



# PHARMACY INDIA

## PRACTICE WORK SHEET - 15

Name of Candidate:-.....

Date:-.....

Mobile No.:-.....

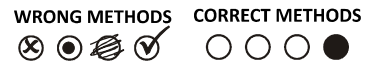
College Name:-.....

Candidate Sign

### INSTRUCTIONS:-

1. The Questions Booklet contains 125 questions. Examinee is required to answer all 125 questions in the OMR Answer-Sheet and not in the questions Booklet. All questions carry equal marks.
2. Examine the Questions Booklet and OMR Answer-Sheet very carefully before you proceed. Faulty Questions Booklet due to missing or duplicate paper/question or having any other discrepancy should be immediately replaced.
3. Features:- (i) Each Worksheet Contain 125 Question (ii) Subject Wise Distribution (iii) According To Syllabus (iv) Designed By Team Of Experts

Invigilator Sign



# PRACTICE WORK SHEET - 15

## INDIA'S 1<sup>ST</sup> OFFLINE TEST SERIES WITH DETAILED EXPLANATION

### FEATURES

- Each Worksheet Contain 125 Question
- Subject Wise Distribution
- According To Syllabus
- Designed By Team Of Experts



## PHARMACY INDIA

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## PHARMACEUTICS

- In Bismuth subgallate suppositories B.P.S, when no strength of the drug is specified, B.P.C directs \_\_\_ bismuth subgallate per suppository**
  - 300 mg
  - 200 mg
  - 100 mg
  - 400 mg
- Hixon Crowell's cube root law of dissolution states that**
  - There is a change in particle size and surface area during dissolution of drug
  - Dissolution process is controlled by diffusion of molecules / ions
  - High free energy of activation is required for solution
  - Renewal of surface fluid layer around drug particle
- Chapter IV of which law states that experiment on animals are avoided wherever it is possible to do so; as for example; in medical schools, hospitals, colleges and the like, if other teaching devices such as books, models, films and the like, may equally suffice. Also, that experiments on large animals are avoided when it is possible to achieve the same results by experiments upon small laboratory animals like guinea - pigs, rabbits, frogs and rats**
  - The prevention of cruelty to animal's act, 1960
  - The Pharmacy Act, 1948
  - Drugs and Cosmetics Act, 1940
  - Medicinal and Toilet Preparations Act, 1955
- Pharmaceutical alternatives possess**
  - Identical therapeutic moiety / precursor but not in the same amount / dosage form
  - Same amount of therapeutic moiety
  - Same dosage form
  - Same formulation ingredients in exactly same amount of dose
- The WIPO is the specialized agency of the United Nations. It promotes protection of \_\_\_ throughout the work**
  - Intellectual properties
  - World properties
  - Pharmaceutical organizations
  - Finance companies
- Foaming during liquid filling can be reduced by following ways, EXCEPT**
  - Increase in speed of the filling line
  - Minimised product turbulence
  - Closed system filling
  - Defoaming device
- Indicate which of the following statements is true**
  - A weakly acidic drug is unionised when pH of the solution is atleast 2 pH units below its pKa
  - Acidic drugs are non-ionized at pH 9
  - Acidic drugs are less soluble in alkaline solution
  - The higher the pKa of a weak acid, the stronger is acid
- As per I.P. if the solubility range of a solute is 30 to 100 parts, it will be**
  - Soluble
  - Freely soluble
  - Sparingly soluble
  - Slightly soluble
- The preferred rheological behavior of pharmaceutical suspensions is that of**
  - Pseudoplasticity and thixotropy
  - Pseudoplasticity

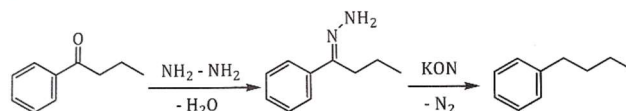
- (b) A mixture of volatile oils with sesquiterpenes  
 (c) Solidified resin devoid of volatile terpenes  
 (d) Polysaccharide mixed with volatile oil
71. Which of the following ergot alkaloids is water soluble and shows blue fluorescence  
 (a) Ergo sine (b) Ergotamine  
 (c) Ergocristine (d) Ergometrine
72. Which of the following chemical constituents in fennel in a phenolic group  
 (a) Anethole (b) Fenchone  
 (c) Eugenol (d) Carvonol
73. Identify the wrong statement regarding mucilage  
 (a) They are normally sulphuric acid esters  
 (b) They are the normal products of the cell  
 (c) They are produced by injury to plant  
 (d) The ester group is a complex polysaccharide
74. Which one of the following is NOT a protoplast fusion agent  
 (a) Inactivated Sendai Virus  
 (b)  $\text{Ca}^{++}$  at alkaline pH  
 (c) Polyethylene glycol  
 (d) Colchicine
75. Isothiocyanate glycosides are prominent in family  
 (a) Cruciferae (b) Liliaceae  
 (c) Rosaceae (d) Apocyanaceae
76. "May apple" plant do possess  
 (a) Anti-ulcer (b) Purgative  
 (c) Hypoglycaemic (d) Anti-cancer

### PHARMACEUTICAL CHEMISTRY

77. 3-(2-hydroxyethylidene)-7-oxo-4-oxa-

1-azabicycloheptane-2-carboxylic acid is

- (a) Clavulanic acid (b) Sulbactam  
 (c) Imipenem (d) Cephadrine
78. Which of the following is present in tak as an impurity  
 (a) Mg (b) Al (c) Na (d) Fe
79. 2-naphthyl-N-methyl (3-methylphenyl) thiocarbamate is IUPAC name of  
 (a) Tropicamide (b) Fluconazole  
 (c) Clotrimazole (d) Tolnaftate
80. 1, 2, 4-trioxane ring is found in which of the following antimalarial  
 (a) Artemisinin (b) Proguanil  
 (c) Cycloguanil (d) Halofantrine
81. Which of the following compounds exhibit geometrical isomerism  
 (a) 1-pentene  
 (b) 2-methyl-2-pentene  
 (c) 2-pentene  
 (d) 2-methyl-2-butene
82. The conversion of acetamide to methylamine by the reaction of  $\text{Br}_2/\text{KOH}$  is an example of  
 (a) Cannizzaro reaction  
 (b) Esterification  
 (c) Hofmann reaction  
 (d) Bromoform reaction
83. Calculate the accurate osmotic pressure at  $0^\circ\text{C}$  of a blood serum sample using Lewis equation having freezing point  $-0.53^\circ\text{C}$   
 (a) 0.636 ATM (b) 6.39 ATM  
 (c) 574.28 ATM (d) 0.0441 ATM
84. Reaction of -halo ester with an aldehyde or ketone in the presence of a base like  $\text{NaNH}_2$  gives  $\alpha$ ,  $\beta$ -epoxy carboxylic ester. This reaction is referred as  
 (a) Willgerodt rearrangement  
 (b) Bamford Steven reaction  
 (c) Darzen's glycidic synthesis  
 (d) Bayer villiger rearrangement
85. Identify the named reaction



- (c) Coupling constants increase with distance
- (d) Equivalent nuclei interact with each other to show interaction

**111. Chemical interferences are common than spectral interferences due to**

- (a) Formation of compounds of low volatility
- (b) Ionization in flames
- (c) Increase in rate of atomization
- (d) No shift in ionization equilibrium

**112. One of the principles upon which HPLC detector functions is**

- (a) Redox property of solute is the basis for functioning of electrochemical detectors
- (b) Fluorimetric detector has high selectivity and low sensitivity
- (c) Small difference in Refractive Index of mobile phase permit precise measurements
- (d) UV detector function based on its ability to detector

**113. Which among the following electronic systems are not involved in the origin of UV spectrum**

- (a) s and p shell electrons
- (b)  $\sigma$  and  $\pi$  electrons
- (c) Charge transfer electrons
- (d) d and f shell electrons

**114. Which amongst the following auxochromes produces a shift towards higher energy wavelength**

- (a)  $-\text{CH}_2$
- (b)  $-\text{NHCH}_3$
- (c)  $-\text{Cl}$
- (d)  $-\text{C}=\text{O}$

### OTHER SUBJECTS

**115. Hospital formulary consists of**

- (a) List of hospital staff
- (b) List of drugs present in the hospital
- (c) List of equipments
- (d) List of patients

**116. The immunity acquired by inoculation of living organism of attenuated virulence is**

- (a) Natural passive immunity
- (b) Passive immunity
- (c) Artificial acquired immunity

- (d) Natural active immunity

**117. Which of the following microbial form listed below, exhibits the highest level of resistance to physical and chemical methods of growth control**

- (a) Naked Virus
- (b) Protozoan cyst
- (c) Vegetative bacterial cell
- (d) Bacterial endospore

**118. Glucose upon treatment with nitric acid yields**

- (a) Gluconic acid
- (b) Glucaric acid
- (c) Glucitol
- (d) Heptanoic acid

**119. The artificial or synthetic seeds are prepared by the following process**

- (a) Somatic hybridization and culture
- (b) Somatic embryogenesis and immobilization
- (c) Microprojectile and transformation
- (d) Artificial pollination and embryogenesis

**120. Which of the following statements is the correct description of product positioning**

- (a) Selecting one or more segment to enter
- (b) Occupying distinctive position in the mind of customer
- (c) Identifying group of buyers with common need
- (d) Distinguishes company's product form competitor's product

**121. The total number of amino acids in human insulin (total number of amino acids in A and B chain) is**

- (a) 51
- (b) 84
- (c) 32
- (d) 08

**122. Mixed micelle of lipids with bile acids and lipid-soluble vitamins are absorbed by**

- (a) Pancreatic lipase
- (b) Apo lipoproteins
- (c) Enterocytes
- (d) Chylomicrons

- The rheological properties of suspensions are markedly affected by the degree of flocculation.
- The types and quantities of suspending and thickening agent.
- Preferred rheological properties is Pseudoplasticity along with thixotropy Rheology.
- A suspending agent that is thixotropic as well as pseudoplastic should prove to be useful because it forms a gel on standing and becomes fluid when disturbed.

## 10. Ans (a)

Given: Half - life of porcine = 35 minutes $V_d = 60L$  Formula: $CL = 0.693 \times \frac{V_d}{t_{1/2}}$	Solution: $CL = 0.693 \times \frac{60}{35}$ Clearance of procaine = 1.188 L/min
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## 11. Ans (c) Liposomal encapsulated Doxorubicin, Vincristine and Cisplatin, Amphotericin B.

IMPORTANT DRUGS WITH LIPOSOME DELIVERY SYSTEMS	
<b>Anticancer drugs</b>	Doxorubicin, Daunorubicin, Vincristine, Camptothecin, Cisplatin, Methotrexate, Mitoxantrone
<b>Antifungal</b>	Amphotericin B, Nystatin
<b>Antibiotic</b>	Amikacin, Ampicillin, Ciprofloxacin, Ribavirin, Ganciclovir, Chloroquine
<b>Others</b>	IL-2, Cyclosporine

## 12. Ans (c)

- Ethylene Diamine Tetra Acetic acid (EDTA) is the most commonly used complexing agent which form divalent, trivalent or tetravalent ions to form complexes.
- It generally forms 1:1 complex irrespective of valency of the ion.
- Ethylene Diamine Tetra Acetic acid has six points of attachment to the metal ion and hence it is referred as hexadentate.

## 13. Ans (a)

CATEGORY	DUTY
Ayurvedic preparation containing self-generating alcohol and not capable of consumption as alcoholic beverages	Nil
Ayurvedic preparation containing self-generating alcohol and capable of consumption as alcoholic beverages	Rs. 1.6 (Appr. 2)
All other Ayurvedic preparation prepared by distillation or to which alcohol is added	Rs. 52.80

## 14. Ans (a) DRY HEAT STERILIZATION

MECHANISM	APPLICATION	VALIDATION
Oxidation of proteins	Glassware, porcelain and metal equipments. Fats, oils, powder.	<b>Chemical</b> - Browne's tube, Bowie Dick heat-sensitive tapes. <b>Biological</b> - Spores of <i>Bacillus Subtilis</i> var niger

## 40. Ans (d) PROPERTIES OF CARDIAC MUSCLES

PROPERTY	CARDIAC MUSCLE
<b>EXCITABILITY</b>	Excitability is defined as the ability of a living tissue to give response to a stimulus.
<b>AUTORHYTHMICITY</b>	Rhythmicity is the ability of a tissue to produce its own impulses regularly.
<b>CONDUCTIVITY</b>	Human heart has a specialized conductive system, through which impulses from SA node are transmitted to all other parts of the heart.
<b>CONTRACTILITY</b>	Contractility is ability of the tissue to shorten in length (contraction) after receiving a stimulus.

41. Ans (c) d-tubocurarine exhibit skeletal muscle relaxation by inhibiting nicotinic receptors in neuromuscular junction.

## 42. Ans (d) ADRENERGIC RECEPTORS

$\alpha 1$	$\alpha 2$
<ul style="list-style-type: none"> <li>• Vasoconstriction</li> <li>• <math>\uparrow</math> Peripheral Resistance (Blood Flow)</li> <li>• <math>\uparrow</math> Blood Pressure</li> <li>• Mydriasis</li> <li>• <math>\uparrow</math> Closure Bladder Sphincters</li> </ul>	<ul style="list-style-type: none"> <li>• Inhibits Norepinephrine Release</li> <li>• Inhibits Acetylcholine Release</li> <li>• Inhibits Insulin Release</li> </ul>
$\beta 1$	$\beta 2$
<ul style="list-style-type: none"> <li>• <math>\uparrow</math> Heart Rate</li> <li>• <math>\uparrow</math> Lipolysis</li> <li>• <math>\uparrow</math> Myocardial Contractility</li> <li>• <math>\uparrow</math> Renin</li> </ul>	<ul style="list-style-type: none"> <li>• Vasodilation</li> <li>• <math>\downarrow</math> Peripheral Resistance</li> <li>• Bronchodilation</li> <li>• <math>\uparrow</math> Glycogenolysis (muscle, liver)</li> <li>• <math>\uparrow</math> Glucagon Release</li> <li>• Relaxes Uterine Smooth Muscle</li> </ul>

## 43. Ans (d) CLASSIFICATION OF ANTIPLATELET DRUGS

<b>Thromboxane synthesis inhibitor</b>	Aspirin
<b>Platelet cAMP enhancer</b>	Dipyridamole
<b>P2Y<sub>12</sub> Receptor blockers</b>	Ticlopidine, Clopidogrel, Prasugrel, Ticagrelor
<b>GP II<sub>b</sub>/III<sub>a</sub> antagonists</b>	Abciximab, Eptifibatide, Tirofiban
<b>PGI<sub>2</sub> analogues</b>	Epoprostenol

## 44. Ans (b)

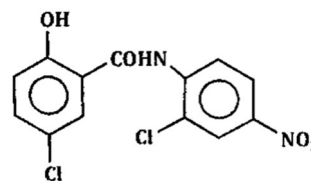
- Increased plasma levels of triglycerides (TG) in very low density lipoproteins (VLDL) is the characteristics of the dyslipidemia associated with insulin resistance and type 2 diabetes mellitus (T2DM)
- Overproduction of VLDL leads to increased plasma levels of TG which results in low levels of high density lipoprotein (HDL) & cholesterol.
- Also the generation of small, dense, cholesterol ester depleted low density lipoproteins (LDL).

**IUPAC Name:** 5-Chloro-N-(2-chloro-4-nitrophenyl)-2-hydroxybenzamide or 2,5' prime -dichloro -4' nitrosalicylanilide

**Basic Ring:** Nitrobenzene

**Chemical Class:** Amide type anthelmintic Starting material: 5-Chloro Niclosamide salicylic acid.

**Clinical Indications:** Anthelmintic



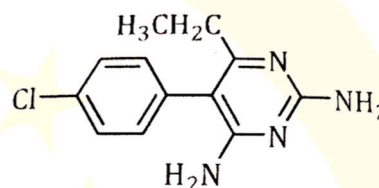
### 99. Ans (d) PYRIMETHAMINE

**IUPAC Name:** 5-(4-Chlorophenyl)-6-ethylpyrimidine-2,4-diamine Basic Ring: Pyrimidine

**Chemical Class:** Diaminopyrimidines analogue

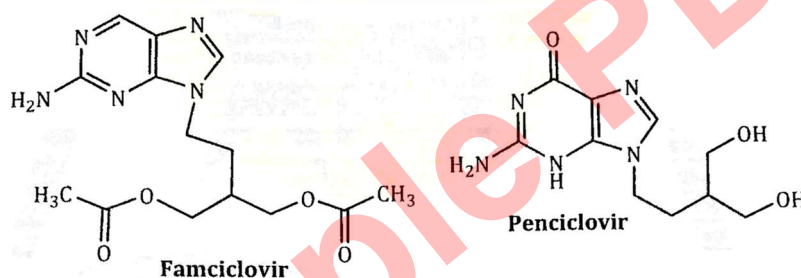
**Starting material:** Ethyl propanoate and p-Chlorophenyl acetonitrile

**Clinical Indications:** Useful in the treatment of malaria when combination with sulphadoxine.



### 100. Ans (c)

Famciclovir is a diacetyl prodrug of penciclovir. IUPAC name of Penciclovir is 9-(1,4-dihydroxy-3-hydroxymethylbut-1-yl) guanine which is an acyclic guanine nucleoside analog.



### 101. Ans (c) NMR ACTIVE NUCLEI

- All nuclei carry charge, they possess spin angular momentum.
- Only nuclei having spin quantum number  $1 > 0$  are NMR active Table depicts the rules predicting the spin number of nuclei

Mass No.	Atomic No.	Spin quantum no.	Examples	NMR activity
Odd	Odd or even	Half-integral	$1/2$ H $3/2$ ( $^{13}\text{C}$ ), $5/2$ ( $^{17}\text{O}$ )	Active
Even	Even	Zero	0 (( $^{12}\text{C}^{16}\text{O}$ ))	Inactive
Even	Odd	Integral	1 ( $^1\text{H}$ , $^{14}\text{N}$ ), 3( $^{10}\text{B}$ )	Active

### 102. Ans (d)

MEASUREMENT	INTERPRETATION
No of signal	Indicate how many different kind of proton present
Position of signal	Indicates about the chemical shift, magnetic (electronic) environment of the proton
Relative intensity of signal	Proportional to number of protons present

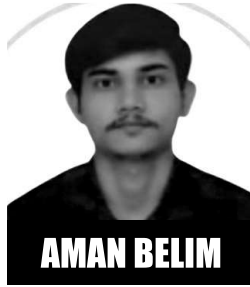
# Heartiest congratulations



## FOR THE REMARKABLE RESULT IN GPAT 2023



**AIR-07**



**470+**  
Selection



**AIR-47**

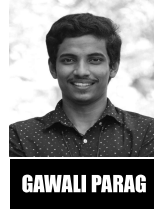
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**AIR-143**



**AIR-150**



**AIR-211**



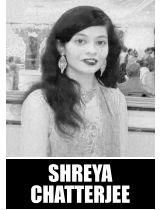
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**AIR-257**



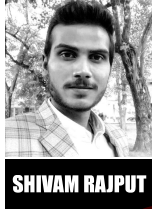
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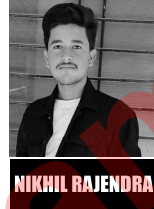
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**AIR-354**



**AIR-487**



**AIR-505**



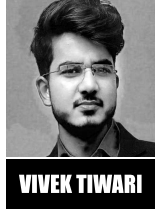
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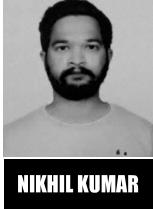
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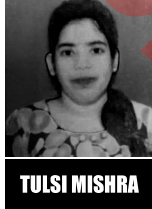
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**AIR-787**



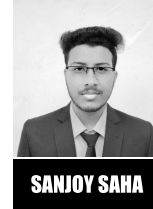
**AIR-869**



**AIR-909**



**AIR-971**



**AIR-1052**



**AIR-1110**



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