

MANIPAL UNIVERSITY

MBBS PHASE I STAGE II DEGREE EXAMINATION – AUGUST 2012

SUBJECT: PHARMACOLOGY – I (ESSAY)

Monday, August 13, 2012

Time: 09:00 – 11:00 Hrs.

Max. Marks: 60

1. Explain the following with an example:

- 1A. Zero order kinetics
- 1B. Indirectly acting sympathomimetics

(2×2 = 4 marks)

2. Write short notes on the following:

- 2A. Drug nomenclature
- 2B. Rifampicin
- 2C. Complications of spinal anaesthesia

(3×3 = 9 marks)

3. Explain the pharmacological basis for the following:

- 3A. Combination of clavulanic acid and amoxicillin is used in the treatment of respiratory tract infections.
- 3B. Praziquantel is preferred over niclosamide in the treatment of taeniasis.
- 3C. Phenoxybenzamine is given preoperatively as well as infused during surgical removal of adrenal medullary tumour.
- 3D. Atypical antipsychotics are preferred over typical antipsychotics in the treatment of schizophrenia.
- 3E. Following long term use of prednisolone, its dose is gradually tapered before it is discontinued.

(2×5 = 10 marks)

- 4A. Mr. John, residing in an area endemic for chloroquine resistant *P. falciparum* malaria comes to the physician with symptoms of chills, persistent high fever and severe headache. His blood smear examination confirmed *P. falciparum*. Explain a treatment regimen for the above patient.
- 4B. Enumerate two selective COX-2 inhibitors. Mention their one advantage and one disadvantage over non-selective COX inhibitors.
- 4C. Describe three situations where therapeutic drug monitoring is useful.

(3+2+3 = 8 marks)

- 5A. A 55-year old female suffering from acute attack of angle closure glaucoma was administered an osmotic diuretic.
Name the diuretic used in the above patient and explain how it is useful.
- 5B. Explain the mechanism of action of cotrimoxazole and mention one condition where it is the drug of choice with the causative organism involved.
- 5C. Explain two beneficial effects of combining nitroglycerine with propranolol in patients with angina.

(2+3+2 = 7 marks)

6. Mention one contraindication for the following drugs and explain the reason for the same:

- 6A. Warfarin
6B. Tetracycline

(2×2 = 4 marks)

- 7A. A patient receiving highly emetogenic chemotherapy for metastatic colorectal cancer was administered a drug to prevent chemotherapy induced vomiting. Mention an antiemetic preferred in the above case and explain its mechanism of action.
- 7B. List two groups of oral antidiabetic drugs with an example for each group. Explain the mechanism of action of any one of them.

(2+4 = 6 marks)

- 8A. 30 year old Daisy is suffering from moderate asthma with frequent exacerbations. List three groups of drugs with an example for each group useful in managing this case.
- 8B. Why adenosine is preferred over other antiarrhythmics drugs for the termination of PSVT?

(3+2 = 5 marks)

- 9A. Mention three therapeutic uses of benzodiazepines (BZDs) with a different BZD used for each of the uses.
- 9B. A 25 year old woman visits a gynaecologist with complaints of hot flushes, vaginal dryness, scanty and irregular menstrual periods. She was diagnosed with premature menopause.
Describe the recommended treatment for the above patient and describe the benefits and risks associated with this treatment.

(3+4 = 7 marks)



MANIPAL UNIVERSITY**MBBS PHASE I STAGE II DEGREE EXAMINATION – AUGUST 2012****SUBJECT: PHARMACOLOGY – II (MCQs)**

Monday, August 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.

Following factors can affect bioavailability of a drug

- 101. Enterohepatic circulation
- 102. Plasma protein binding
- 103. Physical properties of the drug
- 104. Vascularity of absorbing surface

Drugs that inhibit bacterial protein synthesis include

- 105. Clindamycin
- 106. Spectinomycin
- 107. Vancomycin
- 108. Linezolid

Following drugs are correctly matched with their therapeutic uses

- 109. Sulfadoxine – malaria
- 110. Mafenide – burn dressings
- 111. Sulfasalazine – prostatitis
- 112. Sulfacetamide – ocular infections

Gentamicin

- 113. Is useful in gram negative infections
- 114. Is administered orally
- 115. Is effective against *Mycobacterium tuberculosis*
- 116. Causes neuromuscular blockade

Myeloid growth factors include

- 117. Filgrastim
- 118. Romiplostim
- 119. Oprelvekin
- 120. Sargramostim

Abciximab

- 121. Is administered orally
- 122. Acts by inhibiting ADP mediated platelet aggregation
- 123. Can cause thrombocytopenia
- 124. Is effective in percutaneous coronary intervention

Enalapril

- 125. Increases bradykinin level
- 126. Is used in scleroderma crisis
- 127. Has no effect on cardiac remodelling
- 128. Can be given safely during pregnancy

Therapeutic uses of verapamil include

- 129. Stable angina
- 130. Premature labor

- 131. Hypertrophic cardiomyopathy
- 132. Atrial fibrillation

Digoxin

- 133. Stimulates $\text{Na}^+\text{-K}^+$ ATPase
- 134. Increases the force of myocardial contraction
- 135. Suppresses AV conduction
- 136. Can induce ventricular arrhythmias
- 137. Toxicity is aggravated by hyperkalemia

Following proton pump inhibitors can be given intravenously

- 138. Esomeprazole
- 139. Lansoprazole
- 140. Rabeprazole
- 141. Pantoprazole

Sumatriptan

- 142. Is a selective 5-HT₂ receptor agonist
- 143. Is useful in the prophylaxis of migraine
- 144. Is contraindicated in patients with hypertension
- 145. Causes coronary vasospasm

Following drugs are correctly matched with their actions

- 146. Potassium citrate – reduces afferent impulses from irritated pharyngeal mucosa
- 147. Codeine – raises the threshold of cough centre
- 148. Noscapine – liquefies viscid sputum

Bisacodyl

- 149. Is an osmotic laxative
- 150. Inhibits $\text{Na}^+\text{-K}^+$ ATPase in the intestinal cells
- 151. Acts mainly on the large intestine
- 152. Causes Stevens Johnson syndrome

Nafarelin

- 153. Is a short acting GnRH agonist
- 154. Can be given intranasally
- 155. Is useful in endometriosis

Following drugs are correctly matched with their mechanism of action

- 156. Letrozole – 5 α -reductase inhibitor
- 157. Clomiphene citrate – antiestrogen
- 158. Finasteride – aromatase inhibitor
- 159. Flutamide – antiandrogen

Therapeutic uses of vitamin D include

- 160. Metabolic rickets
- 201. Senile osteoporosis
- 202. Hyperparathyroidism
- 203. Fanconi syndrome

Following drugs are tocolytics

- 204. Ritodrine
- 205. Dinoprostone
- 206. Nifedipine
- 207. Magnesium sulphate

Raloxifene

- 208. Is a pure estrogen antagonist
- 209. Can cause endometrial carcinoma
- 210. Is used in postmenopausal osteoporosis
- 211. Causes hot flushes

Rapid acting insulin preparations include

- 212. Regular insulin
- 213. Insulin lispro
- 214. Insulin glulisine
- 215. Insulin glargine

Carbimazole

- 216. Produces an active metabolite
- 217. Is preferred over propylthiouracil in the treatment of hyperthyroidism during pregnancy
- 218. Inhibits peripheral conversion of T_4 to T_3
- 219. Is used preoperatively before subtotal thyroidectomy

Following drugs do not possess mineralocorticoid action

- 220. Hydrocortisone
- 221. Dexamethasone
- 222. Betamethasone
- 223. Triamcinolone

Succinylcholine

- 224. Is a competitive neuromuscular blocker
- 225. Can cause prolonged apnoea in patients with atypical pseudocholinesterase
- 226. Can cause histamine release
- 227. Is used during endotracheal intubation

Entacapone

- 228. Is useful in early Parkinson's disease
- 229. Inhibits COMT only in the periphery
- 230. Causes hepatotoxicity

Drugs used in treatment of bipolar disorder include

- 231. Sodium valproate
- 232. Carbamazepine
- 233. Topiramate
- 234. Phenytoin

Reversible anticholinesterases include

- 235. Physostigmine
- 236. Edrophonium
- 237. Donepezil
- 238. Parathion

Atropine causes

- 239. Miosis
- 240. Tachycardia
- 241. Bronchodilation
- 242. Urinary retention

Following adrenergic drugs are correctly matched with their therapeutic uses

- 243. Formoterol – as a bronchodilator
- 244. Isoprenaline – as a nasal decongestant
- 245. Fenfluramine – as an anorectic

Drugs used for conscious sedation include

- 246. Diazepam
- 247. Fentanyl
- 248. Nitrous oxide

Following drugs are pure opioid agonist at all opioid receptors

- 249. Buprenorphine
- 250. Pethidine
- 251. Nalorphine
- 252. Tramadol
- 253. Pentazocine

Cyclosporine

- 254. Acts by inhibiting the proliferation of T-lymphocytes
- 255. Causes gum hyperplasia
- 256. Has a very high nephrotoxic potential

General toxicities of anticancer drugs include

- 257. Gum hypertrophy
- 258. Bone marrow suppression
- 259. Alopecia
- 260. Mutagenicity

