BATCH 26

Reg. No.										

MANIPAL UNIVERSITY

MBBS PHASE I STAGE II DEGREE EXAMINATION – FEBRUARY 2012

SUBJECT: PHARMACOLOGY – I (ESSAY)

Monday, February 13, 2012

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

- **Answer ALL questions. Write brief, relevant and legible answers.**
- **Draw diagram, flow charts wherever appropriate.**

1. Mr X and Y were given a drug by oral and intravenous routes respectively to treat a condition. Among X and Y, in whom the bioavailability of a drug will be high? Justify your answer.

(2 marks)

2A. Mention one example each for competitive and non-competitive antagonism and enumerate four differences between them.

2B. Enumerate four advantages of once daily dosing of aminoglycosides over multiple daily dosing.

(3+2 = 5 marks)

3. Explain the pharmacological basis for the following:

3A. Ezetimibe is co-administered with simvastatin.

3B. Use of heparin in deep vein thrombosis.

3C. Penicillin-G is co-administered with clavulanic acid.

3D. Use of cyclosporine in renal transplantation.

3E. Use of tamsulosin in benign prostatic hyperplasia.

(2×5 = 10 marks)

4A. Young boy who has been treated for epilepsy for a year is referred to an oral surgeon for evaluation and probable treatment of massive overgrowth of his gingival tissues. Which drug is responsible for the above complication? Explain the mechanism of action of above antiepileptic drug.

4B. Explain mechanism of action of diazepam and list its two therapeutic uses.

(2+3 = 5 marks)

5A. A type II diabetic patient has developed insulin resistance. Mention a group of antidiabetic drugs with an example which is suitable in the above patient and explain its mechanism of action.

5B. An antiprogestin was administered orally for the termination of pregnancy, followed 48 hrs later by an oral prostaglandin preparation. Identify the above two drugs and explain how an antiprogestin is useful in the termination of pregnancy.

(3+3 = 6 marks)

6. Write briefly on:

6A. Selective serotonine reuptake inhibitors

6B. Clomiphene citrate

6C. Calcium channel blockers

(3+3+3 = 9 marks)

7A. Enumerate four differences between aspirin and paracetamol.

7B. Enumerate four classes of drugs with an example for each used to increase the survival rate in congestive cardiac failure.

7C. Mention two glucocorticoids and explain their anti-inflammatory effect.

(2+4+3 = 9 marks)

8. A patient suffering from *P. falciparum* malaria is not responding to chloroquine.

8A. Describe a combination regimen to treat the above patient.

8B. What is radical cure in malaria? Mention two drugs used to achieve it.

(2+2 = 4 marks)

9. A 30-year old woman on antitubercular therapy was on oral contraceptive pills for the prevention of pregnancy. But after few months she conceived.

9A. What could be the reason for contraceptive failure?

9B. Write an antitubercular regimen for category –II patients.

(2+3 = 5 marks)

10. A patient who is on chemotherapy for colorectal cancer developed vomiting. Which drug would you like to prescribe to the above patient to treat vomiting? Explain its mechanism of action.

(2 marks)

11. Explain the rational for using methotrexate in rheumatoid arthritis and list two TNF α inhibitors which can be used in this patient.

(2+1 = 3 marks)

BATCH 2

Reg. No.										

MANIPAL UNIVERSITY

MBBS PHASE I STAGE II DEGREE EXAMINATION – FEBRUARY 2012

SUBJECT: PHARMACOLOGY – II (MCQs)

Monday, February 13, 2012

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.

Nifidipine

101. Has prominent vasodilatory effect
102. Is contraindicated in variant angina
103. Has anti-arrhythmic action
104. Is safe in asthmatics

Enalapril

105. Increases bradykinin level
106. Is used in scleroderma crisis
107. Promotes cardiac remodeling
108. Can be given safely during pregnancy
109. Is a prodrug

Aspirin

110. Prevents platelet aggregation by inhibiting TXA_2 synthesis
111. Has fibrinolytic effect
112. Is used in myocardial infarction
113. Is effective in Reye's syndrome

Albendazole

114. Is a broad spectrum anthelmintic
115. Single dose of 400mg is effective in ascariasis
116. Is not effective in hydatid disease
117. Is used for the treatment of lymphatic filariasis

Regarding drugs acting on the uterus

118. Oxytocin is used for the treatment of postpartum haemorrhage
119. Methylergometrine causes sustained tonic contractions of uterus
120. Ritodrine can be used to treat premature labour with bronchial asthma
121. Magnesium sulfate causes contraction of uterine smooth muscles

Regarding plasma protein binding of drugs

122. Highly protein bound drugs show low therapeutic activity
123. Bound drug easily gets filtered at the glomerulus
124. Highly bound drug has high volume of distribution

Antipseudomonal pencillins include

125. Carbenicillin
126. Ampicillin
127. Benzathine pencillin
128. Piperacillin

Bisacodyl

129. Is an osmotic laxative
130. Inhibits Na^+ K^+ ATPase in the intestinal cells
131. Acts mainly on the large intestine
132. Inhibits prostaglandin synthesis in the intestine

Urinary antiseptics include

133. Nitrofurantoin
134. Nalidixic acid
135. Polymyxin B
136. Methenamine

Ranitidine

137. Causes 100% decrease in gastric acid secretion
138. Blocks 5-HT_3 receptros
139. Is an enzyme inhibitor

Mannitol

140. Acts only on proximal convoluted tubule
141. Reduces intraocular tension
142. Is useful in congestive cardiac failure

Digoxin

143. Stimulates Na^+ - K^+ - ATPase
144. Increases the force of myocardial contraction
145. Suppresses the AV conduction
146. Can induce ventricular arrhythmias
147. Toxicity is aggravated by hyperkalemia

^{131}I

148. Emits β particles
149. Can not be given on a outpatient basis
150. Can cause hypothyroidism

Allopurinol

151. Is used to treat acute gout
152. Facilitates the metabolism of 6 – mercaptopurine
153. Inhibits xanthine oxidase
154. Has uricosuric effect

Following drugs are correctly matched with their therapeutic uses

155. Carvedilol – Heart failure
156. Glycopyrrolate – Preanaesthetic medication
157. Tropicamide – Glaucoma
158. Scopalamine – Motion sickness
159. Tamsulosine - Benign prostatic hyperplasia

Ketoconazole

160. Acts by inhibiting ergosterol synthesis
201. Stimulates the testosterone synthesis
202. Is an enzyme inducer
203. Bioavailability is not affected by gastric pH

Physostigmine

204. Is an irreversible inhibitor of acetylcholineesterase
205. Can directly stimulate nicotinic receptors at NMJ
206. Is used in the treatment of atropine poisoning
207. Decreases intraocular tension by decreasing aqueous humour production

Regarding antihypertensive drugs

208. Clonidine causes rebound hypertension.
209. Methyldopa can cause haemolytic anemia
210. Prazosin causes postural hypotension
211. Minoxidil causes alopecia
212. Hydralazine can be safely given during pregnancy

Tamoxifen citrate

213. Is an androgen receptor blocker
214. Is used in the management of breast cancer
215. Decreases bone resorption
216. Causes venous thromboembolism

Parenteral iron therapy is indicated in patients

217. Suffering from malabsorption syndrome
218. Who have undergone bowel resection
219. Who are allergic to oral iron preparations
220. Suffering from severe anaemia with chronic bleeding

Ketamine

221. Is an intravenous general anaesthetic
222. Produces dissociative anaesthesia
223. Relaxes the skeletal muscles
224. Increases blood pressure

Regarding cephalosporins

225. Cefepime is a third generation cephalosporin
226. Cefoperazone can produce disulfiram like action
227. Cefazolin is the drug of choice in surgical prophylaxis
228. There is a cross sensitivity between cephalosporins and penicillins
229. Ceftriaxone is the preferred drug for multidrug resistant typhoid fever

Anabolic steroids can cause

230. Virilization in females
231. Oligozoospermia
232. Cholestatic jaundice

Drugs used in preanaesthetic medication include

233. Fentanyl
234. Glycopyrrolate
235. Diazepam
236. Succinyl choline

Lignocaine

237. Acts by blocking Na^+ channel
238. Has longer duration of action than bupivacaine
239. Is used with adrenaline while carrying out circumcision
240. Has antiarrhythmic property

Benzodiazepines are preferred over barbiturates as hypnotic because they

241. Have wide margin of safety
242. Do not alter REM sleep
243. Do not cause respiratory depression
244. Have low abuse liability
245. Do not induce microsomal enzymes

Metronidazole

246. Can destroy luminal trophozoites
247. Shows disulfiram like reaction with alcohol
248. Is used in anti H.pylori regimen

Streptokinase

249. Is obtained from ß-hemolytic streptococci
250. Exerts its action by binding to circulating plasminogen
251. Causes bleeding when given in excess
252. Inhibits the coagulation process

Therapeutic uses of α-blockers include

253. Pheochromocytoma
254. Nasal congestion
255. Raynaud's disease
256. Benign prostatic hyperplasia

Inverse agonist

257. Has high affinity for the receptor
258. Has no intrinsic activity
259. Can displace the antagonist from the receptor site
260. Produces opposite effect of agonist