



PHARMACY INDIA

PRACTICE WORK SHEET - 13

Name of Candidate:-.....

Date:-.....

Mobile No.:-.....

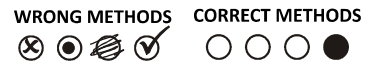
College Name:-.....

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 - 13

INDIA'S 1ST 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

- A drug (200 mg dose) administered in tablet form and as intravenous injection (50 mg dose) showed AUC of 100 and 200 microgram hr/ml, respectively. The absolute bioavailability of the drug through oral administration is
 - 125%
 - 250%
 - 12.5%
 - 1.25%
- Drugs in suspensions and semi-solid formulations always degrade by
 - First order kinetics
 - Second order kinetics
 - Zero order kinetics
 - Non-linear kinetics
- The temperature condition for storage of drug products under cold temperature is given as
 - Temperature between 8°C and 25°C
 - Temperature below 20°C
 - Temperature at 0°C
 - Temperature between 2°C and 8°C
- Glass transition temperature is detected through
 - X-Ray diffractometry
 - Solution calorimetry
 - Differential scanning calorimetry
 - Thermogravimetric analysis
- What quantities of 95 % v/v and 45 % v/v alcohols are to be mixed to make 800 ml of 65 % v/v alcohol
 - 480 mL of 95 % and 320 ml of 45% alcohol
 - 320 ml of 95 % and 480 ml of 45 % alcohol
 - 440 ml. of 95 % and 360 mL of 45 % alcohol
 - 360 ml. of 95 % and 440 mL of 45 % alcohol
- The role of borax in cold creams is
 - Anti-microbial agent
 - To provide fine particles to polish skin
 - In-situ emulsifier
 - Antioxidant
- Which of the following isotherms are produced when the heat of condensation of successive layers is more than the heat of adsorption of first layer
 - Type III and IV
 - Type II and V
 - Type I and III
 - Type III and V
- Choose the correct sequence of Moisture vapor Transmission Rate in packaging materials
 - Paper Aluminium foil > PVC > PvdC
 - Aluminium foil > PVC > PvdC > Paper
 - Aluminium foil PvdC PVC Paper
 - Paper > PVC > PvdC > Aluminium foil
- The degree of flocculation of a suspension is 15 and the sedimentation volume is 0.75 What will be the ultimate volume of deflocculated suspension
 - 2.0
 - 1.5
 - 0.75
 - 0.5
- Which is NOT applicable to protein binding
 - Klotz reciprocal plot
 - Sandberg modified equation
 - Blanchard equation
 - Detli plot
- Glass can tolerate a pressure up to
 - 50 psig
 - < 25 psig
 - 100 psig
 - None of the above
- Larger values of K_y in the Heckel Plot indicate formation of what quality of tablets

- (c) HLB 3 to 5 Wetting and spreading agent
(d) HLB 13 to 16 Detergents
30. **Which is known as Boundary lubricant**
(a) Mg stearate
(b) Glyceryl palmitostearate
(c) Glyceryl behenate
(d) Stearic acid
31. **Which type of mesh size screen is used in disintegration apparatus according to USP**
(a) # 10 (b) #20
(c) #8 (d) #18
32. **Injection moulding technology associated with preparation of**
(a) HPMC capsule
(b) Dextran capsule
(c) Starch capsule
(d) Gelatin
33. **PONDAC is an alternate material for preparation of shell of HCG which is a copolymer of**
(a) Polyvinyl alcohol and Methacrylates
(b) HPMC and Methacrylates
(c) Chitosan and HPMC
(d) None of the above
34. **Name of the instrument which is associated with filling HPMC capsules**
(a) Elancofil (b) Rotofil
(c) Rotosort (d) Quali-V
35. **For the proper wetting of solids by liquids, the contact angle should be nearly:**
(a) Zero (b) 90°
(c) 180° (d) 270°
36. **The surface tension of water is 72.8 dynes/cm, while that of benzene is 28.9 dynes/cm. This implies that:**
(a) Cohesive forces between the molecules of water are stronger than that of benzene
(b) Cohesive forces between the molecules of water are weaker than that of benzene
(c) Adhesive forces between benzene and air are stronger than that of water and air
(d) Adhesive forces between benzene and air are weaker than that of water and air

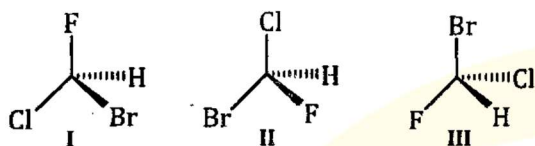
37. **Which of the following apparatus can be used for determining the viscosity of Non-newtonian fluids?**
(a) Ostwald viscometer
(b) Brookfield viscometer
(c) Falling sphere viscometer
(d) Ubbelohde viscometer
38. **Which of the following apparatus can be used for determining the viscosity of Newtonian liquids?**
(a) Du Nouy tensiometer
(b) Andreason Pippette
(c) Falling sphere viscometer
(d) All of the above

PHARMACOLOGY

39. **What is the primary mechanism of action of local anesthetics**
(a) Activation of ligand-gated potassium channels
(b) Blockade of voltage-gated sodium channels
(c) Stimulation of voltage-gated N-type calcium channels
(d) Blockade of GABA-gated chloride channels
40. **Which one of the following glucose transporters is the new drug target for the management of Type 2 diabetes mellitus**
(a) Sodium glucose linked transporter-2 (SGLT-2)
(b) Glucose transporter-1 (GLUT-1)
(c) Sodium glucose linked transporter-1 (SGLT-1)
(d) Glucose transporter-2 (GLUT-2)
41. **Which of the followings are the critical neurotransmitters playing major role in depression**
(a) Acetylcholine, Norepinephrine and Dopamine
(b) Dopamine, Norepinephrine and Serotonin
(c) Serotonin, Dopamine and 7-Amino butyric acid
(d) Acetylcholine, Serotonin and γ -Aminobutyric acid
42. **Which one of the following classes of drugs causes side effects like dryness**

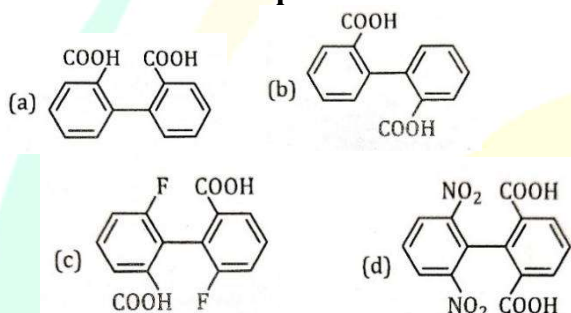
- (a) Isomer (b) Enantiomers
(c) Epimers (d) None of the above

87. Which of the following stereo isomers are identical



- (a) I and III (b) I and II
(c) II and III (d) All are identical

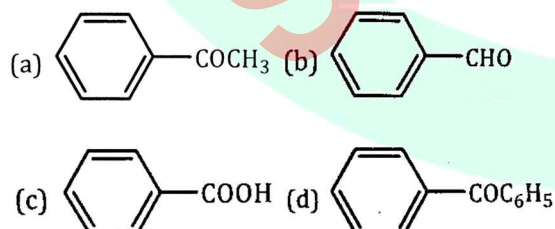
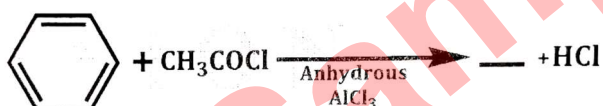
89. Which of the following compounds will exhibit atropisomerism



90. Formaldehyde when treated with KOH gives methanol and potassium formate. The reaction is known as

- (a) Perkin reaction
(b) Claisen reaction
(c) Cannizzaro reaction
(d) Knoevenagel reaction

91. Identify the product of the given reaction -



91. The units for the rate constant of first order reaction is

- (a) S^{-1} (b) $Mol\ l^{-1}\ s^{-1}$
(c) $Mol^{-1}\ s^{-1}$ (d) $L\ mol^{-1}\ s^{-1}$

93. The unit of specific conductivity is

- (a) $ohm\ cm^{-1}$ (b) $ohm\ cm^{-2}$
(c) $ohm^{-1}\ cm$ (d) $ohm^{-1}\ cm^{-1}$

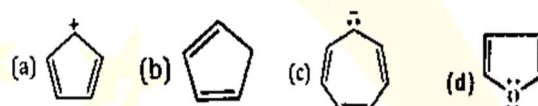
94. Which one have highest g value

- (a) He (b) N_2
(c) O_2 (d) CO_2

95. The increasing order of electron donating inductive effect of alkyl groups is

- (a) $-H < -CH_3 < -C_2H_5 < -C_3H_7$
(b) $-H > -CH_3 > -C_2H_5 > -C_3H_7$
(c) $-H < -C_2H_5 < -CH_3 < -C_3H_7$
(d) $-H > -C_2H_5 > -CH_3 > -C_3H_7$

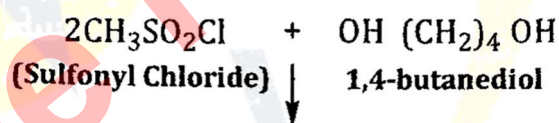
96. Which of the following species is aromatic



97. Identify the incorrect statement regarding aromaticity

- (a) It represents substitution reaction in spite of addition reaction
(b) p-orbitals must be planar and overlap
(c) Cyclic delocalization takes place
(d) It does not follow Huckel's rule

98. Identify the product



- (a) Thiotepa (b) Busulfan
(c) Lomustine (d) Carmustine

99. Which of the following statements about Artemisinin is/are true

- (a) Artemisinin is a sesquiterpene lactone with an internal peroxide linkage
(b) Artemisinin has blood scizonticidal activity
(c) It is obtained from leaves of sweet wormwood
(d) All of the above

100. Methazolamide contains

- (a) 1, 2, 4-thiadiazoline
(b) 1, 2, 3-thiadiazoline
(c) 1, 2, 5-thiadiazoline
(d) 1, 3, 4-thiadiazoline

101. In Gas Liquid Chromatography, some of the samples need to be derivatized in order to increase their

- (a) Volatility
(b) Solubility
(c) Thermal conductivity

15. Ans (d)

- Coordination compounds and complexes are distinct chemical species - their properties and behaviour are different from the metal atom/ion and ligands from which they are composed.
- The **coordination sphere** of a coordination compound or complex consists of the central metal atom/ion plus its attached ligands. The coordination sphere is usually enclosed in brackets when written in a formula.
- The **coordination number** is the number of donor atoms bonded to the central metal atom/ion.

16. Ans (a) HAIR COLORANTS

Hair colorants may be classified in to following categories.

- **Temporary colorants:** - Citric acid or tartaric acid.
- **Semi-permanent colorants:** - Nitro amino dyes (Picramic acid)
- **Permanent colorants:** - Permanent colorants are either vegetable origin or salts of heavy metals.
- **Oxidation dyes:** - P-phenylene diamine, p-toluenediamine.

17. Ans (d)

- The vegetable oil have low solubility towards staining dyes.
- Examples: Sesame oil castor oil olive oil
- Castor oil; It is obtained from the seeds of castor plant *Ricinus communis*. It may be used in the concentration 40-50% of the total formulation.
- It forms the most valuable lipstick base due to the following reasons:
 - It has high viscosity and good dissolving power.
 - It possesses stability towards oxidation.
 - It is compatible with other ingredients. The high viscosity may avoid smearing off of the lipstick.

18. Ans (b)

Reynolds number (Re): is a dimensionless number.

$$\text{Re} = \text{inertial forces} / \text{viscous forces} \text{ or } \text{Re} = \text{Dup} / \eta$$

Where,

D = diameter of pipe (m); u = velocity of flow (m/s); r = density of fluid (kg/m^3); h = viscosity of fluid

OBSERVATIONS BY REYNOLD'S

FLOW	DESCRIPTIONS	REYNOLDS NUMBER
Laminar flow	At low velocity, the dye will move in a line parallel to the tube and also it does not get dispersed.	Re < 2000
Transition flow	At velocity little more than before the dye moves in a wave form.	2000 < Re < 4000
Turbulent flow	At more velocity the dye will no longer move in a straight	Re > 4000

19. Ans (c) MOISTURE CONTENT

Materials with moisture content below 5% are suitable for dry grinding and from 5% to 50% are suitable for wet grinding.

Botanical Origin	It is the dried shoot bark of <i>Cinnamomum zeylanicum</i> Nees., Family: Lauraceae	Dried stem bark of <i>Cinnamomum cassia</i> , Family: Lauraceae.
Taste	Warm, sweet, aromatic	Astringent & mucilaginous
Cork and cortex	Absent	Present
Volatile oil	0.5-1.2%	Up to 1.5%
Cinnamaldehyde	Lower percent (65%)	Higher percent (80%)
Eugenol	Present	Absent (no eugenol)

68. Ans (d) The recommended Acceptable Daily Intake (ADI) of these sweeteners as laid down by USFDA is as follows:-

Sucralose	Aspartame	Saccharin	Acesulfame K
15mg/kg body weight	40mg/kg body weight	5mg/Kg body weight	5mg/kg body weight

69. Ans (d)

The viscosity of mucilage depends upon the variety of starch used and upon the time for which the fluid is heated to a maximum viscosity being attained after a certain time which is different for each starch and further beating results in a decrease of viscosity.

Type of starch	Maximum viscosity
Wheat	1.3
Rice	2.34
Maize	3.5
Potato	23-65

70. Ans (d)

Group of organic compounds that form persistent froth when shaken with water even in dilute solution. Saponins cause haemolysis of red blood cells.
SAPONIN GLYCOSIDE

- Aglycone part of these glycosides has soap-like action.
- Identified by foam forming, Haemolytic index.
- Chemically they contain aglycone called as sapogenin.
- Saponin drugs mainly cyclopentene phenanthrene nucleus.

Triterpenoid (C₃₀) in nature & Reduce surface tension

- (A) Tetracyclic triterpenoids (Steroidal Saponin)
(B) Pentacyclic triterpenoids

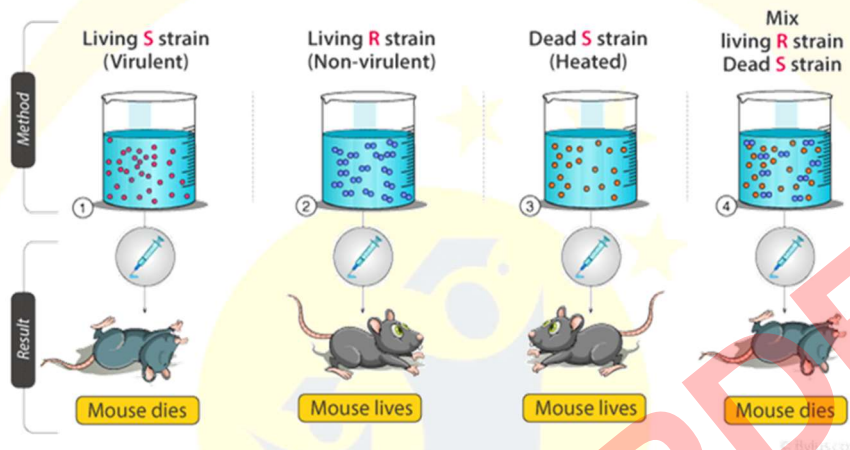
71. Ans (c) Shellac is compounds of aleuritic acid, shellolic acid, Laccaic acid, jalaric acid and other aliphatic acids.

	SHELLOLIC ACID	LACCAIC ACID	ALEURATIC ACID
Chemical Name	2,3,4,7,8a-hexa-hydro-4-Tetra hydroxy hydroxy-8-(hydroxy- methyl)-8-methyl-1H- 3a, 7-methanoazulene- 3,6-dicarboxylic acid	Tetra hydroxyl Antraquinone derivative	9, 10, 16-trihydroxypalmitic acid
Interpretation	Aliphatic and alicyclic component	Aliphatic constituent	Aliphatic constituent

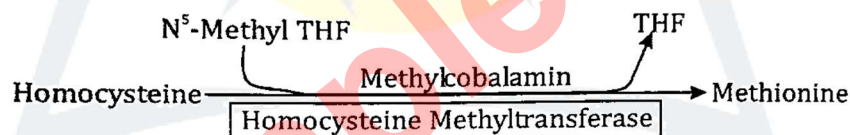
120. Ans (c)

- Spore is metabolically dormant structure produced during unfavorable condition by the process called sporulation.
- Sporulation occur during late log phase or early stationary phase.
- Spores are resistant to nutrition starvation, temperature. extreme pH. antibiotics etc.
- The size of the spore is approximately 0.2 μm .

121. Ans (d) Griffith Experiment & Transforming Principle



122. Ans (c) Vitamin B12 as methylcobalamin is essential for the conversion of N⁵-methyl Tetrahydrofolate (THF) to THF in a reaction where in homocysteine is converted to methionine.



123. Ans (a)

- Vitamin C plays the role of a coenzyme in hydroxylation of proline and lysine while procollagen is converted to collagen.
- Hydroxyproline and hydroxylysine are essential for the collagen cross-linking and the strength of the fiber.
- The deficiency of vitamin C (ascorbic acid) leads to scurvy, a disease characterized by spongy and sore gums, loose teeth, anemia, swollen joints, fragile blood vessels, decreased immunocompetence, delayed wound healing.

124. Ans (a) CARDIAC SOUND

Features	First heart sound	Second heart sound	Third heart sound	Fourth heart sound
Cause	Closure of atrioventricular valves	Closure of semilunar Valves	Rushing of blood into ventricle	Contraction of atrial musculature
Duration (sec)	0.10 to 0.17	0.10 to 0.14	0.07 to 0.10	0.02 to 0.04

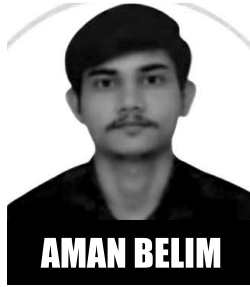
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FOR THE REMARKABLE RESULT IN GPAT 2023



AIR-07



470+
Selection



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AIR-143



AIR-150



AIR-211



AIR-250



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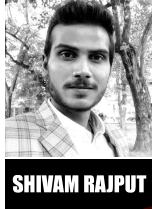
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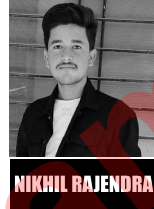
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AIR-505



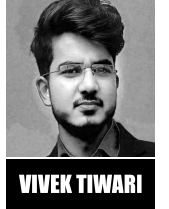
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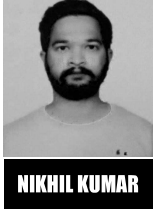
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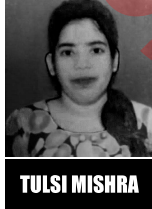
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AIR-909



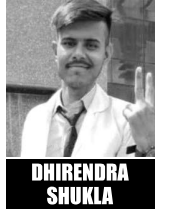
AIR-971



AIR-1052



AIR-1110



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