JHARKHAND Rai University
RANCHI
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Annual/Reappear (Year I) Examination July 2022

Programme: D. Pharm **Full Marks: 80**
Subject: Pharmaceutical Chemistry I **Time: 3 Hrs.**
Subject Code: ER20-12T
Enrollment No: _____

Section I

1. Objective type questions. Answer all questions. **1 x 20 = 20**

i. Antibiotic Erythromycin belongs to the group of
a) Macrolide b) Aminoglycosides c) Steroid d) Hormone

ii. Chemical Formula of Potassium Permanganate is
a) K_2MnO_4 b) $KMnO_4$ c) KIO_3 d) K_2ZnO_2

iii. Which is also known as dry ice
a) Potassium hydroxide b) Calcium Carbonate
c) Solid Carbon dioxide d) Calcium oxide

iv. Essential structural unit for the antihelmintic activity of mebendazole is?
a) Imidazole b) Benzimidazole c) Benzoyl group d) Methyl carbonates

v. High-ceiling (loop) diuretic is
a) Furosemide b) Chlorthiazide c) Hydrochlorthiazide d) Mannitol

vi. Complex of sulphated sucrose, aluminium hydroxide used in peptic ulcer is
a) Omeprazole b) Sucralfate c) Famotidine d) Ranitidine

vii. An amide local anaesthetic drug is
a) Cocaine b) Benzocaine c) Lidocaine d) Cinchocaine

viii. Oral anticoagulant is
a) Warfarin b) Phenindione c) Acenocoumarol d) All of the above

ix. A fluoroquinolone antibacterial agent having broad spectrum of activity
a) Ciprofloxacin b) Gentamicin c) Sisomicin d) Chloramphenicol

x. Alprazolam belongs to the class of
a) Succinimides b) Benzodiazepines c) Hydantoins d) Iminostilbines

xi. Most basic heterocyclic compound among the following is
a) Imidazole b) Pyrrolidine c) Pyrimidine d) Pyridine

xii. Chemical formula of Nitrous oxide
a) NO_2 b) N_2O_2 c) NO_3 d) N_2O

xiii. What is the chemical name of baking soda is
a) Sodium bicarbonate b) Potassium bicarbonate c) Sodium hydroxide d) Sodium Carbonate

xiv. Boric acid is used as
a) Urinary acidifier b) Antimicrobial c) Antioxidant d) None of these

xv. Antidote used in cyanide poisoning is
a) Sodium fluoride b) Sodium iodide c) Sodium thiosulphate d) Silver nitrate

xvi. The outer layer of teeth is made up of…..
a) Calcium sulphate b) Calcium carbonate c) Calcium nitrate d) Calcium phosphate

xvii. Borax is
a) Sodium borate b) Tri sodium borate c) Tetra sodium borate d) Ortho boric acid

xviii. Drugs that remove sputum from the respiratory act is called

a) Emetic b) Expectorant c) Cathartic d) Protective

xix. The color of the metallic cylinder in which oxygen is stored is

a) Yellow b) Black c) Black and white d) Red

xx. Cholesterol lowering agent used in atherosclerosis

a) Propranolol b) Adrenaline c) Quinidine d) Lovastatin

2. **State whether True or False.** **1 x 10 = 10**

i. Chlorides are extracellular electrolyte.
ii. Radiopharmaceuticals are not used in sterilization techniques.
iii. Achlorhydria is the condition in which there is no secretion of HCl in the stomach.
iv. Disinfectants are the agents which kill microorganisms like bacteria, fungi and viruses etc.
v. Assay is used to determine the purity of the given substance.
vi. Silver nitrate should be stored in clean, dry transparent bottles.
vii. Limit tests are performed in Nessler cylinder.
viii. Potassium permanganate is used as titrant in the assay of ferrous sulphate I.P.1996.
ix. The colour of the cylinder of nitrous oxide is blue.
x. Iodine is freely soluble in water.

Section II

3. **Short Answer type questions. Answer any four.** **4 x 5 = 20**

a. Discuss the principle involved in Limit test of Chlorides giving suitable reactions.
b. Define hematinics. Give the formulations, market preparations, storage conditions and uses of ferrous sulphate.
c. Briefly describe the mechanism of action of Antipsychotic agents. Write the formulation and brand names of olanzapine, lurasidone.
d. Classify antihypertensive agents giving examples.
e. Discuss the role of isoniazide-ethambutol-rifampicin in the treatment of tuberculosis.
f. Enumerate the differences between analgesics and anti-inflammatory agents.

Section III

Long Answer type questions. Answer any three. **3 x 10 = 30**

4. Classify antimicrobial agents based on their mechanism of action with examples. Give the formulation, preparation and uses of a) Hydrogen peroxide b) Bleaching powder
5. Discuss the various stages of anaesthesia. Classify general anaesthetics giving examples.
6. Classify antihypertensive agents giving examples of each class. Differentiate between hypertension and arrhythmia. Write the chemical name, structure and uses of captopril.
7. What is Type-1 and Type-2 diabetes? Give the mechanism of action of Insulin. Write a note on the various insulin preparations.
8. How are antibiotics classified? Give examples. Write the chemical name (IUPAC) and chemical structure of amoxicillin and chloramphenicol mentioning their brand name and formulations.

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