Reg. No.										

MANIPAL UNIVERSITY

MBBS PHASE I STAGE II DEGREE EXAMINATION – AUGUST 2015

SUBJECT: PHARMACOLOGY – I (ESSAY)

Wednesday, August 19, 2015

Time: 09:00 – 11:00 Hrs. Max. Marks: 60

✍ **Answer ALL the questions.**

1. Enumerate two advantages and two disadvantages of subcutaneous route of drug administration.

(2 marks)

2. **Explain the following with an example for each:**

2A. Enzyme induction
2B. Redistribution
2C. Pharmacogenetics
2D. Dissociative anesthesia

(2 marks × 4 = 8 marks)

3. A 55 year old patient who developed deep vein thrombosis was treated with drug 'X' for 3 days followed by warfarin for maintenance of therapy.

3A. Identify drug 'X' and mention its another use.
3B. Explain the mechanism of action of warfarin.

(1+2 = 3 marks)

4A. Explain the anticancer action of methotrexate and list its two specific adverse effects.
4B. List two therapeutic uses of adrenaline and explain the pharmacological basis for each of them.
4C. Mention two broad spectrum antiepileptic drugs and explain the mechanism of action of any one of them.

(3+4+3 = 10 marks)

5. **Explain the pharmacological basis for the following:**

5A. Aspirin is contraindicated in patients with peptic ulcer
5B. Bethanechol is useful in postoperative urinary retention
5C. Combined use of levodopa and carbidopa in Parkinson's disease
5D. Frusemide is used in the treatment of acute pulmonary edema
5E. Propranolol is contraindicated in diabetic patients on insulin therapy

(2 marks × 5 = 10 marks)

6. A healthy full term primigravida aged 28 years in labor is administered a local anesthetic for the relief of labor pain.

6A. Mention the technique of local anesthesia that can be used in the above case. Explain the mechanism of action of local anesthetics.

6B. List two local anesthetics that can be used in this case.

(2+1 = 3 marks)

7A. Explain the mechanism of action of salbutamol in bronchial asthma.

7B. Mention two drugs belonging to different groups useful in peptic ulcer. Explain the mechanism of action of any one of them.

7C. Describe the pharmacological basis for using sulfasalazine in inflammatory bowel disease.

7D. Describe the mechanism of action of acyclovir. List two drugs used in H1N1 infection.

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

8A. A 60 year old man presents to his primary care physician with a complaint of severe chest pain when he walks uphill to his home in cold weather. The pain disappears when he rests. Mention one drug useful in the above patient to terminate the acute attack of pain and explain how it is useful.

8B. Explain the antithyroid action of propylthiouracil.

8C. Mention a glycopeptide antibiotic and explain its mechanism of action.

(3+2+2 = 7 marks)

9. A 56 year old woman with systemic lupus erythematosus had been maintained on a moderate dose of prednisolone for 9 months. Her disease has finally gone into remission and the physician is planning to stop prednisolone.

Explain how prednisolone is useful in the above case and what precaution should be taken while discontinuing the drug.

(3 marks)

10. Explain the rationale for combining penicillin with gentamicin and list four adverse effects of gentamicin.

(4 marks)

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MBBS PHASE I STAGE II DEGREE EXAMINATION – AUGUST 2015

SUBJECT: PHARMACOLOGY – II (MCQs)

Wednesday, August 19, 2015

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 **03** pages. Please make sure that the question paper provided to you has all the pages.

Phase II biotransformation reactions include

101. N-acetyl conjugation
102. Oxidation
103. Hydrolysis
104. Glucuronidation

Regarding drug nomenclature

105. Chemical name of a drug is based on its chemical constitution
106. Generic name is used uniformly all over the world
107. Proprietary name is given by the USAN council

Following terms are correctly matched with their explanation

108. First order kinetics – a constant fraction of drug is eliminated per unit time
109. Saturation kinetics – kinetics change from zero order to first order at higher doses
110. Therapeutic index – indicates the safety margin of drug
111. Physiological antagonism – two drugs acting at different receptors produce opposite effects on the same physiological function
112. Loading dose – dose that is repeated at specified intervals to maintain the target concentration

Morphine

113. Can cause respiratory depression
114. Can cause inhibition of third cranial nerve nucleus
115. Hastens gastric emptying
116. Is contraindicated in patients with biliary colic

Aspirin

117. Is used as an antiplatelet drug at high doses (3-6 g/day)
118. Stabilizes leukocyte lysosomal membrane
119. Is contraindicated in bronchial asthma
120. Is the preferred antipyretic in children with viral infection

Simvastatin

121. Activates PPAR-α
122. Can cause muscle pain
123. Shows antagonistic action along with ezetimibe
124. Is useful in familial hypercholesterolemia

First generation antihistaminics include

125. Diphenhydramine
126. Cetirizine
127. Promethazine
128. Loratidine

Drugs used in prophylaxis of migraine include

129. Propranolol
130. Flunarizine
131. Sumatriptan
132. Paracetamol

Alteplase

133. Is obtained from human urine
134. Has a high propensity to cause allergic reactions
135. Is useful in myocardial infarction

Following drugs are correctly matched with their therapeutic uses

136. Rivastigmine – Alzheimer's disease
137. Timolol – open angle glaucoma
138. Physostigmine – myasthenia gravis
139. Succinylcholine – endotracheal intubation
140. Glycopyrrolate – preanaesthetic medication

Atypical antipsychotics include

141. Olanzapine
142. Haloperidol
143. Risperidone

Lithium

144. Increases the release of IP_3 and DAG
145. Is used in manic depressive psychoses
146. Has a low margin of safety
147. Can cause hyperthyroidism

Prazosin

148. Is a non-selective alpha blocker
149. Is useful in hypertension
150. Causes urinary retention
151. Can cause nasal congestion
152. Causes first dose phenomenon

Acetylcysteine

153. Decreases the viscosity of mucus by splitting the disulfide bonds of mucoproteins
154. Is useful in treatment of paracetamol toxicity
155. Suppresses the cough center

Rifampicin

156. Is a first line antitubercular drug
157. Acts by inhibiting the synthesis of mycolic acid in mycobacteria
158. Is used in prophylaxis of meningococcal meningitis
159. Can cause hepatitis
160. Acts as an enzyme inhibitor

Following drugs are used in acute gout

201. Indomethacin
202. Probenecid
203. Allopurinol
204. Prednisolone

Adverse effects of phenytoin are

205. Gingival atrophy
206. Vitamin K deficiency
207. Fetal hydantoin syndrome
208. Megaloblastic anemia

Adverse effects of thiazides include

209. Hypokalemia
210. Hypocalcemia
211. Hyperuricemia
212. Hypoglycemia

Enalapril

213. Acts as an angiotensin receptor antagonist
214. Is useful in diabetic nephropathy
215. Has no effect on bradykinin metabolism
216. Slows disease progression in CHF patients
217. Should not be coadministered with spironolactone

Drugs used in hypertensive emergencies include

218. Sodium nitroprusside
219. Fenoldopam
220. Hydrochlorothiazide
221. Esmolol

Digoxin

222. Stimulates Na^+-K^+ATPase pump in cardiac cell membrane
223. Can cause ectopic beats
224. Is safe to be administered with quinidine
225. Is contraindicated in renal insufficiency

Metoclopramide

226. Exerts central antidopaminergic action
227. Has antagonistic action on 5-HT_4 receptors
228. Can cause muscle dystonia in children
229. Does not relieve gastric stasis associated with diabetes

Metronidazole

230. Is a luminal amoebicide
231. Can cause metallic taste
232. Is useful in *H. pylori* infection
233. Has a longer half-life compared to tinidazole
234. Can cause disulfiram-like reaction with alcohol

Tamoxifen citrate

235. Causes hot flashes
236. Is useful in breast cancer
237. Does not cause endometrial proliferation
238. Causes bone loss
239. Increases the risk of deep vein thrombosis

Therapeutic uses of GnRH agonists are

240. Endometriosis
241. Prostatic carcinoma
242. Uterine fibroids
243. Osteoporosis

Insulin secretagogues include

244. Glipizide
245. Metformin
246. Repaglinide
247. Pioglitazone

Following drugs exhibit bactericidal action at therapeutic concentration

248. Erythromycin
249. Sulfamethoxazole
250. Linezolid
251. Ciprofloxacin

Drugs used in psoriasis include

252. Hydroquinone
253. Calcipotriol
254. Retinoic acid
255. Acitretin

Tetracyclines

256. Are broad spectrum antibiotics
257. Bind to 50S ribosomal subunit
258. Can be safely administered during pregnancy
259. Are used in lymphogranuloma venereum caused by *Chlamydia trachomatis*
260. Absorption is increased in presence of milk