

Reg. No.

MANIPAL UNIVERSITY

MBBS PHASE I STAGE II DEGREE EXAMINATION – AUGUST 2011

SUBJECT: PHARMACOLOGY – I (ESSAY)

Tuesday, August 16, 2011

Time: 09:00 – 11:00 Hrs.

Max. Marks: 60

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

- 1A. Explain with an example how an acidic drug is better excreted from an alkaline medium.
 1B. Explain the terms radical cure and terminal prophylaxis in vivax malaria with the drugs used for each.

(2+4 = 6 marks)

2. Explain the following terms with an example for each.

- 2A. Therapeutic index
 2B. Redistribution
 2C. Dissociative anaesthesia
 2D. Cheese reaction

(2×4 = 8 marks)

- 3A. Name two drugs each belonging to different classes that are effective against the following.

- i. Pseudomonas aeruginosa
 ii. Candida albicans
 iii. HIV

- 3B. A 25 year old lady with menorrhagia and poor diet comes to the clinic with a history of extreme weakness. On investigation her hemoglobin was 4 gm% and peripheral smear revealed a microcytic hypochromic blood picture.

List two iron preparations suitable for this patient and mention their four adverse effects.

(3+3 = 6 marks)

4. Explain the mechanism of action of the following:

- 4A. Methotrexate as an anticancer agent
 4B. Cyclosporine

(2+2 = 4 marks)

5. Mr. Nagaraj who is on neostigmine tablets for myasthenia gravis since two years complains of increased muscular weakness.

- 5A. Which drug is useful as a diagnostic tool to identify the cause of weakness in this case and explain how it is useful in the diagnosis?

5B. Mention a drug used with neostigmine to counteract some of its adverse effects. Mention four other uses of the same drug used here.

($2\frac{1}{2}+2\frac{1}{2} = 5$ marks)

6A. Following the administration of an inhalational drug, a patient on the operating table developed high fever and muscular rigidity.

Identify the drug responsible for the above and explain why did the patient develop this complication and name the drug used to treat this complication.

6B. List four differences between aspirin and paracetamol.

6C. Explain the concept of 'First dose phenomenon' and 'Rebound hypertension' with an example for each.

6D. List two each SSRIs and atypical antidepressants.

($3+2+4+2 = 11$ marks)

7A. A patient suffering from acute amoebic dysentery was prescribed metronidazole. Dysentery was controlled with this treatment but after few days the patient developed relapse of the infection.

Explain how this relapse would have been prevented and list two other uses of metronidazole.

7B. A patient who was on cardiac glycoside accidentally received quinidine and developed complications like A-V block and ventricular extrasystoles. On examination, his plasma digoxin level was high.

Why did the patient develop above complications? Explain.

($3+2 = 5$ marks)

8. Name two thyroid hormone preparations and list the precautions to be taken during their administration.

(3 marks)

9. Write briefly on the following:

9A. Combined oral contraceptive pills

9B. Bisphosphonates

($3 \times 2 = 6$ marks)

10 Give pharmacological basis for the following:

10A. Sucralfate should not be used along with antacids.

10B. Propranolol should not be given to diabetic on insulin therapy.

10C. Nafarelin is used in endometriosis.

($2 \times 3 = 6$ marks)



Sept '09 /

Reg. No.

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MANIPAL UNIVERSITY

MBBS PHASE I STAGE II DEGREE EXAMINATION – AUGUST 2011

SUBJECT: PHARMACOLOGY – II (MCQs)

Tuesday, August 16, 2011

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.

Regarding plasma protein binding

101. Highly protein bound drugs are easily removed by dialysis
102. High degree of protein binding makes the drug short acting
103. Acidic drugs bind to plasma albumin
104. Poorly protein bound drugs usually have a high volume of distribution

Regarding drugs used in cough

105. Pharyngeal demulcents provide symptomatic relief in productive cough
106. Expectorants reduce the viscosity of bronchial secretions
107. Dextromethorphan has selective action on the cough centre
108. Noscapine is an antitussive
109. Pholcodeine does not cause addiction

The following properties of anticoagulants are correctly matched

110. Heparin – strongly basic drug
111. Warfarin – acts only *in vivo*
112. Low molecular weight heparin – administered subcutaneously
113. Oral anticoagulants – safe during pregnancy
114. Lepirudin – acts by direct inhibition of thrombin

Low dose aspirin

115. Irreversibly inhibits the enzyme thromboxane synthase
116. Has anti-inflammatory action
117. Prolongs bleeding time
118. Is useful in stroke patients

Omeprazole

119. Is a prodrug
120. Inactivates the $\text{Na}^+\text{-K}^+\text{-ATPase}$ present on the parietal cells
121. Is used for the treatment of unresectable gastrinomas
122. Is commonly given on an empty stomach
123. Is effective in NSAID induced gastric ulcers

Following drugs are correctly matched with their therapeutic uses

124. Thalidomide – Leprosy reaction
125. Cyclosporine – Renal transplantation
126. Tacrolimus – Neutropenia

Regarding the choice of an antimicrobial agent

127. Doxycycline is safe in renal failure patients
128. Ciprofloxacin is safe in pregnancy

129. Two bacteriostatic agents can be used together to produce additive effect
130. Erythromycin should not be given to patients with hepatic failure

Regarding beta-lactam antibiotics

131. Amoxicillin is a penicillinase-resistant penicillin
132. Cefoperazone can cause disulfiram - like reaction
133. Cefazolin is preferred for surgical prophylaxis
134. Ampicillin can be combined with sulbactam
135. Penicillin G is highly effective against penicillinase producing gonococci

Aminoglycoside antibiotics

136. Are not absorbed orally
137. Have high margin of safety
138. Act by inhibiting bacterial protein synthesis
139. Are not active against anaerobes

Regarding adrenergic drugs

140. Dobutamine acts on dopaminergic receptors
141. Sibutramine is used as an anorexiant
142. Phenylephrine is a miotic
143. Isoxsuprine is a selective β_2 stimulant

Propranolol

144. Is contraindicated in angina of effort
145. Is useful in glaucoma
146. Is used in the treatment of migraine
147. Has additional α blocking activity

Regarding local anaesthetics

148. Lignocaine is short acting than bupivacaine
149. Addition of adrenaline prolongs the action of surface anaesthetics
150. Oxethazaine is useful in gastritis

The following adverse effects of antiepileptics are correctly matched

151. Gum hypertrophy : Carbamazepine
152. Hepatotoxicity : Sodium valproate
153. Water retention : Phenytoin
154. Sedation : Phenobarbitone

The therapeutic indications of antipsychotics include

155. Intractable hiccough
156. Vomiting
157. Prophylaxis of manic depressive psychosis
158. Malignant neuroleptic syndrome

Following opioids are correctly matched with their therapeutic uses

- 159. Morphine – Preanaesthetic medication
- 160. Codeine – Diarrhoea
- 201. Naloxone – Opioid overdose
- 202. Pethidine – Acute left ventricular failure

Disulfiram

- 203. Is a reversible inhibitor of aldehyde dehydrogenase
- 204. Causes aldehyde syndrome
- 205. Is safe in patients who are physically dependent on alcohol
- 206. Can cause metallic taste

Clonidine

- 207. Reduces the central sympathetic outflow
- 208. Is useful in the management of opioid withdrawal
- 209. Can be stopped suddenly after prolonged use
- 210. Can be administered transdermally

Albendazole

- 211. Is a broad spectrum anthelmintic
- 212. Has the advantage of single oral dose administration in hookworm infestation
- 213. Is not effective in hydatid disease
- 214. Is safe during pregnancy
- 215. Is used for the treatment of lymphatic filariasis

Mannitol is

- 216. A high efficacy diuretic
- 217. Pharmacologically inert
- 218. Contraindicated in acute left ventricular failure
- 219. Administered by oral route

Regarding hypolipidemic agents

- 220. Statins exhibit synergism with ezetimibe
- 221. Fibrates inhibit lipoprotein lipase
- 222. Nicotinic acid can raise HDL cholesterol
- 223. Cholestyramine can relieve itching of obstructive jaundice

Following drugs are bronchodilators

- 224. Sodium cromoglycate
- 225. Hydrocortisone
- 226. Ipratropium bromide
- 227. Terbutaline

Regarding autacoids

- 228. Sumatriptan is useful in prophylaxis of migraine
- 229. Latanoprost is useful in wide angle glaucoma
- 230. Fexofenadine is a second generation antihistamine
- 231. Cinnarizine is effective in vertigo
- 232. Cetirizine interferes significantly with psychomotor performance

Regarding oral antidiabetic agents

- 233. Metformin is an insulin secretagogue
- 234. Glibenclamide is safe during pregnancy
- 235. Repaglinide is a PPAR- γ receptor agonist
- 236. Pioglitazone can reverse insulin resistance

Prednisolone

- 237. Is a short-acting glucocorticoid
- 238. Is preferred for the maturation of the fetal lung
- 239. Is contraindicated in herpes simplex keratitis
- 240. Is devoid of mineralocorticoid action

Regarding selective estrogen receptor modulators

- 241. They are pure agonists
- 242. Raloxifene has agonistic action on the bone
- 243. Tamoxifen is useful in prophylaxis of breast cancer

Regarding gonadotropins

- 244. Urofollitropin is used to treat anovulation due to polycystic ovarian disease
- 245. Menotropins are obtained from urine of pregnant women
- 246. They are used for the treatment of cryptorchidism
- 247. They can cause multiple pregnancies

Regarding drugs acting on the uterus

- 248. Oxytocin is used for the treatment of postpartum haemorrhage
- 249. Methylergometrine causes sustained tonic contractions of uterus
- 250. Ritodrine can be used to treat premature labour with bronchial asthma
- 251. Magnesium sulfate is a tocolytic
- 252. Nifedipine can be administered sublingually

Nitrous oxide

- 253. Is highly soluble in blood
- 254. Is a high potency anaesthetic
- 255. Is a volatile liquid
- 256. Has synergistic action with halothane

Regarding laxatives

- 257. Bran is a bulk forming agent
- 258. Liquid paraffin has got good patient compliance
- 259. Bisacodyl is an osmotic purgative
- 260. Senna is used to flush out the worms

