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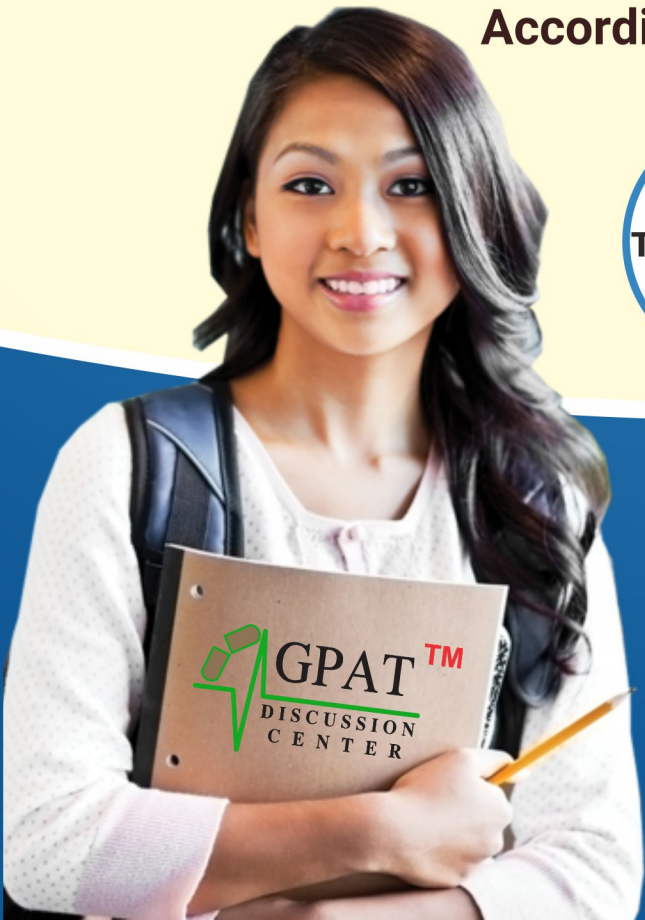

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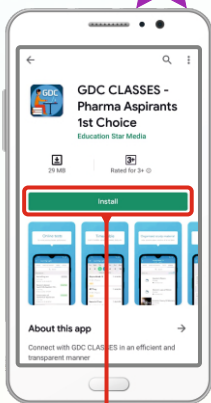
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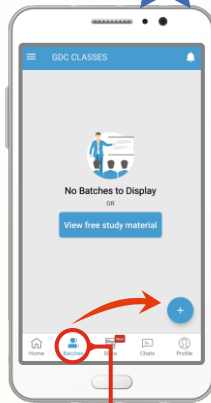
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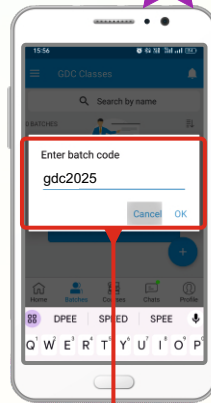
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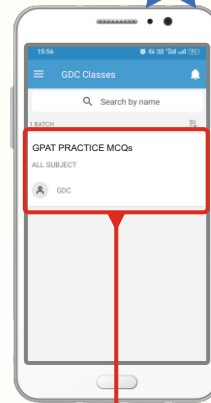
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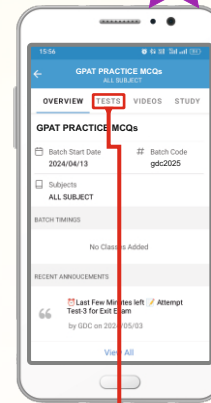
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# Introduction of Pharmacology



- Which of the following is NOT an essential drug
  - Octreotide
  - Atropine
  - Paracetamol
  - Calamine lotion
- In Cytochrome P450 enzyme "450" stands for
  - Wavelength
  - Molecular weight of drug in Dalton
  - Isoform unit of protein
  - Moles
- Which route of drug administration avoids first pass hepatic metabolism and is used with drug preparation that slowly releases drugs for periods as long as seven days
  - Topical
  - Transdermal
  - Sublingual
  - Oral
- Which is NOT a "soft drug"
  - Neurotransmitter
  - Steroid
  - Insulin
  - Vitamins
- Which of the following is wrongly matched regarding drug elimination
  - Calcium channel blockers : CYP3A4
  - Carvedilol : CYP2D6
  - Digoxin : P-glycoprotein
  - Simvastatin : Glucuronide conjugation
- Which of the following is a prodrug
  - Enalapril
  - Clonidine
  - Salmeterol
  - Acetazolamide
- Which of the following statement is NOT correct
  - Hyoscine given in the form of skin patch for treatment of motion sickness acts for longer period than when given orally
  - Drugs administered sublingually may undergo first pass effect
  - A drug produces more rapid effect when given TM than SC
  - Inhalation can be used to produce local or systemic effects
- Which of the following antiplatelet drug is a prodrug
  - Clopidogrel
  - Tirofiban
  - Aspirin
  - Dipyridamole
- In year 2020 FDA request to removal of which drug from market due to N-nitrosodimethylamine (NDMA) which cause cancer
  - Cimetidine
  - Ranitidine
  - Amiloride
  - Digoxin
- Method used for promote crossing of BBB (blood brain barrier)
  - Permeation enhancer dimethyl sulphoxide (DMSO)
  - Osmotic disruption of BBB by mannitol
  - Drug carrier dihydropyridine
  - All of these
- The metabolic reaction which makes the metabolite of codeine more pharmacologically potent analgesic is
  - Dealkylation
  - Oxidation
  - Deamination
  - All of these
- The great scientist who explained the circulation of the blood of the world which signaled the beginning of the scientific study of the medical sciences was
  - Paracelsus
  - William Harvey
  - James Blake
  - Rudolf Buchheim
- If the total amount of a drug present in the body at a given moment is 2.0 g and its plasma concentration is 25  $\mu\text{g/ml}$ , its volume of distribution is
  - 100 L
  - 80 L
  - 60 L
  - 50 L

65. In which of the following phases of clinical trial of drugs, ethical clearance is NOT required  
(a) Phase I (b) Phase II  
(c) Phase III (d) Phase IV
66. Which of the following is NOT a primary/fundamental, but a derived pharmacokinetic parameter  
(a) Bioavailability  
(b) Volume of distribution  
(c) Clearance  
(d) Plasma half life
67. In metabolism of xenobiotics, all of the following reactions occur in phase I EXCEPT  
(a) Oxidation (b) Reduction  
(c) Conjugation (d) Hydrolysis
68. In which of the following phases of clinical trials, healthy normal human volunteers participate  
(a) Phase-I (b) Phase-II  
(c) Phase-III (d) Phase-IV
69. The aim of post-marketing studies is  
(a) Efficacy of the drug  
(b) Dosage of the drug  
(c) Deals with alteration of the drug includes absorption, distribution, and binding/storage  
(d) Safety and comparisons with other medicines
70. Phase IV of clinical trials collect information especially about  
(a) Drug efficacy  
(b) Drug potency  
(c) Drug toxicity  
(d) Pharmacokinetics of the drug
71. Which one of the following will be checked under phase IV surveillance  
(a) The whole market will be under surveillance  
(b) 300-3000 people  
(c) 20-300 people  
(d) 20-50 people
72. Investigational new drug is launched in which phase of clinical trial  
(a) I (b) II (c) III (d) IV
73. Therapeutic exploration in patients in clinical trials is in  
(a) Phase I (b) Phase II  
(c) Phase III (d) Phase IV
74. Combined phase I and II trial done for  
(a) Antihypertensive agent  
(b) Anticancer drugs  
(c) Immunosuppressant  
(d) Antiarrhythmic agents
75. Permission from DCGI [Drug Controller General, India] is needed before which phase of drug trial  
(a) Phase I (b) Phase II  
(c) Phase III (d) Phase IV
76. Which one of the following describes "double dummy"  
(a) The subjects do not know which study treatment they receive  
(b) Patients injected with placebo and active doses  
(c) Fake treatment  
(d) Signed document of the recruited patient for the clinical trial procedures
77. Side effects of a drug arise due to interactions of the drug to molecules other than the target. These effects of the drug can be minimized by its high  
(a) Specificity (b) Solubility  
(c) Affinity (d) Hydrophobicity
78. Which of the following is a designer drug  
(a) Cocaine (b) Heroin  
(c) Methamphetamine (d) Cannabis
79. A newborn baby was born with phocomelia. It results due to which drug taken by mother during pregnancy  
(a) Tetracycline (b) Thalidomide  
(c) Warfarin (d) Alcohol
80. Type B adverse drug reaction is  
(a) Augmented effect of the drug  
(b) Allergic effect of the drug  
(c) Effect seen on chronic use of the drug  
(d) Delayed effect of the drug
81. Ciprofloxacin should not be given to an asthmatic using the theophylline because  
(a) Ciprofloxacin inhibits Theophylline metabolism  
(b) Theophylline inhibits Ciprofloxacin metabolism  
(c) Ciprofloxacin decreases effect of Theophylline  
(d) Theophylline induces metabolism of Ciprofloxacin
82. Glycerol trinitrate is used by sublingual route because it is  
(a) Non-Ionic and more lipid soluble  
(b) Ionic and more lipid soluble  
(c) Ionic and less lipid soluble  
(d) Non-Ionic and less lipid soluble

# Drugs Acting on ANS



- Preganglionic Parasympathetic fibers are NOT carried by which cranial nerve**  
(a) III (b) V (c) VII (d) X
- Origin of sympathetic fibers**  
(a) Cranial (b) Sacral  
(c) Dorso-lumbar (d) None of these
- Tetrodotoxin blocks nerve impulse/ junctional transmission by**  
(a) Anticholinergic action  
(b) Depleting acetylcholine  
(c) Blocking Na<sup>+</sup> channels  
(d) Blocking Ca<sup>2+</sup> channels
- Exocytic release of Ach is blocked by**  
(a) Hemicholium (b) Botulinum  
(c) Alpha bungarotoxin (d) Vesamicol
- Apart from release of EDRF, other mechanism of vasodilatory action of Acetylcholine is**  
(a) Direct action causing vascular smooth muscle relaxation  
(b) Inhibition of nor-epinephrine release from adrenergic nerve endings  
(c) Stimulation of platelet aggregation  
(d) Stimulation of vascular  $\beta_2$  receptors
- Pralidoxime acts by**  
(a) Reactivating cholinesterase enzyme  
(b) Promoting synthesis of cholinesterase  
(c) Promoting synthesis of acetylcholine  
(d) Direct action on cholinergic receptors
- Antidote for organophosphorus poisoning is**  
(a) Atropine (b) Neostigmine  
(c) Succinylcholine (d) d-Tubocurarine
- A cholinomimetic drug that is useful for treating postoperative abdominal distension and gastric atony is**  
(a) Pilocarpine (b) Bethanechol  
(c) Carbachol (d) Methacholine
- Which of the following drug binds only with the anionic site of cholinesterase**  
(a) Physostigmine (b) Neostigmine  
(c) Edrophonium (d) Pyridostigmine
- All of the following effects are seen with cholinergic muscarinic receptor stimulation EXCEPT**  
(a) Sweating  
(b) Rise in blood pressure  
(c) Bradycardia  
(d) Urination
- The mechanism by which Neostigmine improves contraction of myasthenic muscle involves**  
(a) Repetitive binding of the acetylcholine molecules to the same receptors at the muscle end plate  
(b) Diffusion of acetylcholine released from motor nerve endings to a wider area activating neighboring receptors  
(c) Activation of motor end plate receptors by neostigmine molecules themselves  
(d) All of these
- The biochemical mechanism of action of Digitalis is associated with**  
(a) A decrease in calcium uptake by the sarcoplasmic reticulum  
(b) An increase in ATP synthesis  
(c) A modification of the actin molecule  
(d) An increase in systolic intracellular calcium levels
- Which of the following cholinesterase inhibitors is preferred in patients hypersensitive to the bromide ion**  
(a) Pyridostigmine (b) Neostigmine  
(c) Ambenonium (d) All of these

# Drugs Acting on CNS and PNS



- Select the CORRECT statement about Flumazenil**
  - It is a CNS stimulant used as an antidote for benzodiazepine poisoning
  - It is a CNS depressant but blocks the action of Diazepam
  - It has no CNS effect of its own but blocks the depressant effects of benzodiazepines as well as barbiturates
  - It has no CNS effect of its own but blocks the depressant effect of diazepam as well as stimulant effect of beta carboline
- Which of the following causes dissociative anesthesia**
  - Ketamine
  - Fentanyl
  - Propofol
  - Halothane
- Identify the neurotransmitter which is NOT synthesized by the amino acid**
  - Nitric Oxide
  - Glutamate
  - Acetylcholine
  - Norepinephrine
- All neurotransmitters are bind with specific cell surface receptors EXCEPT**
  - Acetylcholine
  - Histamine
  - Nitric Oxide
  - Dopamine
- Substance secreted into the blood by the neuron is**
  - Neurohormone
  - Neuromodulator
  - Neuropeptides
  - Neurotransmitter
- Fastest induction and recovery is seen in**
  - Halothane
  - Ether
  - Methoxyflurane
  - N<sub>2</sub>O
- Wernicke-Korsakoff syndrome (WKS) occur often in alcoholic's due to**
  - Malnutrition
  - Vitamin deficiencies
  - Faulty gastrointestinal deficiencies
  - All of these
- Acute alcohol ingestion can enhance the action of the following EXCEPT**
  - Sulfonyl urea
  - Paracetamol
  - Phenytoin
  - Aspirin
- The drug Antabuse acts by**
  - Decreasing ethanol absorption
  - Enhancing urinary excretion of ethanol
  - Increasing pulmonary excretion of ethanol
  - Blocking metabolism of ethanol
- Disulfiram inhibits**
  - Acetaldehyde dehydrogenase
  - Metalloenzymes
  - Dopamine β-hydroxylase
  - All of these
- Disulfiram-ethanol interaction often produces hypertension due to**
  - Increased concentration of ethanol
  - Inhibition of sympathetic tone
  - Inhibition of dopamine hydroxylase
  - None of these
- Match the following group-I with group-II**

**Group-I**

  - Disulfiram
  - Naltrexone
  - Acamprosate
  - 4-methylpyrazole

**Group-II**

[P] It helps prevent relapse of alcoholism  
 [Q] Drug of choice for methanol poisoning  
 [R] It inhibits the enzyme aldehyde dehydrogenase  
 [S] For maintenance therapy of alcohol abstinence

  - 1 - [Q], 2 - [R], 3 - [P], 4 - [S]
  - 1 - [R], 2 - [P], 3 - [S], 4 - [Q]
  - 1 - [S], 2 - [R], 3 - [Q], 4 - [P]
  - 1 - [R], 2 - [S], 3 - [P], 4 - [Q]
- All of the following block T-type calcium channels EXCEPT**
  - Valproate
  - Ethosuximide
  - Zonisamide
  - Lacosamide

84. The following drug claimed to have a therapeutic effect in "Senile Dementia" has  $\alpha$ -adrenergic blocking activity
- (a) Piracetam (b) Pyritinol  
(c) Codergocrine (d) Methylphenidate
85. Mechanism of action of cerebroprotective drugs Rivastigmine and Galantamine
- (a) NMDA antagonism  
(b) 5-HT<sub>1A</sub> agonism  
(c) Inhibition of acetyl cholinesterase  
(d) None of these
86. Phencyclidine is a non-competitive antagonist of
- (a) Kainate (b) AMPA  
(c) NMDA (d) All of these
87. A child requires multiple minor surgical procedures in the nasopharynx. Which of the following drugs has high surface activity and vasoconstrictor actions that reduce bleeding in mucous membrane
- (a) Benzocaine (b) Bupivacaine  
(c) Cocaine (d) Lidocaine
88. Mechanism of action of Rimonabant
- (a) Blockage of pre synaptic uptake of serotonin  
(b) Inhibits Gastrointestinal lipase  
(c) Antagonism of cannabinoid receptor  
(d) Blockage of orexin receptor
89. Which of the following drugs is a non-depolarizing neuromuscular blocker
- (a) Succinylcholine (b) Vecuronium  
(c) Decamethonium (d) Dantrolene sodium
90. Baclofen acts as
- (a) GABA<sub>A</sub> receptor agonist  
(b) GABA<sub>B</sub> receptor agonist  
(c) GABA<sub>A</sub> receptor antagonist  
(d) GABA<sub>B</sub> receptor antagonist
91. It is the atypical antipsychotic which has only weak D<sub>2</sub> blocking action produces few/no extrapyramidal symptoms, most effective drug in refractory schizophrenia
- (a) Clozapine (b) Risperidone  
(c) Olanzapine (d) Aripiprazole
92. Which is NOT a action of the lithium carbonate
- (a) Reduce the release of IP<sub>3</sub> and DAG  
(b) Causes a diabetes insipidus due to inhibition of the action of ADH  
(c) Decrease the leucocyte count during therapy  
(d) Lithium inhibits release of thyroid hormones
93. The mechanism of action of local anesthetic agents involves
- (a) Potassium channel opening  
(b) Inhibition of nerve conduction via blockade of sodium channels  
(c) Inhibition of pain receptors  
(d) Hyperpolarization of neurons via enhanced calcium ion influx
94. Eutectic mixture of local anesthetic [EMLA] cream is
- (a) Bupivacaine 2.0% + Prilocaine 2.5%  
(b) Lidocaine 2.5% + Prilocaine 2.5%  
(c) Lidocaine 2.5% + Prilocaine 5%  
(d) Bupivacaine 0.5% + Lidocaine 2.5%
95. Which of the following is the preferred local anesthetic technique for hemophiliacs
- (a) Nerve block (b) Supraperiosteal  
(c) Intraligamentary (d) Field block
96. Which of the following is not a mood stabilizer
- (a) Lithium (b) Valproate  
(c) Carbamazepine (d) Fluoxetine
97. All of the following can result in serotonin syndrome when combined with MAO inhibitors EXCEPT
- (a) Tricyclic antidepressants  
(b) Selective serotonin reuptake inhibitors  
(c) Carbamazepine  
(d) Tyramine containing foods
98. A CNS stimulant usually given in carbonmonoxide poisoning along with Diazepam is
- (a) Doxapram (b) Niketamide  
(c) Picrotoxin (d) Glutethimide
99. Increased suicidal tendency is associated with alteration in the brain levels of
- (a) Noradrenaline (b) Serotonin  
(c) Dopamine (d) GABA
100. It is the combination of metham-phetamine with methylhexanamine or caffeine and known as street drugs
- (a) Mescaline  
(b) Ecstasy  
(c) Yaba  
(d) Lysergic acid diethylamide (LSD)



1. **Circulating testosterone levels in men are elevated during treatment with**
  - (a) Danazol
  - (b) Finasteride
  - (c) Flutamide
  - (d) Ketoconazole
2. **In children, hypothyroidism (underactive thyroid gland) can lead to**
  - (a) Goiter
  - (b) Acromegaly
  - (c) Cretinism
  - (d) Myxedema
3. **Use of GnRH analogue is**
  - (a) Galactogenesis
  - (b) Polycystic Ovarian Disease
  - (c) Contraception
  - (d) None of these
4. **Nasally acting GnRH analogue is**
  - (a) Goserelin
  - (b) Triptorelin
  - (c) Nafarelin
  - (d) Leuprolide
5. **Drug of choice for bleeding esophageal varices is**
  - (a) Ethanolamine oleate
  - (b) Octreotide
  - (c) Propranolol
  - (d) Phytonadione
6. **Bromocriptine is agonist on**
  - (a) 5HT<sub>2A</sub> receptors
  - (b) D<sub>1</sub> receptors
  - (c) D<sub>2</sub> receptors
  - (d) M<sub>1</sub> receptors
7. **Prolactin secretion is inhibited by**
  - (a) Dopamine antagonist
  - (b) GABA
  - (c) Neurophysins
  - (d) Bromocriptine
8. **Which of the following is preferred for infertility treatment of a female with increased prolactin levels**
  - (a) Dopamine
  - (b) Carbidopa
  - (c) Cabergoline
  - (d) Bromocriptine
9. **Increased Insulin secretion from  $\beta$ -cells is done by**
  - (a) Metformin
  - (b) Primidone
  - (c) Repaglinide
  - (d) Pioglitazone
10. **Insulin release due to closure of channels is seen with**
  - (a) Nateglinide
  - (b) Acarbose
  - (c) Exenatide
  - (d) Sitagliptin
11. **New drug for increasing sensitivity of cells to Insulin**
  - (a) Glibenclamide
  - (b) Venlafaxine
  - (c) Pioglitazone
  - (d) Glipizide
12. **Rosiglitazone mechanism of action is**
  - (a) Acts as PPAR $\gamma$  agonist
  - (b) Inhibitor of alpha glucosidase
  - (c) Acts as amylin analogue
  - (d) Acts as dipeptidyl peptidaseinhibitor
13. **Mechanism of action of Voglibose is**
  - (a)  $\beta$ -galactosidase inhibitor
  - (b)  $\beta$ -lactase inhibitor
  - (c)  $\alpha$ -glucosidase inhibitor
  - (d)  $\beta$ -glucosidase inhibitor
14. **Which antidiabetic drug is used both for type-I & II DM**
  - (a) Sulphonylureas
  - (b) Metformin
  - (c) Acarbose
  - (d) Pramlintide
15. **All of the following are used in pituitary dwarfism EXCEPT**
  - (a) Somatrem
  - (b) Somatropin
  - (c) Sermorelin
  - (d) Somatostatin
16. **Which of these drugs is a GnRH antagonist**
  - (a) Nafarelin
  - (b) Buserelin
  - (c) Goserelin
  - (d) Ganirelix
17. **Which of the following is NOT an adverse effect of growth hormone therapy**
  - (a) Carpal tunnel syndrome
  - (b) Hypoglycemia
  - (c) Intracranial hypertension
  - (d) Slipped femoral epiphysis



- Under physiological conditions the rate limiting enzyme in the generation of angiotensin-II is
  - Renin
  - Angiotensin converting enzyme
  - Aminopeptidase
  - Angiotensinase
- Given below are some antihypertensive mechanisms. Drugs which are closely associated with these mechanisms of action are listed in 1 to 4 Match them correctly
 

**Group-I**

  - Ganglion blocking
  - Catecholamine depletor
  - False neurotransmitter
  - Direct action on arterioles

**Group-II**

[P] Methyldopa  
[Q] Hydralazine  
[R] Mecamylamine  
[S] Reserpine

  - 1 - [R], 2 - [P], 3 - [S], 4 - [Q]
  - 1 - [Q], 2 - [S], 3 - [R], 4 - [P]
  - 1 - [P], 2 - [Q], 3 - [S], 4 - [R]
  - 1 - [S], 2 - [R], 3 - [P], 4 - [Q]
- HDL is specifically increased by
 

(a) Lovastatin	(b) Niacin
(c) Gemfibrozil	(d) Probucol
- Which of the following drugs is used for termination as well as prophylaxis of paroxysmal supraventricular tachycardia
 

(a) Digoxin	(b) Verapamil
(c) Propranolol	(d) Quinine
- ARB inhibitor with additional PPAR- $\beta$  agonist activity is
 

(a) Losartan	(b) Candesartan
(c) Telmisartan	(d) Eprosartan
- Captopril pretreatment
  - Inhibits the pressor action of angiotensin I
  - Inhibits the pressor action of angiotensin II
  - Potentiates the depressor action of bradykinin
  - Both (a) and (c)
- Potential of bradykinin appears to play a role in the following effects of angiotensin converting enzyme inhibitors EXCEPT
  - Fall in BP in the short term
  - Fall in BP in the long term
  - Cough in susceptible individuals
  - Angioedema in susceptible individuals
- The following drug has been demonstrated to retard progression of left ventricular dysfunction and prolong survival of congestive heart failure patients
 

(a) Digoxin	(b) Furosemide
(c) Enalapril	(d) Amrinone
- The following is NOT TRUE for Quinidine
  - It blocks myocardial Na<sup>+</sup> channels primarily in the open state
  - It has no effect on myocardial K<sup>+</sup> channels
  - It produces frequency dependent blockade of myocardial Na<sup>+</sup> channels
  - It delays recovery of myocardial Na<sup>+</sup> channels
- Choose the drug that selectively blocks AT<sub>1</sub> subtype of angiotensin receptors
 

(a) Ramipril	(b) Lovastatin
(c) Candesartan	(d) Sumatriptan
- Digoxin toxicity is aggravated by
 

(a) Hypokalemia	(b) Hyperkalemia
(c) Hypercalcemia	(d) Hypermagnesemia
- Mechanism of action of Nitric acid is
 

(a) $\uparrow$ cAMP	(b) $\uparrow$ cGMP
(c) $\uparrow$ PGE <sub>2</sub>	(d) $\uparrow$ PGD <sub>4</sub>

# Respiratory System and Drugs acting on Kidney



- Mucokinetic is a drug which**
  - Reduces airway mucus secretion
  - Increases airway mucus secretion
  - Makes respiratory secretions more watery
  - Stimulates mucociliary activity of bronchial epithelium
- In which part of the respiratory system, gaseous exchange takes place**
  - Alveoli
  - Pharynx
  - Larynx
  - Trachea
- Bromhexine acts by**
  - Inhibiting cough center
  - Irritating gastric mucosa and reflex increasing bronchial secretion
  - Depolymerizing muco polysaccharides present in sputum
  - Desensitizing stretch receptors in the lungs
- Mechanism of action of Theophylline in bronchial asthma is**
  - Phosphodiesterase 4 inhibition
  - Beta 2 agonist
  - Anticholinergic action
  - Inhibition of mucociliary clearance
- To prevent exercise induced bronchial asthma drug used is**
  - Sodium cromoglycate
  - Ipratropium bromide
  - Terbutaline
  - Epinephrine
- Zileuton inhibit the production of leukotrienes by inhibiting the enzymes**
  - Phosphodiesterase 4
  - 5-lipoxygenase inhibitor
  - Phosphodiesterase 3
  - None of these
- Leukotriene receptor antagonist used for bronchial asthma is**
  - Zafirlukast
  - Cromolyn sodium
  - Zileuton
  - Aminophylline
- Which of the following  $\beta_2$  agonist bronchodilator is given by inhalation, and is suitable for both terminating asthma attacks as well as for twice daily prophylaxis**
  - Terbutaline
  - Bambuterol
  - Salmeterol
  - Formoterol
- Which of the following statements is TRUE about involuntary breathing**
  - It is controlled by the bronchioles
  - It is controlled by the pulmonary arterioles
  - It is controlled by the alveolar - capillary network
  - It is controlled by the neurons, located in the medulla and pons
- Which of the following functions by filtering and keeping the mucus and dirt away from our lungs**
  - Cilia
  - Bronchioles
  - Hairs in the lungs
  - All of these
- Which one of the following statements is FALSE about the trachea**
  - Has C-shaped rings
  - It is covered by epiglottis
  - It splits into the right and left lungs
  - None of these
- All are cough centre suppressants; EXCEPT**
  - Salbutamol
  - Dextromethorphan
  - Diphenhydramine
  - Codeine
- Disodium cromoglycate is used by which of the following route**
  - Inhalational
  - Oral
  - I.V.
  - I.M.
- Vasopressin antagonists act on**
  - Cortical collecting tubule
  - Medullary collecting duct
  - Distal convoluted tubule
  - Proximal convoluted tubule

# Antimicrobial Drugs-II



- The following is TRUE of Clofazimine EXCEPT**
  - It is cidal to *Mycobacterium leprae*
  - It has additional anti-inflammatory property
  - It has a very long elimination half-life
  - It discolors skin and sweat
- The polyene antibiotics acts by**
  - Inhibiting fungal cytochrome P450 enzyme
  - Binding to ergosterol and creating micropores in fungal cell membrane
  - Inhibiting fungal DNA synthesis
  - Disorienting microtubules in fungal cells
- Select the antifungal drug which is administered only by the oral route**
  - Amphotericin B
  - Ketoconazole
  - Griseofulvin
  - Tolnaftate
- The most probable mechanism of action of imidazole antifungal drugs is**
  - They bind to ergosterol in fungal cell membrane and make it leaky
  - They interfere with ergosterol synthesis by fungi
  - They interfere with fungal mitosis
  - They block oxidative phosphorylation in fungi
- Which drug same in the chemically and mechanism action of Dapsone**
  - Sulphonamide
  - Tetracycline
  - Cephalosporin
  - Penicillin
- Fluconazole is more effective than Itraconazole in the following systemic fungal disease**
  - Pulmonary histoplasmosis*
  - Cryptococcal meningitis*
  - Nonmeningeal blastomycosis*
  - Disseminated sporotrichosis*
- Mechanism of action of Triazoles**
  - Inhibit ergosterol synthesis
  - Inhibit cell wall synthesis
  - Inhibit nucleic acid synthesis
  - Interferes with mitosis
- Identify the wrongly matched Antifungal Mechanism of action pair from the given options**
  - Ketoconazole - Lanosterol 14 demethylase inhibition
  - Flucytosine - Inhibits microtubule synthesis and thus hinders mitosis
  - Terbinafine - Squalene epoxidase inhibition
  - Amphotericin B - Interferes ergosterol function
- Which of the following drug is used for extraintestinal amoebiasis only**
  - Tetracycline
  - Nitazoxanide
  - Emetine
  - Chloroquine
- Which of following is cause chronic granulomatous infection**
  - Fungal
  - Viral
  - Leprotic
  - Helminthic
- A drug that is very effective in the treatment of *Tinea versicolor* is**
  - Undecylenic acid
  - Clotrimazole (Lotrimin)
  - Acrisorcin (Akrinol)
  - Penicillin G
- Drug of choice for cutaneous larva migrans is**
  - Mebendazole
  - Niridazole
  - Hetrazan
  - Thiabendazole
- Which of the following drugs has both anthelmintic and antiprotozoal activity**
  - Nitazoxanide
  - Emetine
  - Chloroquine
  - Diloxanide furoate

69. The following anthelmintic has been found to be safe during pregnancy
- (a) Thiabendazole (b) Piperazine  
(c) Albendazole (d) Pyrantel pamoate
70. An anthelmintic drug that is effective against blood fluke, liver fluke, lung fluke and cysticercosis is
- (a) Albendazole (b) Praziquantel  
(c) Ivermectin (d) Thiabendazole
71. Incorrect use of Dapsone is
- (a) *Dermatitis herpetiformis*  
(b) *Pneumocystis jirovecii*  
(c) *Toxoplasma gondii*  
(d) *Plasmodium vivax*
72. Which antiviral drug is found to be useful in Parkinsonism
- (a) Abacavir (b) Oseltamivir  
(c) Amantadine (d) Zanamivir
73. The drug that binds to viral envelope glycoprotein preventing the conformational changes required for the fusion of viral and cellular membranes
- (a) Abacavir (b) Indinavir  
(c) Enfuvirtide (d) Oseltamivir
74. Which of the following is a protease inhibitor
- (a) Nevirapine (b) Abacavir  
(c) Saquinavir (d) Enfuvirtide
75. Nevirapine is
- (a) Protease inhibitor  
(b) Nucleoside reverse transcriptase inhibitor  
(c) Non-nucleoside reverse transcriptase inhibitor  
(d) Fusion inhibitor
76. Integrase inhibitors for HIV is
- (a) Raltegravir (b) Indinavir  
(c) Lopinavir (d) Zidovudine
77. An AIDS patient treated with Zidovudine + Lamivudine + Nelfinavir developed Intolerable adverse effects. Then
- (a) Dose of all three drugs should be reduced to half  
(b) All three drugs should be stopped or substituted simultaneously  
(c) The drugs should be stopped one by one  
(d) Two drugs should be stopped while continuing the third
78. ARVs acting against both CCR2 & CCR5 receptors is/ are
- (a) Maraviroc (b) Cenicriviroc  
(c) Aplaviroc (d) Vicriviroc
79. CORRECT statement of Zidovudine in HIV AIDS is
- (a) It is given only by parenteral route  
(b) It can cause bone marrow depression  
(c) It has significant effect on human DNA polymerase  
(d) It is highly nephrotoxic
80. Anti-HIV drug used in hepatitis is
- (a) Tenofovir (b) Stavudine  
(c) Delavirdine (d) Nelfinavir
81. Leakage of  $Ca^{2+}$  produced paralysis, dislodgement, and death
- (a) Levamisole (b) Niclosamide  
(c) Praziquantel (d) Pyrantel pamoate
82. Drug of choice in dermatitis herpetiformis is
- (a) Corticosteroids (b) Colchicine  
(c) Dapsone (d) Chloroquine
83. The following drugs are effective in systemic mycosis EXCEPT
- (a) Terbinafine (b) Itraconazole  
(c) Ketoconazole (d) Fluconazole
84. CCR5 receptor inhibitor is
- (a) Maraviroc (b) Delavirdine  
(c) Emtricitabine (d) Atazanavir
85. Mechanism of action of Stavudine is
- (a) Protease inhibitors  
(b) Reverse transcriptase inhibitors  
(c) Integrase inhibitors  
(d) Fusion inhibitors
86. NNRTI used to prevent vertical transmission is
- (a) Nevirapine (b) Efavirenz  
(c) Delavirdine (d) Etravirine
87. Protease inhibitor to cause asymptomatic hyperbilirubinemia and crystalluria
- (a) Indinavir (b) Saquinavir  
(c) Ritonavir (d) Nelfinavir
88. Fluoroquinolone recommended in treatment of leprosy includes
- (a) Ciprofloxacin (b) Norfloxacin  
(c) Gatifloxacin (d) Ofloxacin

## Introduction of Pharmaceutics, Preformulation Studies, Solution, Suspension, Emulsion, Colloid and Semisolid



1. **The color the Eighth edition of Indian Pharmacopoeia and it is divided in how many volumes**
  - (a) Orange and 3 Volume
  - (b) Blue and 4 Volume
  - (c) Orange and 4 Volume
  - (d) Maroon and 3 Volume
2. **Which of the following is a reversible phenomenon**
  - (a) Coalescence
  - (b) Creaming
  - (c) Breaking
  - (d) All of these
3. **Preformulation studies is about ensuring**
  - (a) Efficacy
  - (b) Stability
  - (c) Safety
  - (d) All of these
4. **Two or more molecules are hydrogen bonded to each other**
  - (a) Crystals
  - (b) Polymorphs
  - (c) Cocrystals
  - (d) All of these
5. **Choose the correct statement regarding the Preformulation studies**
  - I. Study of physical and chemical properties of only active pharmaceutical ingredients
  - II. Preformulation studies is necessary for the safe, effective, and stable dosage form
  - III. Preformulation commences when a newly synthesized drug shows a sufficient pharmacologic promise in animal model

**Choose the correct answer**

  - (a) Option I is correct
  - (b) Option II is correct
  - (c) Both I and II are corrects
  - (d) Both II and III are corrects
6. **The polymorph which can be changed from one form into another by varying temperature or pressure is called as**
  - (a) Enantiotropic polymorph
  - (b) Monotropic polymorph
  - (c) Di-tropic polymorph
  - (d) Polytropic polymorphs
7. **The suspensions having particle size \_\_\_\_\_ are categorized as coarse suspension**
  - (a) Greater than  $\sim 10 \mu\text{m}$
  - (b) Greater than  $\sim 1 \mu\text{m}$
  - (c) Both (a) and (b)
  - (d) None of these
8. **Method of identifying polymorphs where powder sample must be rotated at a special angle with respect to magnetic field**
  - (a) X-ray diffraction
  - (b) FTIR technique
  - (c) NMR technique
  - (d) Dilatometry
9. **A single-phased solid with two distinct components, the host and the guest**
  - (a) Amorphous Compound
  - (b) Clathrates
  - (c) Crystal
  - (d) Solvates
10. **Which is the most appropriate method for determination of presence of impurity in a sample**
  - (a) Boiling point
  - (b) Melting point
  - (c) Solubility
  - (d) Crystallinity
11. **Which of the following is NOT a semisolid dosage form**
  - (a) Paste
  - (b) Creams
  - (c) Ointments
  - (d) Suspensions
12. **Controlled flocculation of particles is obtained by adding**
  - (a) Flocculating agents
  - (b) Suspending agents
  - (c) Wetting agents
  - (d) All of these

# Powder, Tablet, Capsule, Micro-encapsulation and Aerosol



- Micronized powders meant for application in to nasal cavity, ears, vagina are**
  - Bulk powders
  - Dusting powders
  - Insufflations
  - Parenteral powder
- Finely divided solid dosage form of medicament which are inhaled into nostrils for its antiseptic, bronchodilator and decongestion action**
  - Insufflations
  - Snuffs
  - Talc
  - Dusting Powder
- Sterile powder for injection should be reconstituted with**
  - Sterile water for injection
  - Bacteriostatic water for injection
  - Purified water
  - Water for injection
- Size reduction of a material with the addition of another material is called as**
  - Mixing
  - Trituration
  - Levigation
  - Pulverization
- Identify the wrong match**
  - Sta-Rx-1500 - Directly compressible starch
  - Zeparox - Spray dried lactose
  - Explotab - Sodium starch glycolate
  - Emdex - Cross povidone
- Which non-enteric film former is soluble in temp. < 40°C and insoluble at temp. > 45°C & produces the film extremely tacky**
  - Ethyl cellulose
  - Hydroxy propyl cellulose
  - HPMC
  - Povidone
- What is the viscosity limit of the solvents used for film coating**
  - <200 cps
  - > 400cps
  - > 300cps
  - < 100cps
- Which enteric coating polymer is available in ready to use form by the manufacturer**
  - CAP
  - HPMCP
  - Eudragit- L & S
  - PVAP
- Which instrument is NOT associated with Slug formation**
  - Roller compactor
  - Chilsonator
  - Topo granulator
  - Hut's compactor
- During the compression process, if cam track is NOT fitted by mistakenly by the operator, what will be the implication on formulation**
  - No problem to tablet compression
  - There will be problem in hold of both punches
  - No compression is possible at all
  - Formulation is possible but not with desirable compressional characteristics
- Composition of PROSOLVE is**
  - 98% MCC + 2% Aerosil
  - Fructose 95% + 5% corn starch
  - MCC 98% + Mannitol 10%
  - MCC 75% + DCP 25%
- Identify the CORRECT stages of wet granulation at particulate level**
  - Pendular state → Funicular state → Solid bridging → Capillary stage
  - Pendular state → Funicular state → Capillary stage → Solid bridging
  - Funicular state → Pendular state → Solid bridging → Capillary stage
  - Solid bridging → Funicular state → Pendular state → Capillary stage

# Sterilization, Parenteral Products, Ophthalmic Products, CDDS and NDDS



- Read the statements and identify the **CORRECT** combination

  - Time taken to achieve a 1-log (90%) reduction in the number of microorganisms - D value
  - Represents the increase in temperature for steam - F value
  - The total lethality of a heat sterilization - Z value

(a) I and II are correct      (b) I and III are correct  
(c) Only I is correct      (d) Only II is correct
- Parenteral nutrition fluid, Typical volume >3 L are sterilized by the

(a) Steam      (b) Filtration  
(c) Dry heat      (d) Both (a) and (b)
- Surgical catgut are sterilized by

[P] 96% ethanol + 0.002% phenyl mercuric nitrate + formaldehyde in ethanol 24 h before use  
[Q] Toluene at 160 °C for 2 h  
[R]  $\gamma$ -radiation

Choose the **CORRECT** answer

(a) [P] is correct  
(b) [P] and [Q] both are correct  
(c) [Q] and [R] both are correct  
(d) All are correct
- Match the following

  - Dry Heat sterilization
  - Moist Heat
  - Ultraviolet light
  - Ionizing radiations

[P] Used for sterilization of large equipment  
[Q] Oxidization of the proteins  
[R] Destroy microorganisms by stopping reproduction  
[S] Coagulation of proteins

Choose the **CORRECT** answer

(a) 1 - [R], 2 - [S], 3 - [Q], 4 - [P]  
(b) 1 - [S], 2 - [R], 3 - [P], 4 - [Q]  
(c) 1 - [Q], 2 - [S], 3 - [P], 4 - [R]  
(d) 1 - [Q], 2 - [R], 3 - [S], 4 - [P]
- Iontophoresis is used in TDDS as

(a) Physical penetration enhancer  
(b) Chemical penetration enhancer  
(c) Drug carrier  
(d) Polymer matrix
- Spores used as a biological indicator for Moist heat sterilization

(a) Bacillus atrophaeus  
(b) Geobacillus stearothermophilus  
(c) Bacillus atrophaeus  
(d) Bacillus pumilus
- Which is **NOT** a limitation of  $\gamma$ -radiation

(a) Water radiolysis: damage to the product  
(b) Hardness and brittleness properties of metals may change  
(c) Discoloration of some glasses and plastics  
(d) Decontamination required after the process
- It is generated by the application of a strong magnetic field to a compound in gaseous phase (e.g.  $H_2O_2$ )

(a) Ultrahigh Pressure  
(b) Cartridge-type filters  
(c) High-intensity Light Pulse (HILP)  
(d) Gas Plasma
- A characterized preparation of a specific microorganism that provides a defined and stable resistance to a specific sterilization process.

(a) Biological Indicators  
(b) Ultrahigh Pressure  
(c) Gas Plasma  
(d) Chemical indicator



1. Choose the mill that DOES NOT involve shearing mechanism of size reduction
  - (a) Colloid mill
  - (b) Edge runner mill
  - (c) End runner mill
  - (d) Hammer mill
2. Choose the theory that explains the size reduction of large particles by compression mode
  - (a) Bond's theory
  - (b) Kick's theory
  - (c) Rittinger's theory
  - (d) Griffith theory
3. What is the operating mode of size reduction in a roller mill
  - (a) Attrition
  - (b) Compression
  - (c) Impact
  - (d) Tearing
4. If a given material is fibrous in nature, which mill is preferred
  - (a) Ball mill
  - (b) Colloid mill
  - (c) Fluid energy mill
  - (d) Rotary cutter mill
5. Which one of these is NOT a facility in colloid mill
  - (a) Clearance between stator and rotor
  - (b) Dry grinding of feed
  - (c) Recirculation of milled product
  - (d) Water jacket for reducing the heat
6. Which one of the following sequences is involved in the mechanism of size reduction
  - (a) Chipping and cracks
  - (b) Chipping and flaws
  - (c) Chipping, flaws and cracks
  - (d) Chipping, flaws, cracks and cleavage
7. The energy used in crack propagation is proportional to the new crack length produced. This is the statement of
  - (a) Bond's theory
  - (b) Kick's theory
  - (c) Rittinger's theory
  - (d) Griffith theory
8. Sulphonamides, vitamins and antibiotics can be milled through
  - (a) Ball mill
  - (b) Colloid mill
  - (c) Fluid energy mill
  - (d) Rotary cutter mill
9. The process involves breaking down of material by rubbing action between two surfaces is known as
  - (a) Attrition
  - (b) Compression
  - (c) Impact
  - (d) Tearing
10. Which is the mill preferred for wet grinding
  - (a) Colloid mill
  - (b) Hammer mill
  - (c) Roller mill
  - (d) Rotary cutter mill
11. Which of the following gives direct reading of flow of fluid
  - (a) Orifice meter
  - (b) Pitot tube
  - (c) Rota meter
  - (d) Venturi meter
12. The velocity distribution of a fluid in a pipe is parabolic for one of the following types of flow
  - (a) Non uniform laminar flow
  - (b) Non uniform turbulent flow
  - (c) Uniform laminar flow
  - (d) Uniform turbulent flow
13. Displacement meter is used to measure one of the following
  - (a) Head loss of liquid
  - (b) Velocity of liquid
  - (c) Volume of liquid
  - (d) Weight of liquid
14. Bernoulli's theorem is in accordance with conservation of
  - (a) Mass
  - (b) Velocity
  - (c) Volume
  - (d) Energy
15. Which of the following can be considered as an ideal fluid
  - (a) Compressible fluid
  - (b) Non-viscous fluid
  - (c) Plastic fluid
  - (d) Viscous fluid
16. Reynold's number is indicative of the
  - (a) Fluid flow type
  - (b) Frictional factor
  - (c) Pumping rate
  - (d) Roughness of the pipe
17. How many liquids are used in differential manometer
  - (a) Four
  - (b) One
  - (c) Three
  - (d) Two



- In the ..... state, the molecules are mobile in two directions and in the ..... state, the molecules are mobile in three directions
  - Gases, Amorphous
  - Smectic, Nematic
  - Amorphous, Mesophase
  - Nematic, Smectic
- Dipole ..... Induced Dipole Interaction between the molecules is also called as forces
  - Covalent
  - Debye
  - London
  - All of these
- Three types of van der Waals forces are
 

[P] London	[Q] Covalent
[R] Keesom	[S] Debye

  - [Q] and [R]
  - [P], [Q] and [R]
  - [P] [R] and [S]
  - [Q] and [S]
- All three types of Van der Waals forces have approximately bond energies in range ..... kcal/mole
  - 11 - 100
  - 15-50
  - 19 - 80
  - 1 - 10
- The critical temperature and critical pressure of water is
  - 100°C and 78 atm
  - 1000°C and 340 atm
  - 500°C and 756 atm
  - 374°C and 218 atm
- In the formulation development of emulsions and suspensions, what type of diameter is important
  - Length number
  - Projected
  - Sieve
  - Stokes
- Stoke's law CANNOT be used, if Reynolds number is more than
  - 0.2
  - 1.8
  - 9.0
  - 18.0
- Andreasen apparatus consists of
  - Balance
  - Electrodes
  - Hydrometer
  - Flask
- Porosity of a porous powder is defined as
  - Bulk volume/Void volume
  - Void volume/Bulk volume
  - Void volume/True volume
  - True volume/Bulk volume
- Which equation is used to convert number distribution to weight distribution
  - Noyes Whitney equation
  - Hatch Choate equation
  - Henderson Hasselbalch equation
  - Higuchi equation
- Hausner Ratio is
  - Tapped density/Bulk density
  - Bulk density/Tapped density
  - Bulk volume/Void volume
  - Void volume/Bulk volume
- The distance between two tangents on opposite sides of the particle parallel to some fixed direction
  - Feret's diameter
  - Martin diameter
  - Projected diameter
  - Stoke's diameter
- ..... is the diameter of a sphere having, the same observed area as the particle when viewed normal to its most stable plane
  - The surface diameter (ds)
  - The projected diameter (dp)
  - The volume diameter (dv)
  - The Stokes diameter (dst)
- Sieving method uses a series of standard sieves calibrated by the
  - NBS
  - WHO
  - USFDA
  - CDSCO
- An instrument used to calculate the surface area of particles is
  - Quantasorb QS-16
  - Quanta-adsorb QD-16
  - Boyton apparatus
  - Quanta-apparatus

# Dispensing and Hospital Pharmacy



- Instructions to pharmacist were written in which part of the prescription**
  - Inscription
  - Superscription
  - Signatura
  - Subscription
- In a prescription what is 'bis terve in die' (b.t.i.d)**
  - Best taken in day time
  - Taken at bed time
  - Take tablet with breakfast
  - Two or three times a day
- In a prescription order signatura denotes**
  - Guideline to the patient
  - Guideline to pharmacist
  - Address of patient
  - Address of prescriber
- Meaning of post cibos**
  - Before meal
  - After meal
  - Between meals
  - Any time
- Meaning of the Latin term 'sumendus' is**
  - To be taken
  - You take
  - To be used
  - To be applied
- In a prescription 'vespere' mean**
  - Talk in whisper
  - Russel's viper
  - In the evening
  - At the morning
- 1 pound is equal to**
  - 10 ounces
  - 12 ounces
  - 14 ounces
  - 16 ounces
- Match the following equivalent according to Domestic measures**

Measure	Equivalent
1. 1 teaspoon ful	[P] 8 ml
2. 1 table spoon ful	[Q] 15 ml
3. 1 dessert spoon ful	[R] 60 ml
4. 1 wire glass ful	[S] 5 ml

  - 1 - [S], 2 - [R], 3 - [Q], 4 - [P]
  - 1 - [S], 2 - [Q], 3 - [P], 4 - [R]
  - 1 - [P], 2 - [Q], 3 - [R], 4 - [S]
  - 1 - [Q], 2 - [S], 3 - [P], 4 - [R]
- 1 table spoonful =**
  - 4 mL
  - 8 mL
  - 15 mL
  - 20 mL
- Convert 100 °C into °F**
  - 120°F
  - 180°F
  - 200°F
  - 212°F
- 2 fluid drachm is equal to**
  - 2 ml
  - 4 ml
  - 6 ml
  - 8 ml
- Match the following equivalents according to apothecary system of measures**

Measure	Equivalent
1. 1 Pound	[P] 8 drams
2. 1 Srupa	[Q] 3 Scrupe
3. 1 Dram	[R] 12 ounce
4. 1 ounce	[S] 20 grains

  - 1 - [R], 2 - [S], 3 - [Q], 4 - [P]
  - 1 - [P], 2 - [Q], 3 - [R], 4 - [S]
  - 1 - [S], 2 - [P], 3 - [Q], 4 - [R]
  - 1 - [R], 2 - [P], 3 - [S], 4 - [Q]
- One kilo gram is equal to**
  - 2.2 pound
  - 3.0 pound
  - 3.3 pound
  - 4.4 pound
- Catzel's rule is**
  - S.A of child (m<sup>2</sup>) / 1.73 (m<sup>2</sup>) × adult dose
  - Child weight in kg / 70 × adult dose
  - Age in years / age in years + 12 × adult dose
  - Age in years / 20 × adult dose
- Using Clark's Rule, calculate the dose for a child weighing 30 lbs if the adult dose is 500 mg**
  - 50 mg
  - 100 mg
  - 150 mg
  - 200 mg
- For calculating child dose "dilling formula" is**
  - $\frac{\text{age}}{\text{age} + 12} \times \text{Adult dose}$
  - $\frac{\text{age}}{\text{age} + 20} \times \text{Adult dose}$

37. 100° proof spirit contains  
 [P] 50% by volume  
 [Q] 42.9% by weight  
 [R] 200% by volume  
 [S] 242.9% by weight  
 (a) [P] and [Q] (b) [Q] and [R]  
 (c) [R] and [S] (d) [P] and [S]
38. What would be the concentration of anhydrous dextrose needed to produce a solution isotonic with blood  
 (a) 2% (b) 5.4%  
 (c) 0.9% (d) 10%
39. How many grams of ammonium hydroxide (10% w/w can be prepared from 1 pound of 37% w/w strong solution)  
 (a) 167 (b) 197  
 (c) 1370 (d) 1678
40. Find the proportion of dextrose needed to form solution iso-osmotic with blood plasma (mole. wt. of dextrose =180)  
 (a) 44 gm (b) 5.4 gm  
 (c) 54 gm (d) 34 gm
41. Calculate the quantity of sodium chloride required to prepare 1000 ml to 1: 800  
 (a) 21.37 (b) 21.78  
 (c) 21.73 (d) 21.87
42. Calculate the volume of 90% of alcohol required to produce 1 pint of 40% alcohol is  
 (a) 222.22 (b) 277.77  
 (c) 255.55 (d) 233.33
43. How many mL of 10% boric acid solution can be prepared from 2 ounce of boric acid powder  
 (a) 600 (b) 650  
 (c) 700 (d) 750
44. Find the % strength of 50% alcohol  
 (a) 12.25 (b) 13.25  
 (c) 12.52 (d) 13.52
45. Calculate the molarity of solution prepared from 23.7 g of NaCl in 100 ml of water  
 (a) 4.06 (b) 0.4  
 (c) 0.04 (d) 0.004
46. Liquefaction is the example of which incompatibility  
 (a) Immediate (b) Delayed  
 (c) Instantaneous (d) Both (a) and (b)
47. Crystallization is an example of which incompatibility  
 (a) Immediate (b) Delayed  
 (c) Instantaneous (d) Both (a) and (b)
48. Which incompatibility may be corrected by changing the order of mixing  
 (a) Delayed (b) Immediate  
 (c) Tolerated (d) Adjusted
49. When substances with low melting points such as camphor are triturated together a liquid mixture is formed the phenomenon is called \_\_\_\_\_  
 (a) Liquefaction  
 (b) Insolubility  
 (c) Herapath formation  
 (d) Eutectic mixture formation
50. A combination of aspirin and paracetamol increases the analgesic activity this is  
 (a) Synergism (b) Antagonism  
 (c) Negative (d) Both (a) and (b)
51. Primary hospital is a hospital that contains  
 (a) Less than 100 beds  
 (b) More than 100 beds  
 (c) Less than 50 beds  
 (d) More than 500 beds
52. Satellite pharmacy is located at  
 (a) Each floor  
 (b) For two floor one pharmacy  
 (c) Only one in a hospital  
 (d) Depends on hospital type
53. Concept behind changing the role of hospital from indoor care to outpatient care includes all EXCEPT  
 (a) Rising cost of hospital care  
 (b) Shortage of hospital bed  
 (c) Economic importance  
 (d) Increase of hospital beds
54. "Shopping Window" of a hospital is  
 (a) Operation Theatre (b) ICU  
 (c) OPD (d) Cafeteria Services
55. The word "Hospital" originated from \_\_\_\_\_ Latin word  
 (a) Asclepieia (b) Hospitale  
 (c) Hospice (d) None of these
56. For 200 beds hospital number of pharmacists required are \_\_\_\_\_  
 (a) 8 (b) 10  
 (c) 15 (d) 5



11. Which of the following drugs are prohibited to be imported  
 (a) Spurious drugs (b) Toilet preparation  
 (c) Schedule H drugs (d) All of these
12. Application for the issue of permit to import small quantities of drugs for personal use shall be made in  
 (a) Form 12 (b) Form 12 A  
 (c) Form 12 AA (d) Form 12 B
13. Drugs inspector shall be deemed to be public servant under section  
 (a) 12 of IPC (b) 21 of IPC  
 (c) 42 of IPC (d) 48 of IPC
14. Which of the following diseases (which a drug may NOT purport to prevent or cure) is not covered under Schedule J to the drugs and cosmetics Rules, 1945  
 (a) Diabetes (b) Obesity  
 (c) Hypertension (d) Parkinsonism
15. No Colour is Permitted to be used in drugs EXCEPT mentioned in the drugs and Cosmetics Rules, 1945 under  
 (a) Rule 126 (b) Rule 127  
 (c) Rule 128 (d) Rule 129
16. Every drugs manufacturer shall maintain manufacturing and analytical record to the drugs Cosmetics Rules, 1945 as per  
 (a) Schedule M (b) Schedule U  
 (c) Schedule V (d) Schedule T
17. The area of the section to be used as dispensing department shall be not less than  
 (a) 4 Sq. meter (b) 6 Sq. meter  
 (c) 10 Sq. meter (d) 8 Sq. meter
18. Talisman, Mantra and Kavacha come under  
 (a) Misbranded drugs  
 (b) Magic remedies  
 (c) Spurious drugs  
 (d) Poisonous drugs
19. Which of the following disease is NOT listed in the schedule 3 (d) of Drugs and Magic Remedies Act 1954  
 (a) Diarrhoea (b) Deafness  
 (c) Diabetes (d) Dropsy
20. As per the Drugs and magic remedies act. A person on contravention of the provision of the act may be punishable with imprisonment of ——— months on first conviction any of  
 (a) 3 (b) 12  
 (c) 6 (d) 24
21. Within how many days the opposite party has to answer after they are informed about the complaint  
 (a) 30 (b) 5  
 (c) 20 (d) 15
22. Match the following from numbers with their respective contents [P] to [S]  
 1. Form No. 12 B  
 2. Form No. 10 A  
 3. Form No. 20 A  
 [P] Licence granted for the drugs specified in the scheduled X  
 [Q] Permit for the import of small quantities of drugs for personal use  
 [R] License for other than those specified in Schedules C, C1 and X drugs  
 [S] License for restricted sale of drugs  
 (a) 1-[P], 2- [Q], 3-[S]  
 (b) 1-[R], 2- [P], 3-[S]  
 (c) 1-[Q], 2-[P], 3- [R]  
 (d) 1-[S], 2-[Q], 3- [P]
23. Match the following constituents of State Pharmacy Council with their respective numbers [P] to [S]  
 1. Elected members  
 2. Nominated member  
 3. Ex-Office members  
 [P] 5-members with 3 persons having pharmacy qualification  
 [Q] Govt. Analyst of the state, one member from Medical Council of India and officer-in charge of Drug and Cosmetic Act, 1940  
 [R] Six registered pharmacists  
 [S] One member from Indian Pharmaceutical Association  
 (a) 1 - [R], 2 - [P], 3 - [Q]  
 (b) 1 - [P], 2 - [Q], 3 - [R]  
 (c) 1 - [P], 2 - [Q], 3 - [S]  
 (d) 1 - [S], 2 - [R], 3 - [Q]



1. **Choose the correct option, EXCEPT**
  - (a) Diffusion decreases as the viscosity of dissolution medium increases
  - (b) Greater the surface area faster the drug dissolution
  - (c) Greater the concentration gradient, lesser the diffusion
  - (d) More the thickness, lesser the dissolution
2. **True for strongest base (pKa > 11.0)**
  - (a) Unionized at all pH values
  - (b) Better absorbed from relatively alkaline conditions (pKa 5 to 10)
  - (c) Ionized in the entire pH range of GIT
  - (d) None of these
3. **Which of the following is NOT TRUE for LIPINSKI rule**
  - (a) Lipophilicity should be less or equal to 5
  - (b) Number of H-bond acceptors should be less or equal to 10
  - (c) Number of H-bond donor should be more or equal to 10
  - (d) Molecular weight of drug should be less or equal to 500
4. **Choose the CORRECT option**

**[P] Tissue drug Binding is a strong and covalent bond thus reversible**

**[Q] Tissue drug Binding is a strong and covalent bond thus irreversible**

**[R] Drug that bind to extravascular tissue have large  $V_d$**

**[S] Tissue drug Binding is generally noncompetitive**

  - (a) [P] is true, [Q], [R] and [S] are false
  - (b) [Q] is true, [P], [R] and [S] are false
  - (c) [P] is false, [Q], [R] and [S] are true
  - (d) Only [P] is true
5. **Match the following Drug Influence of food on drug absorption**

1. Aspirin	[P] Decreased
2. Erythromycin	[Q] Delayed
3. **Griseofulvin** [R] Unaffected
4. **Methyldopa** [S] Increased
  - (a) 1 - [Q], 2 - [P], 3 - [S], 4 - [R]
  - (b) 1 - [P], 2 - [Q], 3 - [S], 4 - [R]
  - (c) 1 - [P], 2 - [Q], 3 - [R], 4 - [S]
  - (d) 1 - [P], 2 - [R], 3 - [S], 4 - [Q]
6. **The CORRECT decreasing order of perfusion rate is**
  - (a) Lung > Fat > Muscle > Liver
  - (b) Lung > Liver > Muscle > Bone
  - (c) Muscle > Liver > Lung > Bone
  - (d) Lung > Muscle > Fat > Liver
7. **Total body water is**
  - (a) Blood + Extracellular fluid
  - (b) Intracellular fluid + Extracellular fluid
  - (c) Blood + Intracellular fluid
  - (d) Blood + Intracellular fluid + Extracellular fluid
8. **Which marker is used for measuring the volume of plasma**

(a) Deuterium oxide	(b) Mannitol
(c) Evan blue	(d) Inulin
9. **The molecular weight of Haemoglobin is**

(a) 44,000	(b) 59,000
(c) 64,500	(d) 65,000
10. **Match the following Conjugation reaction**
  1. Glucuronidation
  2. Sulphation
  3. Amino acid
  4. Acetylation

**Activated intermediate**

**[P] PAPS**

**[Q] UDPGA**

**[R] Acetyl CoA conjugation**

**[S] Acyl CoA**

  - (a) 1 - [P], 2 - [Q], 3 - [R], 4 - [S]
  - (b) 1 - [Q], 2 - [P], 3 - [S], 4 - [R]
  - (c) 1 - [P], 2 - [Q], 3 - [S], 4 - [R]
  - (d) 1 - [Q], 2 - [P], 3 - [R], 4 - [S]

# Medicinal Chemistry-I

## [ANS, PNS and CNS]



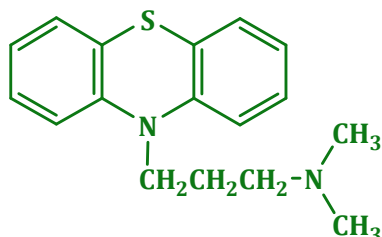
### 1. Naphazoline is

- (a) Is used for relief of nasal congestion
- (b) Exhibits peripheral beta-adrenoceptor stimulant
- (c) Is a pyrazoline derivative
- (d) Chemically, is 1H Imidazole, 3,4 dihydro- 2 - (3-naphthylmethyl) monohydrochloride

### 2. Barbituric acid is prepared by the condensation of

- (a) Malonic acid and urea
- (b) Diethyl malonate and urea
- (c) Malonic acid and methyl urea
- (d) Diethyl malonate and methyl urea

### 3. Identify the given structure

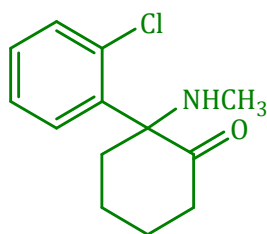


- (a) Promazine
- (b) Chlorpromazine
- (c) Triflupromazine
- (d) Haloperidol

### 4. In SAR of benzodiazepines placement of substituents on the phenyl ring of anilide with a methyl group in the 2 (or) 2 and 6-position

- (a) Increases the activity
- (b) Decreases the activity
- (c) No effect on activity
- (d) Causes diabetes

### 5. Given structure is generally



- (a) Ketamine
- (b) Halothane
- (c) Fentanyl
- (d) Thiopentone

### 6. Ring present in Pancuronium

- (a) Pyrrole
- (b) Pyridine
- (c) Pyrimidine
- (d) Piperidine

### 7. 2-diethylaminoethyl ester of 4 aminobenzoic acid is

- (a) Procaine
- (b) Cocaine
- (c) Benzocaine
- (d) Tetracaine

### 8. Amine present in Amitriptyline is

- (a) Primary
- (b) Secondary
- (c) Tertiary
- (d) Quaternary

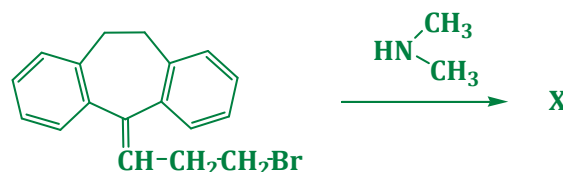
### 9. Mephenesin generally undergoes metabolism by

- (a) Oxidation
- (b) Reduction
- (c) Hydrolysis
- (d) Acetylation

### 10. Lidocaine generally metabolizes by

- (a) N-de-ethylation
- (b) N-demethylation
- (c) Sulfate conjugation
- (d) Hydrolysis

### 11. In the given reaction X is

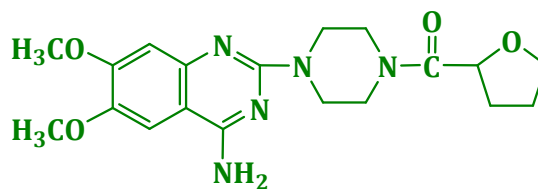


- (a) Amitriptyline
- (b) Trazodone
- (c) Venlafaxine
- (d) Imipramine

### 12. Ring present in Tolazoline is

- (a) Pyrrole
- (b) Pyridine
- (c) Pyrimidine
- (d) Imidazole

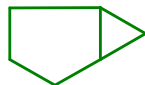
### 13. Identify the given structure



- (a) Terazosin
- (b) Prazosin
- (c) Alfuzosin
- (d) Doxazosin

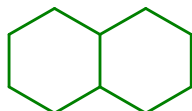


## 1. Name of the compound



- (a) Bicyclo[3,1,0]hexane  
 (b) Bicyclo[2,1,0]hexane  
 (c) Bicyclo[3,2,0]hexane  
 (d) Bicyclo[3,1,1]hexane

## 2. Name the compound



- (a) Bicyclo[4,3,0]decane  
 (b) Bicyclo[3,4,0]decane  
 (c) Bicyclo[2,4,0]decane  
 (d) Bicyclo[4,4,0]decane

## 3. Name the following compound



- (a) Bicyclo[2,2,0]octane  
 (b) Bicyclo[2,2,2]octane  
 (c) Bicyclo[3,2,0]octane  
 (d) Bicyclo[2,0,0]octane

## 4. In which among the following alkane, a carbon atom is displaced so as to form a compactly structure with the resemblance of a butterfly wing

- (a) Cyclopropane      (b) Cyclobutane  
 (c) Cyclopentane      (d) Cyclohexane

## 5. Identify the smallest alkane which can form a ring structure (cycloalkane)

- (a) Cyclomethane      (b) Methane  
 (c) Cyclopropane      (d) Propane

## 6. Dienes are the name given to compounds with

- (a) Exactly a double bond

- (b) Exactly a triple bond  
 (c) Exactly two double bond  
 (d) More than two double bond

## 7. Triple bond with two carbon atoms on either side is called \_\_\_\_\_

- (a) Methenyl group      (b) Ethynyl group  
 (c) Propionyl group      (d) Propargyl group

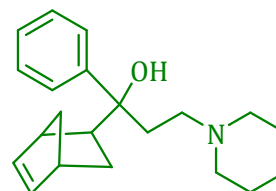
## 8. The substituent groups that are commonly associated with benzene ring are \_\_\_\_\_

- (a) Phenyl and benzyl  
 (b) Propyl and phenyl  
 (c) Methyl and benzyl  
 (d) Butyl and phenyl

## 9. Which of the following is commonly known as decalin

- (a) Bicyclo[4,2,2]decane  
 (b) Bicyclo[4,4,2]decane  
 (c) Bicyclo[4,4,4]decane  
 (d) Bicyclo[4,4,0]decane

## 10. Name the following compound



- (a) Morphine      (b) Biperiden  
 (c) Hexanamine      (d) Pentazocine

## 11. Which amino acid contain S-methyl group

- (a) Cysteine      (b) Threonine  
 (c) Methionine      (d) Serine

## 12. Indole and imidazole rings are present in which two amino acids

- (a) Tyrosine and Tryptophan  
 (b) Histidine and Tryptophan  
 (c) Tryptophan and Histidine  
 (d) Tryptophan and Tyrosine



- An intensive property does not depend upon**
  - Nature of the substance
  - Quantity of matter
  - External temperature
  - Atmospheric pressure
- Which of the following sets of properties constitute intensive properties**
  - Temperature, Pressure and Volume
  - Mass, Density and Volume
  - Density, Pressure and Temperature
  - Internal energy, Density and Pressure
- An isochoric process takes place at constant**
  - Volume
  - Temperature
  - Pressure
  - Concentration
- The first law of thermodynamics is**
  - The total energy of an isolated system remains constant though it may change from one form to another
  - Total energy of a system and surroundings remains constant
  - Whenever energy of one type disappears equivalent amount of another type is produced
  - All of these
- The mathematical relation for the first law of thermodynamics is**
  - $\Delta E = q - w$
  - $\Delta E = 0$  for a cyclic process
  - $\Delta E = q$  for an isochoric process
  - All of these
- Which of the following properties is not a function of state**
  - Concentration
  - Internal energy
  - Enthalpy
  - Entropy
- Which of the following relations is true**
  - $C_p > C_v$
  - $C_v > C_p$
  - $C_p = C_v$
  - $C_p = C_v = 0$
- Heat capacity at constant volume is the change in**
  - Internal energy with temperature at constant volume
  - Internal energy with temperature at constant pressure
  - Enthalpy with temperature at constant volume
  - Enthalpy with temperature at constant pressure
- The phenomenon of lowering of temperature when a gas is made to expand adiabatically from a region of high pressure into a region of low pressure is known as**
  - First law of thermodynamics
  - Second law of thermodynamics
  - Le Chatelier's principle
  - Joule Thomson effect
- The enthalpy change of a reaction is independent of**
  - State of the reactants and products
  - Nature of the reactants and products
  - Initial and final enthalpy change of the reaction
  - Different intermediate reaction
- In an exothermic reaction, the internal energy of the products is \_\_\_\_\_ internal energy of the reactants**
  - Greater than
  - Lesser than
  - Equal to
  - None of these
- The enthalpy of a system is defined by the relation**
  - $H = E + P V$
  - $H = E - P V$
  - $E = H + P V$
  - $P V + E - H$
- By convention, the standard heat of formation of all elements is assumed to be**
  - Zero
  - Negative
  - Positive
  - Infinity
- The bond energy depends upon**
  - Size of the atom
  - Electronegativity
  - Bond length
  - All of these

47. The spike-like projections on the viral capsid are known as  
 (a) Viriod (b) Proteomes  
 (c) Peplomers (d) Capsomeres
48. Viral genome inserted to the bacterial DNA is termed as  
 (a) Lysogeny (b) Prophage  
 (c) Lytic cycle (d) Virulent phage
49. The pathogenic bacteria do not last long at a pH  
 (a) >11 (b) < 11 (c) < 8 (d) > 8
50. What is the dose of lime required in the excess lime treatment  
 (a) 10-20 ppm (b) 0-10 ppm  
 (c) 5-10 ppm (d) 5-20 ppm
51. Antibodies synthesized first by the human foetus are  
 (a) IgM (b) IgA (c) IgG (d) IgE
52. Correct sequence for membrane filtration technique can be  
 I. Washing of membranes for removing traces of antibiotics  
 II. Transfer of microorganism to culture media  
 III. Passing of formulations from membrane filter  
 IV. Identification tests of microbes  
 (a) III→I→II→IV (b) II→II→I→IV  
 (c) I→ii→iii→iv (d) I→iii→ii→iv
53. Which of the following statements are correct related with the pyrogen test  
 I. 3 rabbits should be used the first time testing of product.  
 II. Same rabbits can be used once in a week for pyrogen testing  
 III. test is passed if the sum of responses of three rabbits is not more than 5°C  
 IV. If test fails, in the second trial, 5 rabbits should be used for pyrogen testing  
 (a) II, III (b) I, IV (c) II, IV (d) I, II
54. Which of the following substances is used as an inactivating agent for "amino glycosides"  
 (a) Acetyl transferase (b) Penicillinase  
 (c) Penicillamine (d) Acetyl CoA
55. An example of natural passive immunity is  
 (a) Transfer of antibodies from mother to baby  
 (b) Providing ATS to an individual  
 (c) Exposure of infant to tuberculosis  
 (d) Providing Toxoid to an individual
56. Chloro cresol is classified under which classification of antiseptic and disinfectant  
 (a) Phenols and related compounds  
 (b) Alcohols and related compounds  
 (c) Aldehyde  
 (d) Halophors
57. It is defined as a chemical agent capable of killing bacteria, but not necessarily bacteria is prevented  
 (a) Bacteriostatic (b) Bactericidal  
 (c) Both (a) and (b) (d) None of these
58. Invitro antibacterial screening used bactericidal  
 (a) Phenol coefficient test  
 (b) Cup plate method  
 (c) Ditch plate method  
 (d) None of these
59. Rideal walker test and chick martin test methods are used under  
 (a) Cup plate method  
 (b) Ditch plate method  
 (c) Phenol coefficient test  
 (d) None of these
60. Efficiency of HEPA filter is \_\_\_\_ %  
 (a) 99.97 (b) 88.87  
 (c) 90.97 (d) 97.97
61. DOP test is used for validation of  
 (a) Membrane filter (b) HEPA filter  
 (c) Aseptic room (d) Autoclave
62. Air velocity of HEPA filter is  
 (a)  $100 \pm 10$  m/sec (b)  $1000 \pm 20$  m/sec  
 (c)  $90 \pm 20$  feet/min (d)  $120 \pm 10$  feet/min
63. Dust particles removed by HEPA filter is  
 (a)  $0.05 \mu\text{m}$  (b)  $0.2 \mu\text{m}$   
 (c)  $0.03 \mu\text{m}$  (d)  $0.3 \mu\text{m}$
64. Class 100 is stand for  
 (a) Clean room is used in semiconductor industry  
 (b) Clean room is used in microelectronic industry  
 (c) Clean room is used in aseptic area in pharma industry  
 (d) Clean room is used for hydraulic equipments
65. Louis Pasteur is associated with all EXCEPT  
 (a) Vaccination of small pox  
 (b) Germ theory  
 (c) Pasteurization  
 (d) Vaccination of rabies



- Using normality equation normality of an unknown solute is determined by using the relation
  - $N_1 V_1 V_2 = N_2$
  - $V_1 V_2 = N_1 N_2$
  - $N_1 / V_2 = V_1 / N_2$
  - $N_2 = N_1 V_1 / V_2$
- Those substances which are available in pure form with definite chemical composition are called as
  - Primary Standard
  - Secondary Standard
  - Pure Compound
  - Impure Compound
- Which of the following is used as an indicator in the titration of a weak acid and a strong base
  - Bromothymol blue (6 to 7.5)
  - Methyl orange (3 to 4)
  - Methyl red (5 to 6)
  - Phenolphthalein (8 to 9.6)
- Resonance Theory is
  - The same in color of the same compound in acid and base medium is apparently due to difference in structure of two forms.
  - The difference in color of the same compound in acid and base medium is apparently due to same in structure of two forms.
  - The difference in color of the different compound in acid and base medium is apparently due to difference in structure of two forms.
  - The difference in color of the same compound in acid and base medium is apparently due to difference in structure of two forms.
- Diazepam is Assay by which method
  - Acid base titration
  - Non aqueous titration
  - Karl Fischer titration
  - NMR
- Which is example of aprotic solvent
  - $H_2SO_4$
  - KOH
  - HAC
  - Benzene
- Which Titration is known as the Argentometric titration
  - Acid base Titration
  - Diazotization Titration
  - Gravimetric Titration
  - Precipitation Titration
- The end point of complexometric titrations is shown by means of
  - Colorimetry
  - pH meter
  - pM Indicator
  - Acid base titration
- Which is Example of Demasking agents
  - KCN
  - KI
  - $[Zn(CN)_4]^{2-}$
  - $NH_4F$
- Erichrome black -T used indicator in which type of titration
  - NMR
  - Non aqueous titration
  - Acid base titration
  - Complexometric titration
- With which of the following analytical methods is it possible to have the greatest precision
  - Volumetric titration
  - Linear calibration
  - Gravimetric
  - Spectrophotometric
- When foreign ions get trapped in growing crystal is called
  - Inclusion
  - Mechanical Entrapment
  - Surface adsorption
  - Occlusion
- The closeness of agreement between a series of measurement obtained from multiple sampling of the homogenous sample is
  - Accuracy
  - Precision
  - Ruggedness
  - Robustness

# Instrumental Analysis



- Which of the following is the correct expression for nernst equation
  - $E = E^\circ + 0.0692 / n \log C$
  - $E = E^\circ + 0.0592 / C \log n$
  - $E = E^\circ + 0.0592 / n \log C$
  - $E = E^\circ + 0.0592 / k \log C$
- Which of the following electrodes can be used over wide pH range
  - Hydrogen electrode
  - Glass electrode
  - Saturated calomel electrode
  - Silver- Silver chloride electrode
- Which of the following drugs cannot be used in diazotization titrations
  - Sulfa drugs
  - Alkaloids
  - Amines
  - Glycosides
- Biamperometry titrations are used to determine
  - Alcohol
  - Water
  - Ether
  - Glycol
- If temperature is increased, what happens to fluorescence intensity
  - Decrease in fluorescence intensity
  - Increase in fluorescence intensity
  - Both (a) and (b)
  - None of these
- The amperometric detector is used in which type of chromatography
  - HPLC
  - GC
  - Paper chromatography
  - TLC
- Which current is measured in amperometric titrations
  - Diffusion current
  - Kinetic current
  - Limiting current
  - Residual current
- Coulometric method of analysis is used to measure
  - Concentration of electrolyte
  - Nature of material
  - Size of material
  - Quantity of electrolyte
- The small electrode in polarography is called as
  - Electro chemical electrode
  - Dropping silicon electrode
  - Dropping mercury electrode
  - Dropping electrode
- Shunt is used for
  - Adjusting sensitivity of potention meter
  - Adjusting sensitivity of galvano meter
  - To record current Vs Voltage graphs
  - None of these
- The supporting electrolyte will carry which type of current
  - Migration current
  - Residual current
  - Diffusion current
  - Kinetic current
- Which of the following is correct expression for ilkovic expression
  - $i_d = 607nD^{1/4} m^{2/3} t^{1/6}$
  - $i_d = 607nCDV^{1/2} m^{2/3} t^{1/6}$
  - $i_d = 607nCD^{2/3} m^{1/2} t^{1/6}$
  - $i_d = 609nCD^{1/2} m^{2/3} t^{1/6}$
- Half wave potential is the characteristic property of
  - Current
  - Voltage
  - Electrolyte solution
  - None of these
- If oxygen is present in electrolyte solution, it is removed by using which gas
  - He
  - $H_2$
  - Ar
  - $N_2$
- The size of the capillary in the DME is
  - 20-30 g
  - 20-50 g
  - 20-40 g
  - 10-40 g

20. The alkaline part of medicinally active *Veratrum alkaloid* is
- Poly hydroxylated C<sub>21</sub>N fused polycyclic system
  - Poly hydroxylated C<sub>27</sub>N fused polycyclic system
  - Poly hydroxylated C<sub>23</sub>N fused polycyclic system
  - Poly hydroxylated C<sub>22</sub>N fused polycyclic system
21. Van-Urk's reagent is also known as \_\_\_ reagent which use in identification of
- Ehrlich reagent and use for identification of Ergot alkaloid
  - Pauls reagent and use for identification of Nuxvomica alkaloid
  - Ehrlich reagent and use for identification of Vinca alkaloid
  - Pauls reagent and use for identification of Vinca alkaloid
22. Physostigma on exposure to air and light oxidized into
- Ruboserine
  - Geneserine
  - Eseramine
  - Eseroline
23. Theophylline is
- 1,3,7-Trimethyl Xanthine
  - 1,3-Dimethyl Xanthine
  - 3,7-Dimethyl Xanthine
  - None of these
24. *Cinchona officinalis* is \_\_\_\_\_ bark and which test is use to identify cinchona bark
- Purple bark and Thalleoquin test
  - Yellow bark and Blood red test
  - Red bark and Thalleoquin test
  - White bark and Blood red test
25. The colour of Tea leaves is due to
- Caffeine
  - Thein
  - Gallotannic acid
  - None of these
26. If powdered *Cinchona* is slightly moistened with glacial acetic acid and heated in an ignition tube, blood red drops condense on the sides of the tube. It is due to the presence of
- Cinchonine
  - Phlobatannin
  - Quinine
  - Quinone
27. Horse shoe shaped stone cells are typical microscopic features of
- Veratrum*
  - Kurchi
  - Aswagandha
  - Ephedra
28. Ergotoxin methanesulphonate is used as standard of Ergot alkaloid. This is a mixture of
- Ergocristine and Ergocornine
  - Ergocristine and Ergocryptine
  - Ergocornine and Ergocryptine
  - Ergocristine, Ergocornine and Ergocryptine
29. SAM (S-Adenosine Methionine) is found in biosynthesis of
- Ergot alkaloids
  - Purine alkaloids
  - Opioids
  - Tropane alkaloids
30. Well differentiated Casparian strip in endodermis is found in
- Lobelia
  - Jatamanasi
  - Veratrum*
  - Kurchi
31. Seeds outgrowth of Autumn Crocus is
- Arista
  - Aril
  - Arillode
  - Strophiole
32. Heterocyclic ring present in *Jaborandi* is
- Indole
  - Imidazole
  - Isoquinoline
  - Quinoline
33. Reagents used in Thalleoquin test are and gives which colour
- Glacial acetic acid + Water and emerald green colour
  - Bromine water + conc. NH<sub>3</sub> and green colour
  - Bromine water + dil. NH<sub>3</sub> and emerald green colour
  - Mercuric chloride + Alcohol and red colour
34. You are given a drug and said that, this drug contain Lactone ring. Both stem and root in dried state is used for alkaloid extraction. This drug having aphrodisiac, Immunomodulatory and Antistress property. Find out the drug from given options
- Ephedra
  - Ginseng
  - Lobelia
  - Winter cherry
35. The chemical behaviour of morphine alkaloid is
- Neutral
  - Acidic
  - Basic
  - Amphoteric
36. Alkaloids are NOT precipitated by
- Mayer's reagent
  - Dragendorff Reagent
  - Picric acid
  - Millon's reagent
37. A glycoalkaloid is
- [P] Contains sulphur in addition to nitrogen in its molecule
- [Q] It is glycosidic in nature
- [R] Can be hydrolysed to an alkaloid
- [S] Always contains endocyclic nitrogen in its molecule
- Choose the correct option
- [Q] and [S]
  - [Q] and [R]
  - [P] and [Q]
  - [P] and [R]



1. **The fluidity of the plasma membrane is due to**
  - (a) Phospholipids
  - (b) Cholesterol
  - (c) Glycolipids
  - (d) Glycoproteins
2. **Gap junctions are found in**
  - (a) Intestine
  - (b) Brain
  - (c) Kidney
  - (d) Cardiac muscle
3. **Glucose is co-transported with Na<sup>+</sup> ions. This is a type of**
  - (a) Secondary active transport
  - (b) Primary active transport
  - (c) Facilitated diffusion
  - (d) Simple diffusion
4. **Which of the following statements about facilitated diffusion is TRUE**
  - (a) It is a form of active transport
  - (b) It requires a carrier protein
  - (c) Rate of transport is proportionate to the concentration gradient
  - (d) Requires creatine phosphate
5. **The elements that present in Protoplasm**
  - (a) Carbon and Hydrogen
  - (b) Carbon, Hydrogen, Nitrogen and Oxygen
  - (c) Carbon, Nitrogen and Oxygen
  - (d) Helium, Carbon and Oxygen
6. **The cell is NOT applied for**
  - (a) Algae
  - (b) Bacteria
  - (c) Virus
  - (d) Fungi
7. **The membrane around the vacuole is known as**
  - (a) Tonoplast
  - (b) Elaioplast
  - (c) Cytoplast
  - (d) Amyloplast
8. **Microfilaments are composed of a protein called**
  - (a) Tubulin
  - (b) Actin
  - (c) Myosin
  - (d) Chitin
9. **A plant cell wall is mainly composed of**
  - (a) Protein
  - (b) Cellulose
  - (c) Lipid
  - (d) Starch
10. **Glycolipids in the plasma membrane are located at**
  - (a) Inner leaflet of the plasma membrane
  - (b) The outer leaflet of the plasma membrane
  - (c) Evenly distributed in the inner and outer leaflets
  - (d) It varies according to cell types
11. **Lysosomes are known as “suicidal bags” because**
  - (a) Parasitic activity
  - (b) Presence of food vacuole
  - (c) Hydrolytic activity
  - (d) Catalytic activity
12. **A major function of the lymphatic system is**
  - (a) Gas distribution
  - (b) Distribution of nutrients
  - (c) Return of tissue fluid to the cardiovascular system
  - (d) Circulation of Blood
13. **Lymphocytes that reach the thymus become**
  - (a) T-cells
  - (b) B-cells
  - (c) Plasma cells
  - (d) Beta cells
14. **Which among the following defines GPI anchored proteins**
  - (a) Integral proteins of the plasma membrane
  - (b) Peripheral proteins of the plasma membrane
  - (c) Proteins that bind to ion-gated channels in the plasma membrane
  - (d) Proteins which randomly bind to lipids of the plasma membrane
15. **The resting potential membrane is determined by**
  - (a) Potassium-ion gradient
  - (b) Sodium-ion gradient
  - (c) Bicarbonate-ion gradient
  - (d) Both (a) and (b)



1. Which of the following is a type of patent
  - (a) Utility patent
  - (b) Design patent
  - (c) Plant patent
  - (d) All of these
2. Fonts and computer icons is included under which patent type
  - (a) Utility patent
  - (b) Design patent
  - (c) Plant patent
  - (d) None of these
3. Commodity markets and capital markets are type of markets classified on the basis of
  - (a) Nature of Competition
  - (b) Nature of Goods
  - (c) Time
  - (d) Volume of Business
4. Which of the following is a standard institutions and regulatory authorities
  - (a) International Conference on Harmonization (ICH)
  - (b) International Organization for Standardization (ISO)
  - (c) World Health Organization (WHO)
  - (d) All of these
5. The departmental managers and branch managers are part of which level of management
  - (a) Top level management/ Administrative level
  - (b) Middle level management/ Executory level
  - (c) Low level management/ Supervisory level
  - (d) All of these
6. Which of the following is a type of inventory
  - (a) Production inventories
  - (b) Maintenance, Repair, and Overhaul (MRO) inventories
  - (c) Work-In-Progress (WIP) inventories
  - (d) All of these
7. Which of the following is type of bank
  - (a) Commercial banks
  - (b) Cooperative banks
  - (c) Mixed banks
  - (d) All of these
8. Minimum qualification for Registered Pharmacist is
  - (a) D. Pharm
  - (b) B. Pharm
  - (c) M. Pharm
  - (d) Ph.D
9. World Health Organization was established in
  - (a) 1946
  - (b) 1947
  - (c) 1945
  - (d) 1948
10. What protects the intellectual property created by artists
  - (a) Copyright
  - (b) Geographical indications
  - (c) Patents
  - (d) Registered designs
11. Which certificate is required to jewelers in the market
  - (a) FPO mark
  - (b) AGMARK
  - (c) BIS hallmark
  - (d) None of these
12. Full form of FIFO is
  - (a) First inactive first outgoing
  - (b) First inactive First Outdated
  - (c) First in first out
  - (d) All of these
13. Full form of MAPE in Retail price formula is
  - (a) Maximum Allowable Post Manufacturing Expenses
  - (b) Minimum Allowable Post Marketing Expenses
  - (c) Maximum Allowable Pre Manufacturing Expenses
  - (d) Minimum Allowable Pre-Marketing expenses
14. Alpha numerical codification is suitable for a
  - (a) Large scale organization
  - (b) Small Scale Organisation
  - (c) Medium scale Organisation
  - (d) All of these

## ANSWER KEY

### MODEL PAPER-1

1-a	2-a	3-b	4-d	5-d	6-a	7-b	8-a	9-b	10-d
11-a	12-b	13-b	14-d	15-b	16-b	17-d	18-a	19-a	20-c
21-c	22-c	23-c	24-a	25-c	26-a	27-b	28-a	29-c	30-a
31-a	32-d	33-a	34-a	35-d	36-c	37-d	38-d	39-b	40-b
41-d	42-c	43-c	44-d	45-a	46-d	47-c	48-b	49-a	50-a
51-a	52-b	53-d	54-b	55-a	56-b	57-c	58-a	59-a	60-a
61-b	62-a	63-d	64-b	65-d	66-d	67-c	68-a	69-d	70-c
71-a	72-a	73-b	74-b	75-a	76-b	77-a	78-c	79-b	80-b
81-a	82-a	83-b	84-a	85-d	86-d	87-c	88-a	89-a	90-c
91-b	92-a	93-b	94-a	95-c	96-a	97-c	98-d	99-a	100-b

### MODEL PAPER-2

1-b	2-c	3-c	4-b	5-b	6-a	7-a	8-b	9-c	10-b
11-d	12-b	13-c	14-a	15-d	16-a	17-b	18-a	19-a	20-d
21-d	22-a	23-a	24-c	25-a	26-b	27-a	28-b	29-b	30-c
31-d	32-c	33-d	34-d	35-d	36-c	37-c	38-d	39-c	40-d
41-b	42-b	43-a	44-d	45-c	46-b	47-d	48-c	49-c	50-a
51-a	52-a	53-a	54-b	55-a	56-b	57-d	58-d	59-a	60-b
61-a	62-a	63-a	64-a	65-d	66-d	67-c	68-c	69-b	70-d
71-d	72-d	73-a	74-b	75-c	76-c	77-a	78-c	79-a	80-b
81-b	82-b	83-a	84-d	85-c	86-d	87-b	88-a	89-d	90-c
91-d	92-d	93-b	94-c	95-d	96-b	97-a	98-b	99-a	100-d

### MODEL PAPER-3

1-d	2-a	3-c	4-c	5-a	6-d	7-d	8-b	9-d	10-d
11-c	12-b	13-d	14-b	15-d	16-a	17-a	18-d	19-c	20-d
21-b	22-c	23-c	24-a	25-c	26-d	27-c	28-b	29-b	30-a
31-b	32-b	33-c	34-d	35-b	36-a	37-b	38-b	39-a	40-c
41-b	42-d	43-a	44-c	45-c	46-a	47-b	48-d	49-a	50-b
51-d	52-a	53-b	54-d	55-d	56-b	57-b	58-c	59-a	60-b
61-a	62-a	63-a	64-b	65-a	66-a	67-a	68-a	69-c	70-c
71-d	72-d	73-d	74-a	75-b	76-d	77-b	78-d	79-c	80-b
81-a	82-b	83-b	84-c	85-c	86-c	87-c	88-c	89-b	90-b
91-a	92-c	93-b	94-b	95-c	96-d	97-c	98-c	99-b	100-c

## MODEL PAPER-24

1-a	2-b	3-a	4-a	5-a	6-d	7-a	8-c	9-a	10-a
11-a	12-d	13-a	14-b	15-b	16-a	17-b	18-b	19-b	20-b
21-d	22-a	23-c	24-d	25-a	26-a	27-c	28-a	29-b	30-c
31-a	32-b	33-a	34-c	35-b	36-d	37-a	38-d	39-d	40-a
41-c	42-a	43-a	44-d	45-c	46-b	47-b	48-a	49-b	50-a
51-d	52-a	53-b	54-b	55-a	56-c	57-a	58-b	59-b	60-c
61-a	62-a	63-a	64-a	65-b	66-a	67-b	68-a	69-b	70-b
71-c	72-a	73-c	74-d	75-b	76-d	77-b	78-a	79-d	80-d
81-c	82-b	83-c	84-b	85-d	86-b	87-b	88-a	89-b	90-a
91-d	92-c	93-c	94-c	95-a	96-a	97-c	98-d	99-a	100-d

## MODEL PAPER-25

1-c	2-b	3-d	4-d	5-c	6-a	7-a	8-a	9-c	10-d
11-a	12-a	13-b	14-b	15-b	16-a	17-c	18-a	19-b	20-b
21-a	22-b	23-a	24-a	25-a	26-d	27-a	28-b	29-d	30-a
31-c	32-a	33-d	34-d	35-b	36-a	37-a	38-d	39-b	40-c
41-a	42-a	43-b	44-b	45-b	46-d	47-d	48-a	49-c	50-a
51-b	52-b	53-d	54-b	55-b	56-b	57-c	58-a	59-b	60-a
61-a	62-a	63-a	64-c	65-b	66-b	67-b	68-c	69-a	70-a
71-c	72-a	73-a	74-b	75-b	76-b	77-d	78-a	79-b	80-a
81-d	82-c	83-d	84-b	85-d	86-d	87-b	88-c	89-b	90-b
91-b	92-a	93-b	94-d	95-c	96-a	97-c	98-a	99-a	100-a

## MODEL PAPER-26

1-c	2-a	3-a	4-c	5-a	6-b	7-b	8-b	9-b	10-a
11-d	12-a	13-a	14-b	15-b	16-b	17-a	18-d	19-a	20-b
21-a	22-c	23-a	24-b	25-a	26-c	27-a	28-a	29-b	30-d
31-a	32-a	33-b	34-a	35-d	36-b	37-a	38-a	39-a	40-a
41-a	42-a	43-b	44-a	45-a	46-d	47-c	48-b	49-b	50-a
51-a	52-a	53-b	54-d	55-d	56-b	57-b	58-a	59-a	60-b
61-b	62-d	63-a	64-b	65-c	66-a	67-a	68-b	69-a	70-b
71-b	72-c	73-a	74-a	75-d	76-c	77-d	78-b	79-a	80-b
81-c	82-d	83-b	84-c	85-b	86-b	87-a	88-a	89-a	90-c
91-a	92-d	93-c	94-d	95-a	96-a	97-b	98-a	99-a	100-a

## MODEL PAPER-27

1-a	2-a	3-a	4-b	5-b	6-b	7-b	8-c	9-c	10-a
11-c	12-a	13-c	14-a	15-a	16-d	17-d	18-d	19-d	20-b
21-a	22-b	23-d	24-b	25-a	26-d	27-a	28-b	29-b	30-c
31-b	32-b	33-b	34-a	35-b	36-a	37-c	38-b	39-a	40-a
41-c	42-a	43-a	44-b	45-c	46-a	47-b	48-a	49-b	50-a
51-a	52-a	53-c	54-d	55-a	56-b	57-b	58-d	59-c	60-a
61-a	62-b	63-c	64-a	65-a	66-b	67-c	68-a	69-a	70-c
71-a	72-d	73-b	74-c	75-a	76-b	77-b	78-a	79-a	80-a
81-c	82-b	83-b	84-b	85-a	86-c	87-a	88-d	89-c	90-b
91-b	92-d	93-a	94-a	95-a	96-a	97-b	98-b	99-d	100-d

## MODEL PAPER-48

1-c	2-c	3-a	4-c	5-d	6-d	7-b	8-c	9-c	10-a
11-d	12-a	13-d	14-a	15-b	16-a	17-b	18-a	19-a	20-d
21-c	22-d	23-b	24-a	25-b	26-d	27-b	28-b	29-b	30-c
31-c	32-a	33-b	34-a	35-a	36-b	37-a	38-c	39-b	40-d
41-d	42-b	43-d	44-c	45-d	46-d	47-b	48-d	49-a	50-c
51-c	52-c	53-d	54-b	55-d	56-a	57-a	58-d	59-c	60-b
61-d	62-c	63-b	64-b	65-d	66-c	67-b	68-a	69-d	70-c
71-b	72-a	73-d	74-d	75-b	76-a	77-a	78-a	79-d	80-a
81-b	82-c	83-a	84-c	85-d	86-d	87-b	88-a	89-b	90-b
91-c	92-b	93-b	94-d	95-c	96-b	97-a	98-a	99-a	100-c

## MODEL PAPER-49

1-b	2-a	3-d	4-d	5-b	6-b	7-d	8-d	9-a	10-c
11-d	12-c	13-d	14-b	15-c	16-b	17-c	18-b	19-a	20-d
21-c	22-c	23-d	24-c	25-c	26-d	27-c	28-d	29-b	30-d
31-c	32-c	33-a	34-a	35-a	36-b	37-a	38-a	39-a	40-b
41-c	42-d	43-d	44-b	45-a	46-c	47-a	48-a	49-b	50-c
51-a	52-d	53-a	54-b	55-a	56-c	57-b	58-d	59-c	60-b
61-d	62-a	63-b	64-d	65-c	66-d	67-c	68-c	69-d	70-a
71-c	72-a	73-c	74-a	75-a	76-b	77-c	78-b	79-b	80-a
81-d	82-d	83-c	84-d	85-d	86-a	87-d	88-c	89-a	90-d
91-b	92-b	93-d	94-b	95-d	96-c	97-d	98-a	99-c	100-b

## MODEL PAPER-50

1-d	2-b	3-b	4-d	5-b	6-d	7-d	8-a	9-d	10-a
11-c	12-c	13-a	14-a	15-a	16-a	17-d	18-d	19-a	20-b
21-d	22-d	23-d	24-a	25-c	26-d	27-d	28-b	29-d	30-d
31-d	32-d	33-b	34-d	35-d	36-a	37-d	38-a	39-d	40-d
41-d	42-c	43-a	44-c	45-b	46-a	47-c	48-c	49-d	50-c
51-d	52-a	53-a	54-a	55-d	56-c	57-d	58-b	59-d	60-c
61-c	62-d	63-d	64-c	65-a	66-c	67-c	68-b	69-b	70-c
71-b	72-b	73-d	74-c	75-d	76-b	77-a	78-a	79-d	80-a
81-c	82-a	83-d	84-a	85-a	86-b	87-c	88-c	89-a	90-a
91-a	92-a	93-d	94-c	95-b	96-d	97-c	98-b	99-c	100-a



Pharm Aspirants 1<sup>st</sup> Choice

60

Sample  
Solved  
Question  
Paper

SECTION-2

MODEL PAPERS

With Answer Key



10  
Model  
Papers



Total  
1250  
MCQs

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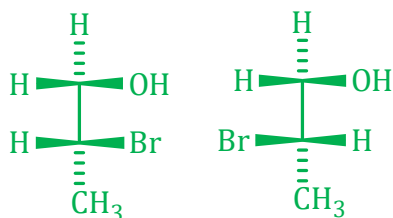


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## CHEMISTRY

1. The molecules shown are



- (a) Constitutional isomers  
 (b) Enantiomers  
 (c) Diastereomers  
 (d) Identicals

2. Match the following (Name reaction with corresponding products)

1. Claisen condensation

2. Gabriel synthesis

3. Reformsky reaction

4. Perkin reaction

[P] Amines

[Q]  $\beta$ -hydroxyl ethers

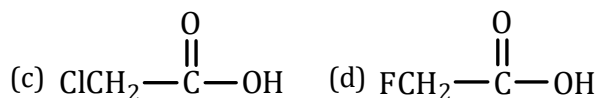
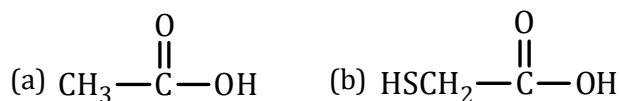
[R]  $\beta$ -Keto ethers

[S]  $\alpha, \beta$  unsaturated acids.

- (a) 1-[S], 2[R], 3-[Q], 4-[P]  
 (b) 1-[Q], 2[R], 3-[S], 4-[P]  
 (c) 1-[P], 2[Q], 3-[S], 4-[R]  
 (d) 1-[R], 2[P], 3-[Q], 4-[S]
3. In Markovnikov's rule, the intermediate formed is

- (a) Carboanion (b) Carbocation  
 (c) Free radicle (d) Carbene

4. Which one of the following compound is highly acidic in nature



5. Assign the configuration of below compounds 1 and 2

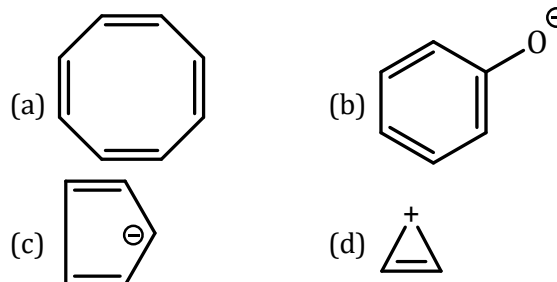


- (a) 1R, 2R (b) 1R, 2S  
 (c) 1S, 2S (d) 1S, 2R

6. Dipole moment is exhibited by

- (a) Cis 1,2 dichloro ethene  
 (b) Trans 1,2 dichloro ethene  
 (c) Trans 1,2 dichloro 2 pentene  
 (d) Both (a) and (c)

7. Which of the following is an aromatic compound



8. No of resonance possible for anthracene and phenanthrene are

- (a) 4, 5 (b) 5, 4  
 (c) 6, 5 (d) 5, 6

9. Ozonolysis of an organic compound gives formaldehyde as one of the products. This confirms the presence of

- (a) An isopropyl group  
 (b) An acetylenic triple bond  
 (c) Two ethylenic double bond  
 (d) A vinyl group

**107. The following contain live-attenuated live vaccines, EXCEPT**

- (a) Polio (b) Hepatitis A  
(c) Yellow fever (d) Measles

**108. Widal test is used for**

- (a) VDRL  
(b) Measles  
(c) Yellow fever  
(d) Typhoid fever

**109. Which of the following criteria should be considered when reviewing a medication for addition to the hospital formulary**

- (a) The amount of samples provided to hospital physicians  
(b) Research funds donated to the hospital by the pharma firms  
(c) National adverse drug reaction reports  
(d) Whether it is a gluten free oral formulation

**110. Which is NOT a correct statement regarding DNA polymerase III**

- (a) Is the major polymerizing enzyme responsible for advancing the replication fork  
(b) Has 3' -5' exonuclease activities but no 5' to 3' exonuclease activities  
(c) Is unable to perform the editing function  
(d) DNA Polymerase III has all requirements of DNA polymerase I to carry out polymerization

**111. The immunoglobulin which permeate through placenta and can cause allergy is**

- (a) IgM and IgA (b) IgM  
(c) IgE (d) IgG and IgE

**112. Analysis of protein antigen can be done by**

- (a) Southern Blot (b) Northern Blot  
(c) Western Blot (d) Both (a) and (b)

**113. COVID 19 is a which type of virus**

- (a) DNA Virus  
(b) RNA Virus  
(c) Both DNA and RNA Virus  
(d) Neither DNA nor RNA Virus

**114. The following statements are incorrect, EXCEPT**

- (a) The shoulder of the oxygen metal cylinder are painted black and rest is painted white  
(b) The carbon-di-oxide metal cylinder should be painted red and carry the label starting CO<sub>2</sub> Stencilled in paint on the shoulder of the cylinder

- (c) Nitrous oxide gas is absorbed by alkaline pyrogallol solution and this is one of the official identification test for Nitrous oxide  
(d) The body and valve end of the Helium gas cylinder should be painted brown

## PHARMACOGNOSY

**115. The microscopic characteristics of *Atropa belladonna* leaf is**

- (a) Pitted walls with striated cuticles  
(b) Wavy walls with striated cuticles  
(c) Algal cell walls with smooth cuticles  
(d) Straight walls with wavy cuticles

**116. Which of the following is an example of natural pesticide**

- (a) *Uncaria gambier*  
(b) *Psoralea carylifolia*  
(c) *Picrasma excels*  
(d) *Chrysanthemum cinerarifolium*

**117. Jute is obtained from**

- (a) *Gossipium*  
(b) *Corchorus capsularis*  
(c) *Linum usitissimum*  
(d) *Cannabis sativa*

**118. The adulteration of cinnamon can be detected by**

- (a) Size of starch grain  
(b) No of starch grain  
(c) Diameter of starch grain  
(d) Shape of starch grain

**119. Kaolin is chemically**

- (a) Hydrated magnesium silicate  
(b) Hydrated aluminium silicate  
(c) Hydrated calcium silicate  
(d) Hydrated magnesium sulphate

**120. Morphine alkaloids can be biosynthesized from**

- (a) Tyrosine (b) Lysine  
(c) Arginine (d) Tryptamine

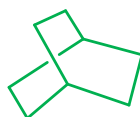
**121. Find the correct statement regarding Shilajit**

- (a) It is also known as mumijo and momia  
(b) It is a rasayana material and is act as adaptogen  
(c) It contains triterpenes and aromatic carboxylic acid as well as humic acid and fulvic acid  
(d) All of these



## CHEMISTRY

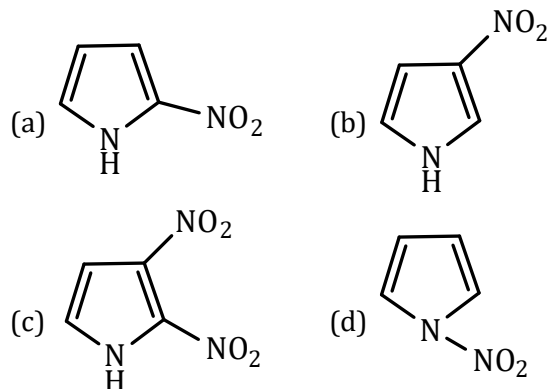
- HVZ Reactions is possible when**
  - Carboxylic acids with  $\alpha$ - hydrogen
  - Aldehydes with  $\alpha$ - hydrogen
  - Carboxylic acids without  $\alpha$ - hydrogen
  - Aldehydes without  $\alpha$ - hydrogen
- The following statements are true regarding Oppenauer oxidation reaction, EXCEPT**
  - Reagent is Isopropoxide
  - Secondary alcohol are oxidized to ketone
  - Primary alcohols are oxidized to ketone
  - It is a reversible reaction or MPV reaction
- Which of the following is CORRECT**
  - In stereospecific reaction, different substrates give different products
  - In stereoselective reaction unequal amounts of stereo isomers are produced
  - In stereo specific reaction are stereoselective reaction but reversal is not true
  - All the above
- In a small bridged ring system one cannot have double bond at the bridge head position. This is known as**
  - Pfeiffers rule
  - Bredt's rule
  - Baldwin rule
  - Barton rule
- The solvent which facilitates the  $SN^1$  reaction is**
  - Aprotic Polar
  - Protic Polar
  - Non polar
  - All kind of solvents
- The nomenclature of the given compound is**



- Bicyclo [2.2.1] Octane
- Bicyclo [1.1.1] Octane
- 1,4 bismethylene cyclohexane

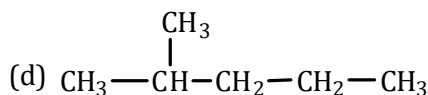
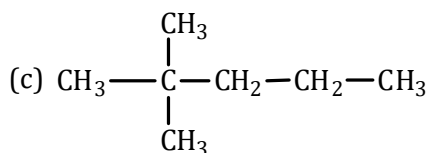
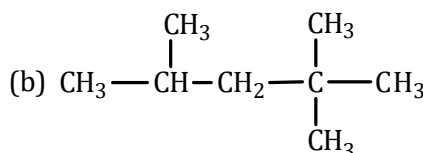
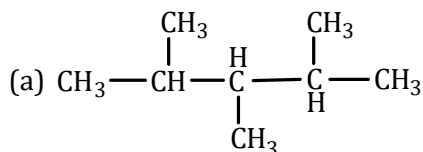
(d) Bicyclo [2.2.2] Octane

- Which of the following conformation of cyclohexane has the most energy**
  - Chair
  - Half- chair
  - Boat
  - Twist Boat
- Which of the following conditions will always lead to a nonspontaneous change**
  - Positive  $\Delta H$  and positive  $\Delta S$
  - Negative  $\Delta H$  and negative  $\Delta S$
  - Positive  $\Delta H$  and negative  $\Delta S$
  - Negative  $\Delta H$  and positive  $\Delta S$
- Upon nitration, pyrrole gives which of the following as major product**



- Iodoform reaction is given by**
  - HCHO
  - C H CHO
  - CH CHO
  - All of these
- Which of the following ether cannot be prepared using Williamson synthesis**
  - Isopropyl ethyl ether
  - tert butyl methyl ether
  - tert butyl phenyl ether
  - Anisole
- A ganglioside on hydrolysis gives all the following, EXCEPT**
  - Fattyacid
  - Glycerol
  - Spingosine
  - N acetyl neuramic acid

29. Five atom rule is applicable for  
 (a) Muscarnic receptor (b) Nicotinic receptor  
 (c) Adrenergic receptor (d) Histamine receptor
30. Kjeldahl method is used for the estimation of nitrogen in which of the following  
 (a) Nitro benzene (b) Pyridine  
 (c) Ph - N=N-Ph (d) Ph-NH-CO-CH<sub>3</sub>
31. Find the compound which has 6 absorption in C13 NMR and 5 absorption in 1 H NMR Spectroscopy



32. Van deemeter equation is applicable for  
 (a) Viscosity determination  
 (b) Spectroscopy  
 (c) Chromatography  
 (d) Electrophoresis
33. In X-ray diffraction, the material used is  
 (a) Sodium chloride  
 (b) Glass  
 (c) Quartz  
 (d) Potassium hydrogen phthalate
34. The nuclei does NOT exhibit the NMR phenomena if  
 (a) Mass no is odd and atomic no is odd  
 (b) Mass no is odd and atomic no is even  
 (c) Mass no is even and atomic no is even  
 (d) Mass no is even and atomic no is odd
35. In reverse phase TLC, the drug with low polarity will be eluted by  
 (a) Increasing polarity of mobile phase  
 (b) Decreasing polarity of mobile phase  
 (c) Increasing hydrophobicity of mobile phase  
 (d) Decreasing polarity of stationary phase

36. In acid base titration, methyl red changes color at pH ranges of  
 (a) 0 -1.6 (b) 3.1 - 4.4  
 (c) 4.4 - 6.2 (d) 6.0- 7.6
37. All the statements are true, EXCEPT  
 (a) Mass spectroscopy gives information about fragmentation patterns  
 (b) Parents ions are always observed in the mass spectra of the compound  
 (c) Mass spectroscopy provides direct structural data  
 (d) Isotopic distribution patterns are observed in mass spectra
38. The working wavelength range of the flame spectrophotometer is  
 (a) 150-195 nm (b) 250-1020 nm  
 (c) 200-475 nm (d) 200-4100 nm

### PHARMACEUTICS

39. How many nominated persons are included by central government in PCI constitution  
 (a) 4 (b) 5 (c) 6 (d) 7
40. Schedule D as per Drugs and Cosmetics Act deals with  
 (a) List of drugs exempted from the provision of import of drugs  
 (b) Disease or ailments which a drug may not be able to prevent or cure  
 (c) Good Manufacturing Practice  
 (d) List of prescription drugs
41. Read the following statements about flow of fluid  
 [P] In the laminar flow there is random mixing between the layers of fluid  
 [Q] In the turbulent flow, there is no mixing between the layers of fluid  
 [R] Reynolds number is used for measurement of type of flow and determination of stability of dispersions (suspensions/emulsions)  
 [S] If  $Re < 2000$ , flow of the fluid is turbulent  
 Choose the CORRECT combination of statements  
 (a) [P] is true and [Q], [R] and [S] are false  
 (b) [Q] is true and [P], [R] and [S] are false  
 (c) [R] is true and [P] [Q] and [S] are false



## CHEMISTRY

1. Which of the following is not a characteristic property of organic compound

- (a) They usually have low melting points  
 (b) They usually are only slightly soluble or insoluble in water  
 (c) If water soluble they seldom conduct an electricity  
 (d) Bonds which bind the atoms together are nearly always ionic

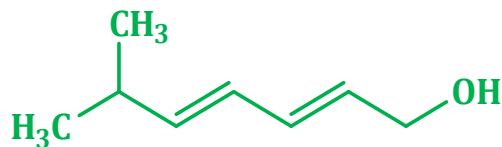
2. Order of electrons filling in various orbitals

- (a)  $1s < 2s < 2p < 3p < 3s < 4s < 3d < 4p < 5s$   
 (b)  $1s < 2s < 2p < 3s < 3p < 4p < 3d < 4s < 5s$   
 (c)  $1s < 2s < 2p < 3s < 3p < 4s < 3d < 4p < 5s$   
 (d)  $1s < 2s < 3s < 2p < 3p < 4s < 3d < 4p < 5s$

3. Find out the decreasing order of carbon-carbon bond lengths

- (a)  $\text{H}_3\text{C}-\text{CH}_3 < \text{H}_2\text{C}=\text{CH}_2 < \text{HC}\equiv\text{CH}$   
 (b)  $\text{H}_3\text{C}-\text{CH}_3 > \text{H}_2\text{C}=\text{CH}_2 > \text{HC}\equiv\text{CH}$   
 (c)  $\text{H}_3\text{C}-\text{CH}_3 > \text{HC}\equiv\text{CH} > \text{H}_2\text{C}=\text{CH}_2$   
 (d)  $\text{H}_2\text{C}=\text{CH}_2 > \text{H}_3\text{C}-\text{CH}_3 > \text{HC}\equiv\text{CH}$

4. Mention the number of sigma bonds and pi bonds present in the given molecule.



- (a) 10 and 2  
 (b) 6 and 2  
 (c) 22 and 2  
 (d) 20 and 2

5. Order of stability of carbocations is \_\_\_\_\_

- (a) Tertiary > Secondary > Primary > Methyl  
 (b) Tertiary < Secondary < Primary < Methyl  
 (c) Secondary > Tertiary > Primary > Methyl  
 (d) Tertiary < Secondary < Primary = Methyl

6. Which of the following compound shows cis-trans isomerism

- (a)  $\text{CH}_2=\text{CHCl}_2$   
 (b)  $\text{ClCH}=\text{CHCl}$   
 (c)  $\text{CH}_2=\text{CHCl}$   
 (d)  $\text{Cl}_2\text{C}=\text{CBr}_2$

7. Optical isomers that are not mirror images are called \_\_\_\_\_

- (a) Enantiomers  
 (b) Diastereomers  
 (c) Meso compounds  
 (d) Tautomers

8. Sulfonation of Furan by electrophilic aromatic substitution reaction gives

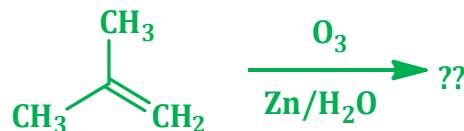
- (a) Tetrahydrofuran  
 (b) Furfural  
 (c) Furan-3- $\text{SO}_3\text{H}$   
 (d) Furan-2- $\text{SO}_3\text{H}$

9. IUPAC name for the below compound



- (a) 2-hydroxyoctanoic acid  
 (b) 2-hydroxynonanoic acid  
 (c) 8-hydroxyoctanoic acid  
 (d) 8-hydroxynonanoic acid

10. Find out the product



- (a) 2-methyl-1-propane  
 (b) 2-methyl-1-propanal  
 (c) Acetone + Formaldehyde  
 (d) 2-Propanol + Formaldehyde

11. Predict the product of the reaction of 1-pentyne with excess HBr

- (a) 2,2-dibromopentane  
 (b) 1,1-dibromopentane  
 (c) 1,2-dibromopentane  
 (d) 2-bromo-1-pentene

111. The prominent nutraceutical used for allergy relief is

- (a) Green tea (b) *Ginkgo biloba*  
(c) Momordica (d) Flax seeds

112. Numerous paracytic stomata are present in the powder of

- (a) Datura (b) Senna  
(c) Calendula (d) Clove

113. Which of the following traditional medicines is a semisolid dosage form

- (a) Asava (b) Satva  
(c) Avaleha (d) Vatika

114. Aleurone grains present in seeds are a type of

- (a) Defensive proteins (b) Storage proteins  
(c) Contractile proteins (d) Transport proteins

### OTHER SUBJECTS

115. Demographic divide refers to a rise in population

- (a) Between the age group of 1 to 14 years  
(b) Between the age group of 15 to 64 years  
(c) Between the age group of 65 to 74 years  
(d) Above 74 years

116. Tourniquet test can be done for diagnosis of

- (a) Syphilis (b) Dengue  
(c) Malaria (d) AIDS

117. Least prime number is

- (a) 1 (b) 2  
(c) 3 (d) 4

118. The temperature in °F equivalent to -10°C is

- (a) 50°F (b) +22°F

- (c) -18°F (d) +14°F

119. Nuclear magnetic moment is NOT shown by

- (a)  $^{13}\text{C}$  (b)  $^1\text{H}$   
(c)  $^{16}\text{O}$  (d)  $^{15}\text{N}$

120. Which brand product is NOT of Dabur

- (a) Glucose D (b) Odomos  
(c) Nihar (d) Meswak

121. Full form of ICRC

- (a) Indian Committee of the Red Cross  
(b) International Committee of the Red Cross  
(c) International Commission of the Red Cross  
(d) International Committee of the Red Corner

122. Chromosomes are equally divided to opposite poles in

- (a) Metaphase (b) Prophase  
(c) Telophase (d) Anaphase

123. Photostability testing of new drug substances and products are described in the given section of ICH

- (a) QIA (b) QIB  
(c) QIC (d) QID

124. FIFO, LIFO, and HIFO used for

- (a) Recording methods  
(b) Selling methods  
(c) Pricing of stock  
(d) Financial Analysis method

125. Oral polio vaccine is

- (a) Live polio virus  
(b) Live attenuated polio  
(c) Dead polio virus  
(d) UV treated polio virus



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## MODEL PAPER-57

1-c	2-d	3-c	4-c	5-c	6-a	7-b	8-c	9-c	10-b
11-c	12-c	13-a	14-c	15-a	16-d	17-a	18-b	19-c	20-c
21-b	22-a	23-a	24-d	25-c	26-b	27-c	28-c	29-c	30-c
31-b	32-b	33-d	34-b	35-a	36-d	37-b	38-c	39-d	40-b
41-b	42-b	43-a	44-d	45-a	46-a	47-c	48-c	49-a	50-d
51-c	52-a	53-d	54-c	55-a	56-a	57-c	58-a	59-d	60-d
61-b	62-c	63-a	64-c	65-d	66-b	67-a	68-b	69-a	70-d
71-d	72-a	73-d	74-a	75-b	76-a	77-b	78-d	79-b	80-a
81-d	82-c	83-d	84-b	85-c	86-d	87-b	88-b	89-c	90-d
91-a	92-c	93-b	94-a	95-b	96-b	97-a	98-b	99-a	100-c
101-d	102-b	103-c	104-a	105-d	106-a	107-a	108-b	109-a	110-c
111-c	112-d	113-d	114-a	115-d	116-d	117-d	118-a	119-d	120-a
121-a	122-c	123-d	124-c	125-b					

## MODEL PAPER-58

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11-c	12-a	13-b	14-d	15-c	16-c	17-c	18-a	19-c	20-b
21-d	22-c	23-d	24-c	25-b	26-b	27-a	28-a	29-c	30-a
31-d	32-d	33-b	34-b	35-d	36-b	37-c	38-c	39-c	40-d
41-b	42-a	43-b	44-c	45-c	46-c	47-c	48-b	49-b	50-a
51-b	52-a	53-c	54-a	55-a	56-c	57-c	58-c	59-c	60-b
61-d	62-d	63-c	64-a	65-b	66-a	67-d	68-a	69-a	70-d
71-c	72-a	73-d	74-a	75-d	76-a	77-b	78-b	79-a	80-a
81-d	82-d	83-d	84-a	85-a	86-c	87-d	88-b	89-b	90-a
91-a	92-d	93-c	94-b	95-b	96-a	97-a	98-a	99-b	100-d
101-c	102-d	103-c	104-c	105-a	106-b	107-c	108-b	109-c	110-b
111-d	112-d	113-b	114-b	115-b	116-c	117-d	118-a	119-d	120-c
121-b	122-d	123-a	124-a	125-b					

## MODEL PAPER-59

1-d	2-c	3-b	4-c	5-a	6-b	7-b	8-d	9-d	10-c
11-a	12-d	13-b	14-d	15-a	16-a	17-a	18-a	19-d	20-d
21-a	22-c	23-b	24-a	25-b	26-a	27-c	28-a	29-d	30-a
31-d	32-a	33-b	34-a	35-a	36-a	37-a	38-d	39-d	40-b
41-b	42-b	43-a	44-a	45-b	46-a	47-c	48-c	49-a	50-d
51-c	52-a	53-c	54-c	55-a	56-a	57-d	58-a	59-c	60-d
61-a	62-b	63-b	64-b	65-c	66-d	67-a	68-b	69-a	70-a
71-c	72-a	73-c	74-d	75-b	76-d	77-c	78-d	79-a	80-c
81-b	82-a	83-a	84-c	85-c	86-a	87-b	88-a	89-c	90-d
91-a	92-b	93-c	94-d	95-d	96-a	97-a	98-d	99-b	100-a
101-c	102-c	103-c	104-d	105-b	106-a	107-b	108-d	109-b	110-b
111-b	112-b	113-c	114-b	115-b	116-b	117-b	118-a	119-c	120-c
121-b	122-d	123-b	124-c	125-b					

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