Reg. No.										

MANIPAL UNIVERSITY

MBBS PHASE I STAGE II DEGREE EXAMINATION – AUGUST 2014

SUBJECT: PHARMACOLOGY – I (ESSAY)

Monday, August 18, 2014

Time: 14:00 – 16:00 Hrs. Max. Marks: 60

1. A 15 year old type I diabetic patient was put on a combination of short acting and intermediate acting insulin preparation subcutaneously:

1A. Mention two advantages and two disadvantages of subcutaneous route of drug administration.

1B. Mention one short acting and one intermediate acting insulin preparation.

1C. Explain the rationale for combining short acting and long acting insulin preparations.

(2+1+2 = 5 marks)

2A. Mention two advantages and two disadvantages of combining lignocaine with adrenaline:

2B. Mention two classes of anticoagulants with an example for each class.

2C. Explain the antimanic action of lithium carbonate and list its two specific adverse effects.

(2+2+3 = 7 marks)

3. Explain the pharmacological basis for the following:

3A. Phenoxybenzamine is used to treat pheochromocytoma

3B. Albendazole is preferred over praziquantel to treat neurocysticercosis

3C. Morphine is contraindicated in patients with head injury

3D. Large single dose of gentamicin is preferred over small multiple doses

3E. Alendronate is used to treat postmenopausal osteoporosis

(2 marks × 5 = 10 marks)

4. Explain how the following factors affect drug action with an example:

4A. Genetics

4B. Age

(2 marks × 2 = 4 marks)

5A. A 40 years old known asthmatic patient is on metered dose inhaler (MDI) of salbutamol and ipratropium bromide combination for moderate asthma. Explain the mechanism of action of salbutamol and ipratropium bromide:

5B. Explain the anticancer action of methotrexate and list its two specific adverse effects.

5C. Explain the mechanism of action of penicillins.

(4+3+2=9 marks)

6. Which among the following pairs of drugs is preferred in the condition mentioned below? Give reason for your selection and rejection:

6A. Metoclopromide/domperidone in levodopa induced vomiting.

6B. Oxytocin/ergometrine in uterine inertia.

(3 marks × 2 = 6 marks)

7. **Write short notes on the following:**

7A. Metronidazole

7B. Adverse effects of phenytoin

7C. Acyclovir

(3 marks × 3 = 9 marks)

8. A patient suffering from exacerbation of congestive cardiac failure received digoxin and a small dose of furosemide. After few days, patient complained of nausea, vomiting and palpitation:

8A. Explain why did the patient develop above complication.

8B. Explain the mechanism of action of digoxin.

(2+2 = 4 marks)

9. 36 year old Austin with Addison's disease was being treated with hydrocortisone. After few months of therapy, he developed pendulous abdomen, moon face and muscular weakness:

9A. Explain why did Austin develop the above adverse effects.

9B. List two non-endocrinal uses of hydrocortisone.

(2+1 = 3 marks)

10. List two benzodiazepines and mention why they are preferred over barbiturates for insomnia.

(3 marks)

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MBBS PHASE I STAGE II DEGREE EXAMINATION – AUGUST 2014

SUBJECT: PHARMACOLOGY – II (MCQs)

Monday, August 18, 2014

Time: 16:30 – 17:30 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.

Mannitol

101. Acts by inhibiting carbonic anhydrase
102. Is used in pulmonary edema
103. Is administered intravenously
104. Is used in cerebral edema

Drug allergy

105. Can be predicted based on the pharmacodynamic profile of the drug
106. Is immunologically mediated
107. Is also known as supersensitivity
108. Occurs even at a small dose of the drug

Following drugs are used in preanaesthetic medication

109. Pantoprazole
110. Glycopyrrolate
111. Nitrous oxide
112. Halothane

Clomiphene citrate

113. Acts by inhibiting estrogen synthesis
114. Is effective in infertility due to anovulation
115. Causes polycystic ovaries
116. Is used as an aid in harvesting of ova for in vitro fertilization

Octreotide

117. Is a growth hormone antagonist
118. Decreases gastric mucosal blood flow
119. Controls the symptoms of carcinoid syndrome

Following drugs act by inhibiting thyroid peroxidase enzyme

120. Propylthiouracil
121. Thiocyanates
122. Carbimazole
123. Radioactive iodine

Aspirin

124. Inhibits cyclooxygenase
125. Is contraindicated in haemophilia patients
126. Affords relief in dysmenorrhoea
127. Can be safely used in peptic ulcer patients
128. Is safe in children below 12 years of age

Lincosamide antibiotics include

129. Vancomycin
130. Clindamycin
131. Azithromycin
132. Telithromycin

Nifedipine

133. Acts by inhibiting T type calcium channels
134. Is used in exertional angina
135. Is used in elderly hypertensives
136. Causes ankle edema

Non-depolarising skeletal muscle relaxants include

137. d-tubocurarine
138. Dantrolene
139. Succinylcholine
140. Pancuronium

Selective serotonin reuptake inhibitors

141. Can cause insomnia
142. Are used in obsessive compulsive disorders
143. Can produce hypotension
144. Interfere with ejaculation

Dapsone

145. Inhibits folic acid synthesis
146. Is not used in paucibacillary leprosy
147. Is used in the treatment of lepra reaction
148. Produces orange discoloration of body secretions

Propranolol is used in

149. Acute heart failure
150. Migraine prophylaxis
151. Raynaud's disease
152. Hyperthyroidism
153. Anxiety-provoking situations

Sodium nitroprusside

154. Dilates both arteries and veins
155. Is administered orally
156. Undergoes degradation when exposed to light
157. Is used to treat mild hypertension

Following antiepileptic drugs are correctly matched with their therapeutic uses

158. Ethosuximide: Absence seizure
159. Sodium valproate: Generalised tonic clonic seizure
160. Carbamazepine: Trigeminal neuralgia

Homatropine

201. Is longer acting than atropine
202. Is used in glaucoma
203. Produces cycloplegia
204. Is useful in drug induced parkinsonism

Amphotericin B

205. Inhibits 14-α-demethylase
206. Is used topically to treat cutaneous candidiasis
207. Is safe in patients with renal failure
208. Is used along with flucytosine in cryptococcal meningitis

Rifampicin

209. Inhibits RNA dependent DNA polymerase
210. Is a first line drug for tuberculosis
211. Causes hepatitis
212. Is an enzyme inhibitor

Second generation antihistaminics include

213. Cetirizine
214. Cinnarizine
215. Fexofenadine
216. Loratidine

Following drugs are correctly matched with their therapeutic uses

217. Alprostadil : erectile dysfunction
218. Latanoprost : cervical priming
219. Carboprost : postpartum hemorrhage
220. Misoprostol : peptic ulcer

Vitamin B_{12}

221. Is used in pregnancy to prevent neural tube defects in fetus
222. Deficiency can cause microcytic hypochromic anemia
223. Is administered orally to treat pernicious anemia

Danazol

224. Increases gonadotropin secretion from pituitary
225. Is used in fibrocystic breast disease
226. Is used in hereditary angioneurotic edema
227. Causes virilization in females

Regarding drug efficacy

228. It is the maximal response the drug can produce regardless of dose
229. Maximal efficacy can be attained in presence of a reversible competitive antagonist
230. It can be measured by graded dose response curve
231. Drugs with same efficacy always have same potency

Regarding tetracyclines

232. They act by inhibiting bacterial protein synthesis
233. Doxycycline is shorter acting than oxytetracycline
234. They are the first choice of drug in typhus fever due to *Rickettsia*
235. Food interferes with their absorption
236. They are used to treat *H.pylori* infection

Erythromycin

237. Causes gastric irritation
238. Readily penetrates the blood brain barrier
239. Is longer acting than clarithromycin
240. Is used in whooping cough

Regarding apparent volume of distribution (aVd)

241. It is the ratio between dose administered i.v. and plasma concentration
242. Highly plasma protein bound drug has high aVd
243. Lipid soluble drug has high aVd
244. Congestive cardiac failure can alter aVd

Antiplatelet drugs include

245. Dipyridamole
246. Alteplase
247. Clopidogrel
248. Streptokinase

Chloroquine

249. Converts heme to haemozoin
250. Kills hypnozoites in liver
251. Is used in *P. falciparum* malaria
252. Can damage the retinal cells on prolonged use

Cyclosporine

253. Is used to prevent graft rejection in organ transplantation
254. Inhibits B-cell proliferation
255. Is nephrotoxic
256. Causes gingival hyperplasia

Nitroglycerine

257. Is administered sublingually to terminate an acute attack of angina
258. Acts by releasing nitric oxide
259. Causes throbbing headache
260. Is contraindicated in variant angina