chlorpromazine
- 158. Olanzapine
- 159. Donepezil
- 160. Tetrabenazine

Following drugs and their mechanism of action are correctly matched

- 201. Ciprofloxacin –inhibits bacterial protein synthesis
- 202. Doxycycline - inhibits DNA gyrase
- 203. Amoxicillin - inhibits cell wall synthesis
- 204. Acyclovir – inhibits DNA polymerase

Following drugs are correctly matched with their adverse effects

- 205. INH – hepatotoxicity
- 206. Clofazimine – lepra reaction
- 207. Cyclosporine – alopecia
- 208. Allopurinol – hypersensitivity reaction

Digoxin

- 209. Is a positive inotropic agent

- 210. Inhibits Na⁺/K⁺ ATPase
- 211. Has a long half life
- 212. Is administered with hydrochlorothiazide to prevent its toxicity

Regarding antiarrhythmic agents

- 213. Quinidine inhibits Na⁺ channels
- 214. Esmolol is a class III antiarrhythmic drug
- 215. Amiodarone causes corneal microdeposits
- 216. Adenosine is used in PSVT

Chloroquine is contraindicated in

- 217. Visual field abnormalities
- 218. Rheumatoid arthritis
- 219. Pregnancy
- 220. G6PD deficient patients

Metronidazole

- 221. Damages microbial DNA
- 222. Is effective against amebic cysts
- 223. Is used in the treatment of toxoplasmosis
- 224. Causes metallic taste

Regarding drugs used in the treatment of peptic ulcer

- 225. Ranitidine can cause gynecomastia
- 226. Omeprazole blocks H₂ receptors
- 227. Aluminum hydroxide can be combined with magnesium sulfate
- 228. *H. Pylori* infection needs treatment for a period of 1 year

Regarding antiemetics

- 229. Ondansetron is a 5HT₃ receptor antagonist
- 230. Promethazine is used in motion sickness
- 231. Hyoscine transdermal patch is used in the treatment of morning sickness
- 232. Cinnarizine is used in vertigo

Following drugs are correctly matched with their therapeutic uses

- 233. Terbinafine – onychomycosis

- 234. Oseltamavir – herpes labialis
- 235. Pegvisomant – acromegaly
- 236. Bromocriptine – to increase milk production in lactating women

Following drugs have tocolytic effect

- 237. Ergometrine
- 238. Ritodrine
- 239. Nifedipine
- 240. Carboprost

Regarding glucocorticoids

- 241. They can cause hypoglycemia
- 242. They are effective in certain cancers
- 243. They are safe in patients with peptic ulcer
- 244. Budesonide is an inhalational steroid

Following drugs are correctly matched with their groups

- 245. Mifepristone: antiprogestin
- 246. Tamoxifen: selective estrogen receptor modulator
- 247. Finasteride: aromatase inhibitor
- 248. Danazole: 5 α reductase inhibitor

Regarding antiretroviral drugs

- 249. Zidovudine prevents vertical transmission during pregnancy
- 250. All NRTIs cause lactic acidosis
- 251. Maraviroc is a fusion inhibitor
- 252. Lopinavir and ritonavir should not be given together

Following drugs are correctly matched with their use

- 253. Ceftriaxone – gonorrhoea
- 254. Penicillin G – syphilis
- 255. Azithromycin – lymphogranuloma venereum
- 256. Vancomycin – chancroid

Drugs used in the treatment of psoriasis include

- 257. Calcipotriol
- 258. Acitretin
- 259. Hydroquinone
- 260. Benzoyl peroxide

