

GPAT-2010

Pharmaceutics

1. Which one of the following is NOT an ex-officio member of Pharmacy Council of India
(a) The Director General of Health Services
(b) The Director of Central Drugs Laboratory
(c) The Drugs Controller General of India
(d) The Director of Pharmacopoeia Laboratory
2. In which of the following techniques the sample is kept below triple point
(a) Lyophilization (b) Spray drying
(c) Spray congealing (d) Centrifugation
3. Class 100 area is referred to
(a) Manufacturing area (b) Aseptic area
(c) Clean room (d) Ware house
4. How many ml of a 1:500 w/v stock solution should be used to make 5 liters of 1:2000 w/v solution
(a) 750 ml (b) 1000 ml (c) 1250 ml (d) 1500 ml
5. The Volume of distribution of a drug administered at a dose of 300 mg and exhibiting 10 microgram/ml. instantaneous concentration in plasma shall be
(a) 10 L (b) 100 L (c) 1.0 L (d) 0.10 L
6. It is required to maintain a therapeutic concentration of 10 microgram/ml. for 12 hours of a drug having half life of 1.386 hr and Vd of 5 L. The dose required in a sustained release product will be
(a) 600 mg (b) 300 mg (c) 30 mg (d) 60 mg
7. A drug (200 mg dose) administered in tablet form and as intravenous injection (50 mg dose) showed AUC of 100 and 200 microgram hr/ml, respectively. The absolute bioavailability of the drug through oral administration is
(a) 125% (b) 250% (c) 12.5% (d) 1.25%
8. Drugs in suspensions and semi-solid formulations always degrade by
(a) First order kinetics (b) Second order kinetics
(c) Zero order kinetics (d) Non-linear kinetics
9. In nail polish, following polymer is used as a film former
(a) Nitrocellulose
(b) Polylactic acid
(c) Hydroxypropyl methylcellulose
(d) Cellulose acetate phthalate
10. Coulter counter is used in determination of
(a) Partick surface area (b) Partick size
(c) Particle volume (d) All of these
11. Drugs following one compartment open model pharmacokinetics eliminate
(a) Bi-exponentially (b) Tri-exponentially
(c) Non-exponentially (d) Mono-exponentially
12. The temperature condition for storage of drug products under cold temperature is given as
(a) Temperature between 8°C and 25°C
(b) Temperature below 20°C
(c) Temperature at 0°C
(d) Temperature between 2°C and 8°C
13. Glass transition temperature is detected through
(a) X-Ray diffractometry
(b) Solution calorimetry
(c) Differential scanning calorimetry
(d) Thermogravimetric analysis
14. What quantities of 95 % v/v and 45 % v/v alcohols are to be mixed to make 800 ml of 65 % v/v alcohol
(a) 480 ml of 95 % and 320 ml of 45% alcohol
(b) 320 ml of 95 % and 480 ml of 45 % alcohol
(c) 440 ml of 95 % and 360 ml of 45 % alcohol
(d) 360 ml of 95 % and 440 ml of 45 % alcohol
15. The role of borax in cold creams is
(a) Anti-microbial agent
(b) To provide fine particles to polish skin
(c) In-situ emulsifier
(d) Antioxidant
16. Humectants added in cosmetic preparations generally act by
(a) Hydrogen bond formation
(b) Covalent bond formation
(c) Complex formation
(d) The action of London forces
17. In the mixing of thymol and menthol the following type of incompatibility occurs
(a) Chemical incompatibility
(b) Therapeutic incompatibility
(c) Physical incompatibility
(d) Tolerance incompatibility
18. Bloom strength is used to check the quality of
(a) Lactose (b) Ampoules
(c) Hardness of tablets (d) Gelatin
19. The characteristic of non-linear pharmacokinetics include
(a) Area under the curve is proportional to the dose
(b) Elimination half-life remains constant
(c) Area under the curve is not proportional to the dose
(d) Amount of drug excreted through remains constant
20. In the Drugs and Cosmetics Act and Rules, the Schedule relating to GMP is
(a) Schedule M
(b) Schedule C
(c) Schedule Y
(d) Schedule H

21. **Thioglycolic acid-like compounds have applications in following type of cosmetic formulations**
(a) Depilatory preparations (b) Epilatory preparations
(c) Vanishing creams (d) Skin tan preparations
22. **Which one of the following is a flocculating agent for a negatively charged drug**
(a) Aluminium chloride (b) Bentonite
(c) Trapanth (d) Sodium biphosphate
23. **The healing agent used in hand creams is**
(a) Soft paraffin (b) Urea
(c) Bees wax (d) Stearyl alcohol
24. **Measurement of julio renal clearance is a measure for**
(a) Effective renal blood flow
(b) Renal drug excretion rate
(c) Active renal secretion
(d) Glomerular filtration rate
25. **Highly branched three dimensional macromolecuku with controlled structures with all bands originating from a central core are known as**
(a) Cyclodextrins (b) Dextrans
(c) Dendrimers (d) Liposomes
26. **Which one of the following is the commonly used bulking agent in the formulation freeze dried bow dose drug products**
(a) Sodium chloride (b) Mannitol
(c) Starch (d) HPMC
27. **The applicability of Noyes -Whitney equation is to describe**
(a) First order kinetics (b) Zero order kinetics
(c) Mixed order kinetics (d) Dissolution rate
28. **Which filler can NOT be used for the preparation of tablets for amine containing drugs to avoid discoloration of the tablets**
(a) Dicalcium phosphate (b) Microcrystalline cellulose
(c) Starch (d) Lactose
29. **The ability of human eye using illuminated area to detect a particle is limited to**
(a) 0.4 micron (b) 25 micron
(c) 50 micron (d) 10 microns
30. **Many xenobiotics are oxidized by cytochrome P450 in order to**
(a) Increase their biological activity
(b) Increase their diposition in lipophilic compartments of the body
(c) Increase their aqueous solubility
(d) All of the above
31. **Sildenafil is used for treatment of one of the following Disorders**
(a) Systolic hypertension
(b) Unstable angina
(c) Pulmonary hypertension
(d) Hypertension due to eclampsia
32. **Which one of the following drugs is prescribed for the treatment of Philadelphia chromosome positive patients with chronic myeloid Leukemia**
(a) Pentostatin (b) Methotrexate
(c) Imatinib (d) L-Asparaginase
33. **Which of the following monoclonal antibodies is prescribed for patients with non Hodgkin's Lymphoma**
(a) Infliximab (b) Abciximab
(c) Gemtuzumab (d) Rituximab
34. **Identify the drug which is NOT used in the treatment of malaria caused by Plasmodium falciparum**
(a) Artemisinin (b) Primaquine
(c) Quinine (d) Mefloquine
35. **Which one of the following drugs does NOT act through G-Protein coupled receptors**
(a) Epinephrine (b) Insulin (c) Dopamine (d) TSH
36. **Nicotinic action of Acetylcholine is blocked by the drug**
(a) Atropine (b) Carvedilol
(c) Neostigmine (d) d-Tubocurarine
37. **Which one of the following drugs is most effective in preventing transmission of virus from the mother to the foetus**
(a) Lamivudine (b) Zidovudine
(c) Indinavir (d) Ribavirin
38. **Improvement of memory in Alzheimer's disease is brought about by drugs which increase transmission in**
(a) Cholinergic receptors (b) Dopaminergic receptors
(c) GABAergic receptors (d) Adrenergic receptors
39. **Which of the following non-opioid analgesic is a prodrug**
(a) Piroxicam (b) Celecoxib
(c) Nabumetone (d) Ketorolac
40. **Which one of the following drugs is NOT a typical anti-psychotic agent**
(a) Chlorpromazine (b) Haloperidol
(c) Risperidone (d) Flupenthixol
41. **Which one of the followings is a plasminogen activator**
(a) Tranexamic acid (b) Streptokinase
(c) Aminocaproic acid (d) None of these
42. **Myasthenia gravis is diagnosed with improved neuromuscular function by using**
(a) Donepezil (b) Edrophonium
(c) Atropine (d) Pancuronium
43. **Which one of the following drugs specifically inhibits calcineurin in the activated T-lymphocytes**
(a) Daclizumab (b) Prednisone
(c) Sirolimus (d) Tacrolimus
44. **Which one of the followings is used as a mood stabilizer for bipolar disorder and also in certain epileptic convulsions**
(a) Phenytoin (b) Lithium
(c) Sodium valproate (d) Fluoxetine
45. **Streptomycin can NOT be given orally for treatment of tuberculosis because**
(a) It gets degraded in the GIT
(b) It causes severe diarrhoea

Pharmacology

- (c) It causes metallic taste in the mouth
(d) It is not absorbed from the GIT
46. **The effects observed following systemic administration of Levodopa in the treatment of Parkinsonism has been attributed to its catabolism to dopamine. Carbidopa, can markedly increase the proportion of Levodopa that crosses the blood brain barrier by**
(a) Increasing penetration of levodopa through BBB by complexation with it
(b) Decreasing peripheral metabolism of levodopa
(c) Decreasing metabolism of levodopa in the CNS
(d) Decreasing clearance of levodopa from the CNS
47. **Select the correct combination of drugs for the treatment of patients suffering from Hepatitis C**
(a) Interferon with Ribavirin
(b) Interferon with zidovudine
(c) Interferon with Suvudine
(d) Interferon with Lamivudine
48. **ALISKIREN acts by**
(a) Inhibiting the conversion of Angiotensin I to II
(b) Inhibiting the release of rennin
(c) Inhibiting the binding of Angiotensin II to the receptor
(d) Inhibiting the action of Aldosterone
49. **Digitalis toxicity is enhanced by co administration of**
(a) Potassium (b) Quinidine
(c) Diuretics (d) Antacids
50. **Which one of the following drugs is withdrawn from the market due to torsade de pointes**
(a) Chlorpromazine (b) Astemizole
(c) Haloperidol (d) Domperidone
51. **Ganciclovir is mainly used for the treatment of infection caused by**
(a) Cytomegalovirus (b) Candida albicans
(c) Herpes zoster virus (d) Hepatitis B virus
52. **Identify the one rational combination which has clinical benefit**
(a) Norfloxacin-Metronidazole
(b) Alprazolam-Paracetamol
(c) Chapride- Omeprazole
(d) Amoxicillin-Clavulanic acid
53. **Stevens Johnson syndrome is the most common adverse effect associated with one of the following category of drugs**
(a) Sulphonamides (b) Macrolides
(c) Penicillins (d) Tetracyclines
54. **Selective serotonin reuptake inhibitor is**
(a) Imipramine (b) iproniazide
(c) Fluoxetine (d) Naphazoline
55. **A metabolite obtained from Aspergillus terreus that can bind very tightly to HMG CoA reductase enzyme is**
(a) Fluvastatin (b) Cerivastatin
(c) Lovastatin (d) Somatostatin
56. **Cyclophosphamide as anticancer agent acts as Phase of clinical trials.**
(a) Alkylating agent before metabolism
(b) Alkylating agent after metabolism
(c) Phosphorylating agent after metabolism
(d) DNA intercalating agent
57. **Geriatric populations should be included in the following**
(a) Phase I (b) Phase II (c) Phase III (d) Phase IV

Pharmacognosy

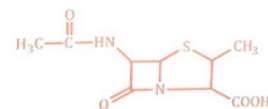
58. **The chemical behaviour of Morphine alkaloid is**
(a) Acidic (b) Basic (c) Neutral (d) Amphoteric
59. **Cardiac glycosides have the following configuration in the aglycone part of the steroid nucleus**
(a) 5 α , 14 α (b) 5 α , 14 β
(c) 5 β , 14 α (d) 5 β , 14 β
60. **Quassia wood is adulterated with**
(a) Brucea antidysentrica
(b) Cassia unguis
(c) Cinnamomum zeylanicum
(d) Cephaelis ipecacuanaha
61. **Eugenol is present in**
(a) Fennel (b) Tulsi (c) Cardamom (d) Coriander
62. **The vitamin essential in tissue culture medium is**
(a) Pyridoxine (b) Thiamine
(c) Nicotinic acid (d) Inositol
63. **Ginkgo biloba is used for its**
(a) Expectorant activity (b) Lipid lowering activity
(c) PAF antagonistic activity (d) Antidepressant activity
64. **The amount of barbakins present in Aloe vera is**
(a) <1% (b) 35-4% (c) 1-15% (d) 2-2.5%
65. **Choose the right combination**
(a) Quinine, antimalarial isoquinoline alkaloid
(b) Reserpine, antihypertensive, indole alkaloid
(c) Quantitative microscopy, stomatal number, myrrh
(d) Palmitic acid salicylic acid fatty acids
66. **Triterpenoids are active constituents of**
(a) Jaborandi (b) Rhubarb
(c) Stramonium (d) Brahmi
67. **Alkaloids are NOT precipitated by**
(a) Mayer's reagent (b) Dragendorff Reagent
(c) Picric acid (d) Millon's reagent
68. **Anisocytic stomata are present in**
(a) Senna (b) Digitalis
(c) Belladonna (d) Coca
69. **Bacopa monnieri plant belongs to the family**
(a) Scrophulariaceae (b) Leguminosae
(c) Polygalaceae (d) Rubiaceae
70. **Tropane alkaloids are NOT present in**
(a) Datura stramonium (b) Erythroxylum coca
(c) Duboisia myoporoides (d) Lobelia inflata
71. **Guggul lipids are obtained from**
(a) Commiphora malmol (b) Boswellia serrata
(c) Commiphora wightii (d) Commiphora abyssinica

72. An example of N-glycoside is
 (a) Adenosine (b) Sinigrin
 (c) Rhein-8-glucoside (d) Aloin
73. One mg of Lycopodium spores used in quantitative microscopy contains an average of
 (a) 94,000 spores (b) 92,000 spores
 (c) 90,000 spores (d) 91,000 spores

Pharmaceutical Chemistry

74. Proton pump inhibitors like Omeprazol and Lansoprazole contain the following ring system
 (a) Pyrimidine (b) Benzimidazole
 (c) Benzothiazole (d) Chandole
75. In Thiazides following substituent is essential for diuretic activity
 (a) Chloro group at position 6
 (b) Methyl group at position 2
 (c) Sulphamoyl group at position 7
 (d) Hydrophobic group at position 3
76. Artemisinin contains the following group in its structure
 (a) An endo peroxide (b) An exoperoxide
 (c) An epoxide (d) An acid hydrazide
77. Chemical nomenclature of Procaine is
 (a) 2-Diethyl amino ethyl 4 amino benzoate
 (b) N, N-Diethyl 4-amino benzoate
 (c) 4-Amino benzamido ethyl amine
 (d) 4-Amino-2-diethylamino ethyl benzoate
78. Barbiturates with substitution at the following position possess acceptable hypnotic activity
 (a) 1,3-Disubstitution (b) 5,5-Disubstitution
 (c) 1,5-Disubstitution (d) 3,3-Disubstitution
79. Amitriptyline is synthesized from the following starting material
 (a) Phthalic anhydride (b) Terephthalic acid
 (c) Phthalic acid (d) Phthalimide
80. The common structural feature amongst the three categories of anti-convulsant drugs Barbiturates, Succinimides and Hydantins is
 (a) Ureide (b) Imidazolidinone
 (c) Dihydropyrimidine (d) Tetrahydropyrimidine
81. Ethambutol molecule has
 (a) Two chiral centers and 3 stereoisomers
 (b) Two chiral centers and 4 stereoisomers
 (c) Two chiral centers and 2 stereoisomers
 (d) One chiral center and 2 stereoisomers
82. An Isosteric replacement for carboxylic acid group is
 (a) Pyrrole (b) Isoxazo (c) Phenol (d) Tetrazole
83. The given antibiotic is an example of ansamycins
 (a) Roxithromycin (b) Adriamycin
 (c) Aureomycin (d) Rifamycin
84. For glyburide, all of the following metabolic reactions are high except
 (a) O-demethylation (b) Aromatic oxidation
 (c) Benzylic hydroxylation (d) Amide hydrolysis

85. At physiological pH the following compound would be mostly in the
 (a) Cationic form
 (b) Unionized form
 (c) Zwitterionic form
 (d) Anionic form



Pharmaceutical Analysis

86. In Gas Liquid Chromatography, some of the samples need to be derivatized in order to increase their
 (a) Volatility (b) Solubility
 (c) Thermal conductivity (d) Polarizability
87. Indicate the HPLC detector that is most sensitive to change in temperature
 (a) PDA detector
 (b) Refractive Index detector
 (c) Electrochemical detector
 (d) Fluorescence detector
88. One of the following statements is NOT true
 (a) Accuracy expresses the correctness of measurement
 (b) Precision represents reproducibility of measurement
 (c) High degree of precision implies high degree of accuracy also
 (d) High degree of accuracy implies high degree of precision also
89. A compound will be sensitive towards IR radiation only when one of the following properties undergo transition on
 (a) Polarizability (b) Dielectric constant
 (c) Dipole moment (d) Refractivity
90. X-ray crystallographic analysis of an optically active compound determines its
 (a) Optical rotatory dispersive power
 (b) Absolute configuration
 (c) Relative configuration
 (d) Optical purity
91. Which one of the following statements is WRONG
 (a) A singlet or triplet state may result when one of the electrons from the HOMO is excited to higher energy levels
 (b) In an excited singlet state, the spin of the electron in the higher energy orbital is paired with the electron in the ground state orbital
 (c) Triplet excited state is more stable than the singlet excited state
 (d) When the electron from the singlet excited state returns to ground state, the molecule always shows fluorescence phenomenon
92. Purity of water can be assessed by determining one of its following properties instrumentally
 (a) pH
 (b) Refractivity
 (c) Viscosity
 (d) Conductivity

93. Which one of the following statements is WRONG.

- (a) Carbon NM has sensitive than proton M
- (b) ^{12}C nucleus is not magnetically active
- (c) Both C and H have same spin quantum numbers
- (d) The gyromagnetic ratio of ^1H

94. In organic molecules fluorescence is less than that of C. It seldom results from absorption of UV radiation of wavelengths lower than

- (a) 350 nm (b) 200 nm (c) 300 nm (d) 250 nm

Other Subjects

95. Amino transferases usually require the following for their activity

- (a) Niacinamide (b) Vitamin B12
- (c) Pyridoxal phosphate (d) Thiamine

96. In the TCA cycle, at which of the following enzyme-catalyzed steps, incorporation of elements of water into an intermediate of the cycle takes place

- (a) Citrate synthase (b) Aconitase
- (c) Malate dehydrogenase (d) Succinyl Co-A synthase

97. The rate limiting step in cholesterol biosynthesis is one of the followings

- (a) LDL-receptor concentration
- (b) VLDL secretion
- (c) Mevalonic acid formation
- (d) Co-enzyme A formation

98. Oxidative phosphorylation involves

- (a) Electron transport system
- (b) Substrate level phosphorylation
- (c) Reaction catalyzed by succinic thiokinase in TCA cycle
- (d) None of the above

99. The following protein/polypeptide has a quaternary structure

- (a) Co-Chymotrypsin (b) Hemoglobin
- (c) Insulin (d) Myoglobin

100. Rabies vaccine (living) is prepared using

- (a) Sheep blood (b) Mice lymph
- (c) Horse plasma (d) Fertile eggs

Answer Key

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





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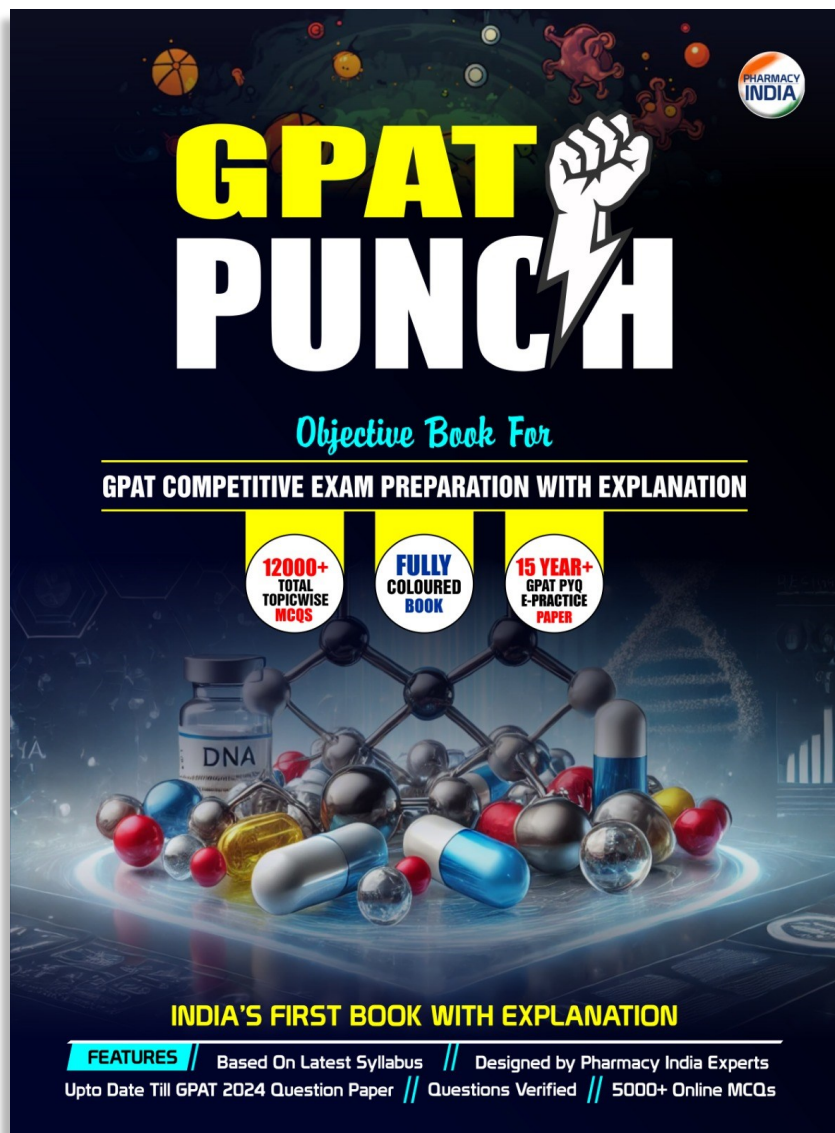
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