

GPAT-2016

Pharmaceutics

1. **OROS is a technology developed for/as**
 - (a) Oral release rapid onset system
 - (b) Orally rapid disintegrating tablets
 - (c) Osmotic controlled oral drug delivery system
 - (d) Transdermal drug delivery system
2. **The Gibb's Phase rule**
 - (a) Holds only for systems with more than components
 - (b) Predicts that a maximum of three phase can exists in one components system
 - (c) Does not count phase compositions as intensive variables
 - (d) Does not count pressure and temperature as intensive variables
3. **The displacement value is defined as**
 - (a) Quantity of drug which displace one part of the base
 - (b) Quantity of base which displace one part of the drug
 - (c) Quantity of drug which displace one part of the acid
 - (d) Quantity of base which displace one part of the acid
4. **Clausius-Clapeyron equation is use to express the relationship between**
 - (a) Vapor pressure and absolute temperature
 - (b) Rate of vaporization at a definite temperature
 - (c) Rate of vaporization at a definite pressure
 - (d) Vapor pressure and boiling point
5. **IPEC deals with**
 - (a) Excipient (b) USFDA (c) GMP (d) GLP
6. **The Reynolds number is defined as**
 - (a) Measure of the ratio of inertial forces $\rho V^2 / L$ to viscous forces $\mu V / L^2$
 - (b) Measure of the ratio of inertial forces $\rho V^2 / L$ to Non viscous forces
 - (c) Measure of the ratio of viscous forces $\mu V / L^2$ to inertial forces $\rho V^2 / L$
 - (d) Measure of the ratio of non-viscous forces to inertial forces $\rho V^2 / L$
7. **Which of the following equation is correct to determine the pH of weak base**
 - (a) $\text{pH} = \text{pK}_a + \log \text{ionized drug conc./unionized drug conc}$
 - (b) $\text{pH} = \text{pK}_a + \log \text{unionized drug conc./ionized drug conc}$
 - (c) $\text{pH} = \text{pK}_a - \log \text{ionized drug conc./unionized drug conc}$
 - (d) $\text{pH} = \text{pK}_a + \text{antilog unionized drug conc./ionized drug conc}$
8. **Which of the following is a propellant number of dichlorotetrafluoroethane**
 - (a) 114 (b) 014 (c) 124 (d) 012
9. **Auristillae is the latin term for**
 - (a) Eye drop (b) Ear drop
 - (c) Nasal drop (d) Spray solution
10. **DLVD theory is**

[P] Derjaguin Landon vervey overbeek theory
 [Q] Used to explain double electric layer theory
 [R] Used to explain stability ointments
 [S] Used to explain Brownian movement of colloids

 - (a) [P], [Q] (b) [Q], [R] (c) [R], [S] (d) [Q], [S]
11. **0.1gms.contains**
 - (a) 1000 mg (b) 100 mg (c) 10 mg (d) 1 mg
12. **When the angle of contact between a solid and a liquid is 90, then**
 - (a) Cohesive force > Adhesive force
 - (b) Cohesive force < Adhesive force
 - (c) Cohesive force = Adhesive force
 - (d) Cohesive force >> Adhesive force
13. **The procedure which is used to prove that the various production procedures, equipment and materials will produce accurate results is known as**
 - (a) GMP (b) Product design
 - (c) Quality assurance (d) Validation
14. **Apparatus IV as per USP**
 - (a) Flow-Through Cell (b) Paddle
 - (c) Basket (d) Reciprocating Cylinder
15. **The definition of a surfactant (an ingredient in tooth-paste) can best be described by which of the following statement? Surfactant**
 - (a) Prevent drying of the preparation
 - (b) Removes debris by it's detergent action and causes foaming, which is usually desired by the patient
 - (c) Determines the texture, dispersiveness and appearance of the product
 - (d) Adds flavor to the preparation which makes it more appealing to the patient
16. **Size reduction of a material with the addition of another material is called as**
 - (a) Mixing (b) Trituration
 - (c) Levigation (d) Pulverization
17. **If mean AUC's (mg.hr/mL) of drug dose 1mg, for tablet, oral solution and IV are 0.90, 0.87 & 101.0 respectively. Calculate the absolute bioavailability of tablet form**
 - (a) 0.89% (b) 0.88% (c) 0.82% (d) 0.85%
18. **The use of sodium rose Bengal (1-131) in**
 - (a) Study of K ion exchange (b) Liver scan
 - (c) Plasma volume determination (d) Brain scanning
19. **Micelles are observed in water, when the added surfactant is concentration range. This concentration range should be with in a particular**
 - (a) Equal to and less than CMC
 - (b) Equal to and more than CMC
 - (c) Equal to CMC
 - (d) More than CMC

20. **Colligative properties depend on**
 (a) Structural arrangement of atoms within the molecules of solute and solvent
 (b) The number of solute particles in solution
 (c) The physical properties of the solute particles dissolved in solution
 (d) Sum of the corresponding properties of individual atoms or functional group within the molecules
21. **The units of area under the curve (AUC) are**
 (a) cm^2 (b) mg / cm^2 (c) $\text{mg} / \text{ml} \times \text{min}$ (d) cm^2 / hr
22. **Which of the following is a quantity?**
 (a) True volume (b) Bulk density
 (c) True density (d) Porosity
23. **Which of the following are NOT true**
[P] Pseudoplastic flow is exhibited by liquid dispersion of tragacanth
[Q] Dilatant material are also called Shear-thickening material
[R] Pseudoplastic flow is characterized by the yield value
[S] Dilatant flow is exhibited by flocculated particles
 (a) [P], [Q] (b) [R], [S] (c) [P], [R] (d) [Q], [R]
24. **Measuring zeta potential is useful in determining which property of a liquid formulation**
 (a) Viscosity (b) Stability
 (c) Solubility (d) Particle size
25. **What is the surface tension of water of at 25°C**
 (a) 58 dyne/cm (b) 68 dyne/cm
 (c) 72 dyne/cm (d) 82 dyne/cm
26. **HLB of SPAN and TWEEN surfactants may be obtained from which of the following equations**
 (a) $\text{HLB} = E/5$
 (b) $\text{HLB} = (E+P)/5$
 (c) $\text{HLB} = 20 [(1-S)/A]$
 (d) $\text{HLB} = (\text{hydrophilic group numbers}) - (\text{lipophilic group numbers}) + 7$
27. **Which one of the following is a solid dosage form excipient which can play the role of diluent, a disintegrant, a glidant, a lubricant and a pore/ channel former?**
 (a) Lactose (b) Microcrystalline cellulose
 (c) Ethyl cellulose (d) Eudragit RL 100
28. **What is the required floor area for running a pharmacy for wholesale or distribution**
 (a) 6 sq meters (b) 10 sq meters
 (c) 15 sq meters (d) 30 sq meters
29. **At equilibrium the receptor occupancy is related to drug concentration by**
 (a) Henderson-Hasselbach equation
 (b) Hill Langmuir equation
 (c) Lineweaver-Burk equation
 (d) Langmuir adsorption isotherm
30. **The key concept of Total Quality Managements (TQM) is**
 (a) Total control of all quality related activities
 (b) Commitment of all employees to quality improvement and having team meetings
 (c) Top management's direct involvement
 (d) The Introduction of the ISO 9000 Series
31. **A drug of low water solubility when given orally is absorbed up to 90% of the administered dose. The drug belongs to which class according to BCS classification**
 (a) Class IV (b) Class III (c) Class II (d) Class I
32. **For the wetting of a solid by liquids, the contact angle (in degree) should have a value nearly**
 (a) 0 (b) 90 (c) 180 (d) 270
33. **Which wavelength of the UV light provides maximum germicidal action**
 (a) 253.7 nm (b) 275.5 nm
 (c) 253.5 nm (d) 240.0 nm
34. **According to ICS high permeability drug having absorption is**
 (a) $\geq 90\%$ (b) $\geq 50\%$ (c) $\geq 99\%$ (d) $\geq 95\%$
35. **In WFI the Colony forming units per ml (CFU/ml) NMT**
 (a) 10 (b) 20 (c) 100 (d) 50
36. **A large Reynold number is indication of which type of flow**
 (a) Smooth and stream line flow
 (b) Laminar flow
 (c) Steady flow
 (d) Highly turbulent flow
37. **The stability and shelf life of a suspension determined by**
 (a) Freeze-thaw studies (b) Sedimentation
 (c) Particle size (d) Particle shape
38. **Which is an example of non-enteric film former polymer?**
 (a) Ethyl cellulose (b) CAP
 (c) PVAP (d) Both (a) & (c)
39. **Identify the wrong statement**
 (a) Reciprocating cylinder is known as Type III Dissolution apparatus
 (b) Padlee over disc is known as Type IV Dissolution apparatus
 (c) Rotating cylinder is known as Type VI Dissolution apparatus
 (d) Reciprocating hokler is known as Type VII Dissolution apparatus
40. **Identify the correct statement**
 (a) Zeparox is the brand name of Mannitol
 (b) Amberlite is the brand name of Dextrose
 (c) Avicel is the brand name of microcrystalline cellulose
 (d) Primogel is hydrolysed starch
41. **When the renal clearance (ml/min) is less than 130, which statement is true**
 (a) Drug filtered and reabsorbed completely
 (b) Drug filtered and reabsorbed partially
 (c) Drug is filtered as well as secreted actively
 (d) Clearance equal to renal plasma flow rate

Pharmacology

42. **Which of the following is rate limiting step in synthesis of catecholamines?**
 (a) Conversion of Dopa to dopamine by dopa decarboxylase

- (b) Conversion of tyrosine to L-Dopa in presence of enzyme Tyrosine hydroxylase
 (c) Conversion of dopamine to NA by dopamine B-hydroxylase
 (d) Conversion of Noradrenaline to adrenaline by N-methyltransferase

43. Colistin is obtained from

- (a) Bacteria (b) Fungi
 (c) Actinomycetes (d) Herbs

44. Loss of therapeutic efficacy after prolonged/intensive use of drug

- (a) Retractoriness (b) Resistance
 (c) Tachyphylaxis (d) Idiosyncrasy

45. Match the following

Action	Description
1. Chronotropic	[P] Force of contraction
2. Inotropic	[Q] Frequency of heartbeat or heart rate
3. Dromotropic	[R] Excitability of cardiac muscle
4. Bathmotropic	[S] Conduction of impulse through heart

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

46. 5-HT_{2A} antagonist is

- (a) Clozapine (b) Ketanserin
 (c) Sumatriptan (d) Cisapride

47. Pernicious anemia is a form of which class of anemia

- (a) Microcytic normochromic
 (b) Microcytic hypochromic
 (c) Macrocytic megaloblastic
 (d) Macrocytic non-megaloblastic

48. LISPRO an analog of insulin defers from insulin by which amino acids

- (a) Lysine and proline
 (b) Leucine
 (c) Lysine and phenylalanine
 (d) Leucine and phenylalanine

49. What is the normal glomerular filtration rate

- (a) 120ml/min (b) 140ml/min
 (c) 240ml/min (d) 120ml/hr

50. Which of the following is an anabolic steroid?

- (a) Methyltestosterone (b) Fluoxymesterone
 (c) Nandrolone (d) Danazole

51. Terbinafine acts as

- (a) Competitive inhibitor of squalene epoxidase
 (b) Noncompetitive inhibitor of squalene epoxidase
 (c) Competitive inhibitor of folate synthetase
 (d) Noncompetitive inhibitor of folate synthetase

52. Belladonna poisoning may occur due to drug overdose or consumption of seed berries of belladonna plant, thus that poisoning can be overcome by

- (a) Homatropine (b) Digtoxine
 (c) Cinchonidine (d) Physostigmine

53. Cisplatin having high

- (a) Neurotoxicity (b) Hepatotoxicity
 (c) Nephrotoxicity (d) MAO inhibition

54. Which of the following drugs are often found in both prescription and over-the-counter nasal decongestants

- (a) Alpha 2 agonists (b) Alpha 1 agonists
 (c) Alpha 1 antagonists (d) Beta 2 agonists

55. A patient with rheumatoid arthritis has been taking acetyl salicylic acid regularly. However, recently she has been experiencing stiffness, swelling and pain due to salicylate resistance, she has occult blood in her faeces. Suggest an appropriate drug suitable for her from those mentioned below

- (a) Paracetamol (b) Celecoxib
 (c) Piroxicam (d) Naproxen

56. An 80 year old lady from osteoarthritis of hip and knee joints is given diclofenac 50 mg thrice daily and paracetamol 1 gm as required. She complains of passing black stools. This symptom is due to

- (a) Paracetamol causing black stool
 (b) Change in food habits
 (c) Upper gastrointestinal bleeding due to diclofenac
 (d) Age related decreases in GI motility

57. Drug combination warfarin/vitamin-K results in a specific interaction- identify

- (a) Antagonistic
 (b) Increased sedation
 (c) No known interaction
 (d) Harmful only in the presence of oxidizing agents

58. Which of the following is inhibiting Adenosine Deaminase?

- (a) Clopidogrel (b) Dipyridamol
 (c) Ticlopidine (d) Abciximab

59. L-type calcium channel located in

- (a) Cardiac muscle (b) Smooth muscle
 (c) Skeletal muscle (d) All of these

60. The risk of digitalis toxicity is significantly increased by concomitant administration of

- (a) Triamterene (b) Lidocaine
 (c) Captopril (d) Hydrochlorothiazide

61. Characteristics of carvedilol includes

- [P] It is a β_1 -selective antagonist
 [Q] It has both α_1 -selective and beta-blocking effects
 [R] It inhibits vascular smooth muscle mitogenesis
 (a) [P] true, [Q] & [R] false (b) [P], [Q] & [R] true
 (c) [Q] true, [P] & [R] false (d) [P], [Q] & [R] false

62. In parkinson's disease, there is a predominant loss of dopaminergic neurons blocker

- (a) Substantia (b) Cerebellar
 (c) Cerebral cortex (d) Locus ceruleus

63. Mode of action of Emetine is

- (a) Inhibit mycolic acid
 (b) Inhibit protein synthesis
 (c) Inhibit DNA synthesis
 (d) Inhibit lipid synthesis

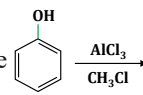
Pharmacognosy

64. 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
65. Which antidiabetics work through amplification of the incretin pathway
(a) DPP-4 Inhibitor
(b) Glucagon like peptide-1
(c) Sodium glucose co-transporter-2 inhibitor
(d) Thiazolidinedione
66. Select the correct option
- | Screening models | Activity |
|--|---------------------|
| 1. Actophotometer | [P] Locomotor |
| 2. Rota road and Chimney | [Q] Muscle relaxant |
| 3. Tail flick and Hot plate | [R] Analgesics |
| 4. Elevated plus maze and Mirror chamber | [S] Antianxiety |
- (a) 1 -[P], 2 -[Q], 3 -[R], 4 -[S]
(b) 1 -[P], 2 -[S], 3 -[R], 4 -[Q]
(c) 1 -[Q], 2 -[P], 3 -[R], 4 -[S]
(d) 1 -[S], 2 -[Q], 3 -[R], 4 -[P]
67. All of the following mechanisms of action correctly match a drug EXCEPT
(a) Quinidine: Blocks sodium channels
(b) Bretylium: Blocks potassium channels
(c) Verapamil Blocks calcium channel
(d) Procainamide: Blocks potassium channels
68. One of the following pairs of "drug mechanism" is most accurate
(a) Streptomycin: Miscoding in bacterial protein synthesis
(b) Ritonavir: Inhibition of reverse transcriptase in HIV
(c) Nystatin: Decreased synthesis of ergosterol in fungal cell membranes
(d) Tetracycline: Inhibits the activity of peptidyl transferase in bacterial protein
69. Identify the false statements
(a) A characteristics of drugs eliminated by zero order kinetic process is that the half-life is not constant
(b) The plasma drug concentration versus time curve for a drug eliminated by zero order se kinetics linear
(c) A fundamental characteristics of all first order pharmacokinetics processes is that the rate of the process is proportional to drug concentration
(d) A characteristics of absorption by lipid diffusion is its saturability at high drug concentrations
70. Which of the following is not a desirable characteristic for an effective urinary tract antimicrobial drug
(a) High activity against negative bacilli
(b) High volume of distribution in body
(c) Low level of protein binding
(d) Shows short biological half-life
71. Indicate which one of the following drugs may interfere with the uptake of in the thyroid gland
(a) Beta-blockers (b) Alpha-blockers
(c) Calcium channel blockers (d) Amiodarone

72. Which of the following is opium
(a) The dried latex exudate of the unripe incised capsules
(b) The dried aqueous extract of the ripe capsules
(c) The dried alcoholic extract of the unripe capsules
(d) A concentrated alcoholic extract of the poppy straw
73. Dragendorff's reagent does not give a positive test with
(a) Emetine (b) Morphine (c) Caffeine (d) Codeine
74. Indole type of alkaloid are derived by which precursor
(a) Ornithine (b) Tyrosine
(c) Tryptophan (d) Lysine
75. Bromhexine HCl is chemically
(a) Synthetic derivative of Vasicine
(b) Synthetic derivative of Ephedrine
(c) Synthetic derivative of Punernava
(d) Natural Vasaka
76. In which drug alkaloids are present as alkaloidal N-oxide form
(a) Ephedra (b) Belladonna
(c) Colchicine (d) Nuxvomica
77. Azeotropic method as recommended by WHO, is useful in
(a) Determination of Volatile oil content
(b) Determination of Pesticide residue
(c) Determination of Water content
(d) Determination of Foaming Index
78. Which compound is isolated from marine source have potent cytotoxic activity (antitumor activity) and goes in to phase 2 of clinical trials
(a) Brayostatin-1 (b) Dolistatin
(c) Ecteinascindin (d) Diemnsin
79. Which of the following drug does not give pink colour with ruthenium red
(a) Agar (b) Guar gum (c) Pectin (d) Isabgol
80. Match the following fluorescence produced by
- | | |
|-----------------|------------|
| 1. Ergometrine | [P] Blue |
| 2. Ergot powder | [Q] Red |
| 3. Emetine | [R] Orange |
| 4. R. emodi | [S] Violet |
- (a) 1-[P], 2-[Q], 3-[R], 4-[S]
(b) 1-[P], 2-[Q], 3-[S], 4-[R]
(c) 1-[P], 2-[R], 3-[Q], 4-[S]
(d) 1-[P], 2-[R], 3-[S], 4-[Q]
81. Animal cells do not contain
(a) Chloroplast (b) Cytoplasm
(c) Nucleus (d) Cell membrane
82. Sodium cromoglycate has been developed from the molecule which is found in the Ammi visnaga is
(a) Amarogentin
(b) Khellin
(c) Tubocurarine
(d) Physostigmine

Pharmaceutical Chemistry

83. In S_N2 reaction mechanism the product obtained from optically active halide shows
 (a) Complete racemisation
 (b) Partial racemisation
 (c) Retention of configuration
 (d) Complete Inversion of configuration
84. Identify the correct name for CORTISONE
 (a) 4 pregnane 17 α , 21 diol 3, 11, 20-trione
 (b) 3 Pregnane 17 α , 21 diol 3, 11, 20-trione
 (c) 4 Pregnane 11 β , 17 α , 21 triol 3, 20-dione
 (d) Pregnane 12 β , 17 α , 21 triol 3, 20-dione
85. The polarity of water molecule is due to
 (a) Difference in electronegativity of oxygen and hydrogen atoms in water
 (b) The readily ionizing behavior of water
 (c) The positive charge of water molecule
 (d) The negative charge of water molecule
86. Miglitol is chemically
 (a) 2, 3, 4-pyridine triol (b) 2, 3, 4-piperidine triol
 (c) 3, 4, 5-pyridine triol (d) 3, 4, 5-piperidine triol
87. An antidiabetic drug is 1-[4-[2-(5-chloro-2-methoxy-benzamido) ethyl] phenyl- Sulphonyl]-3-Cyclohexylurea. The generic name of the drug is
 (a) Glyburide (b) Gliclazide
 (c) Glipizide (d) Gliquidone
88. In Triamterene structure the substitution of -NH, at different position are
 (a) 1, 4, 6, (b) 2, 4, 7 (c) 3, 5, 7 (d) 1, 3, 5
89. In Misoprostol the hydroxyl group at position
 (a) 6, 11 (b) 11, 16 (c) 9, 16 (d) 11, 15
90. What is the best definition of Tautomers?
 (a) Constitutional isomers that readily interconvert
 (b) Stereoisomers that do not have a mirror image relationship
 (c) Structures that differ only by rotation around single bond
 (d) Isomers that have their atoms connected in the same order but have different three- dimensional arrangements
91. Identify the one which is a common Auxochrome
 (a) -C=C (b) -OH (c) -C=O (d) R-O-R
92. Conversion of phenyl acetate into o- hydroxyl acetophenone or p-ortho hydrost acetophenone in presence of anhydrous $AlCl_3$ the reaction known as
 (a) Friedel crafts reaction
 (b) Fries rearrangement
 (c) Riemer-Tiemann reaction
 (d) Oppenauer oxidation
93. The stereo chemistry of morphine is
 (a) 5S, 6R, 9S, 13R, 14S (b) 5S, 6R, 9S - 13R, 14R
 (c) 5S, 6R, 9S, 13S, 14S (d) 5R, 6S, 9R, 13S, 14R
94. The correct order of basicity is
 [P] Pyrrole [R] Pyridine
 [Q] Indole [S] Piperidine
- (a) [P] > [Q] > [R] > [S] (b) [Q] > [P] > [R] > [S]
 (c) [R] > [P] > [Q] > [S] (d) [S] > [R] > [P] > [Q]
95. Rubreserine is a metabolic product of
 (a) Neostigmine (b) Pyridostigmine
 (c) Physostigmine (d) Rivastigmine
96. Acridine and xanthene rings are related to each other in that
 (a) Xanthene is oxygen isoster of acridine
 (b) Acridine is oxygen isoster of xanthene
 (c) Xanthene is nitrogen isoster of acridine
 (d) Xanthene is sulfur isoster os acridine
97. What structure is formed if the acyl side chain of penicillin is hydrolysed
 (a) Penicilloic acids
 (b) Penillic acids
 (c) 7-Aminopenicillanic acid
 (d) 6-Aminopenicillanic acid
98. The IUPAC name, 4-Amino-N (5, 6-dimethoxy-4-pyrimidinly) benzenesulfonamide belong to which generic drug
 (a) Sulfadimidine (b) Sulfadoxine
 (c) Sulfalene (d) Sulfamerazine
99. Why acetyl chloride undergoes nucleophilic substitution at a faster rate than methyl acetate
 (a) The ester is more sterically hindered than the acid chloride
 (b) The chloride ion is a better leaving group than methoxide
 (c) The acid chloride is more sterically hindered than the ester
 (d) The methoxide ion is a better leaving group than chloride
100. IUPAC Name of Indomethacin
 (a) 4-methoxy-a-methyl-2-napthalene acetic acid
 (b) 6-methoxy-a-methyl-2-napthaleneacetic acid
 (c) 4-methoxy-a-ethyl-2-napthalene acetic acid
 (d) 6-ethoxy-a-ethyl-2-napthalene acetic acid
101. An aminocyclitol antibiotic that is structurally related to aminoglycosides. It lacks amino sugars and glycosidic bonds are
 (a) Kanamycin (b) Streptomycin
 (c) Spectinomycin (d) Neomycin
102. Which of the following is a phase II drug metabolism reaction associated with genetic polymorphism
 (a) Glucuronidation (b) Acetylation
 (c) Reduction (d) Glutathione conjugation
103. Methenamine used for UTI is a prodrug. How and to what is is converted into
 (a) At low pH of Urine, to formaklehyde
 (b) At high pH of urine, to aminosalicic acid
 (c) At low pH of Urine, to amonosalicic acid
 (d) At high pH of urine, to formaldehyde
104. Predict the major product of the following reaction
 (a) m-chlorophenol
 (b) o-chlorophenol and p-chlorophenol
 (c) o-hydroxytoluene and p-hydroxytoluene
 (d) m-hydroxytoluene



105. Lucas' reagent

[P] Lucas' reagent is a solution of anhydrous zinc chloride in concentrated hydrochloric acid

[Q] This solution is used to classify amines of low molecular weight

[R] Lucas reagent is also use to determine 1' 2' and 3' amine from mixture responses

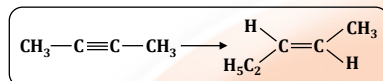
- (a) [P] is true, [Q] is false and [R] false
 (b) [P] is false, [Q] is true and [R] true
 (c) [P] and [Q] are false
 (d) [P], [Q] and [R] are true

106. What is the value of n in Huckel's rule when a compound has 9 pairs of electron

- (a) 4 (b) 6 (c) 7 (d) 8

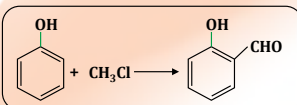
107. Best reagent for the following conversion

- (a) Li/liq.NH₃
 (b) Raney-Ni
 (c) LiAlH₄
 (d) Lindlar's reagent



108. Identify the named reaction

- (a) Perkin's reaction
 (b) Hell volhard zelinsky reaction
 (c) Riemer tiemann reaction
 (d) Hoffmann bromamide reaction



Pharmaceutical Analysis

109. Which list below gives only spin active nuclei

- (a) ¹H, ²H, ¹²C (b) ¹H, ¹²C, ¹⁹F
 (c) ¹H, ¹³C, ¹⁹F (d) ²H, ¹²C, ¹⁹F

110. In NMR spectrum of a substance the environment of absorbing proton the environment of neighboring proton tells about with respect to

- (a) Position of signals (b) Intensity of different signals
 (c) Number of signals (d) Splitting of signals

111. An example of strongly acidic cation exchange resin is

- (a) Carboxylic polymethacrylate
 (b) Phenol formaldehyde
 (c) Quaternary polystyrene
 (d) Sulphonated polystyrene

112. Name the titrant used for the assay of ascorbic acid tablet

- (a) Ceric ammonium nitrate
 (b) 0.1M Ceric ammonium nitrate
 (c) 0.1M Ceric ammonium sulphate
 (d) 0.02KMnO₄

113. If 100 ml of 1N HCl is diluted with 250ml water the resulting strength of solution would be

- (a) 0.1 N HCl
 (b) 0.04 N HCl
 (c) 0.4 N HCl
 (d) 0.2 N HCl

114. In polarography _____ current must be blocked

- (a) Residual (b) Migration
 (c) Diffusion (d) None of these

Other Subjects

115. The characteristics of sabin vaccine administered orally for prevention of polio-

[P] It contains of live attenuated strains of three immunological type of the poliovirus

[Q] It is generally not used in infants below 9 months of age

[R] It contains serum antibodies that are active against specific strain of poliovirus

[S] It has the risk of occasionally reverting back to virulent strains, resulting in vaccines

- (a) [P], [S] (b) [Q], [R] (c) [P], [R] (d) [P], [Q]

116. Which one is correct

- (a) Blood = Plasma + RBC + WBC + Blood platelets
 (b) Lymph = Plasma + RBC + WBC
 (c) Neuron = Cyton + Dendrite + Axon + Synapse
 (d) Plasma Blood + lymphocytes

117. Which of the two waste products are removed from the blood in liver by Ornithine cycle

- (a) Urea and CO₂ (b) Uric acid and ammonia
 (c) Ammonia and CO₂ (d) Urea and ammonia

118. The most potent Vitamin D metabolite is

- (a) 25-Hydroxycholecalciferol
 (b) 1, 25-Dihydroxycholecalciferol
 (c) 24, 25-Dihydroxycholecalciferol
 (d) 7-Dehydrocholesterol

119. Which of the following reactions generates ATP

- (a) Glucose-6-phosphate to fructose-6-phosphate
 (b) Glucose to glucose-6-phosphate
 (c) Fructose-6-phosphate to fructose-1,6-diphosphate
 (d) Phosphoenolpyruvate to pyruvate Thiamine is essential for

120. Thiamine is essential for

- (a) Pyruvate dehydrogenase
 (b) Isocitrate dehydrogenase
 (c) Succinate dehydrogenase
 (d) Acetyl CoA synthetase

121. Match the following

1. Mirror image of each other	[P] Epimer
2. α and β cyclic forms of D-glucose	[Q] Pyranose and furanose form
3. Two monosaccharides differ from each other	[R] Anomer In their configuration around a specific carbon atom
4. Structure of glucose	[S] Enantiomer

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

122. Thiamine deficiency causes decreased energy production because

- (a) It is required for the process of transamination
- (b) It is a co-factor in oxidative reduction
- (c) It is a co-enzyme for transketolase is phosphate pathway
- (d) It is a co-enzyme for pyruvate dehydrogenase & alpha ketoglutarate dehydrogenase

123. Dettol consists of

- (a) Cetrimide & chlorhexidine
- (b) Cresols in soap
- (c) Cetrimide & chlorhexidine & Butyl alcohol
- (d) Chlorxylenol

124. Cytochrome oxidase contains

- (a) Cu & Zn
- (b) Zn & Fe
- (c) Cu & Fe
- (d) Mn & Cu

125. The vaccines prepared through recombinant DNA technology are

- (a) Third generation vaccines
- (b) First-generation vaccines
- (c) Second-generation vaccines
- (d) None of these

Answer Key

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

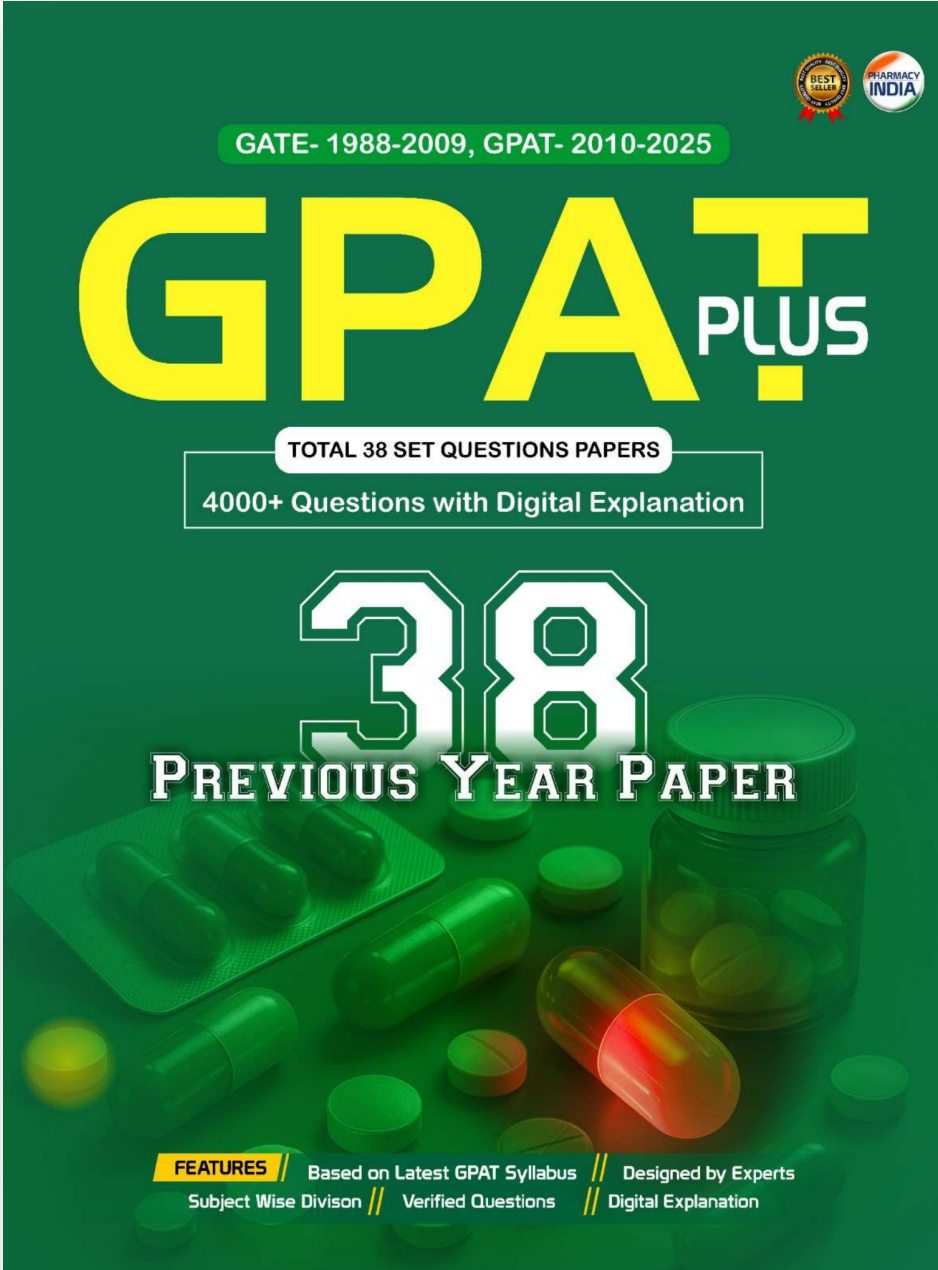



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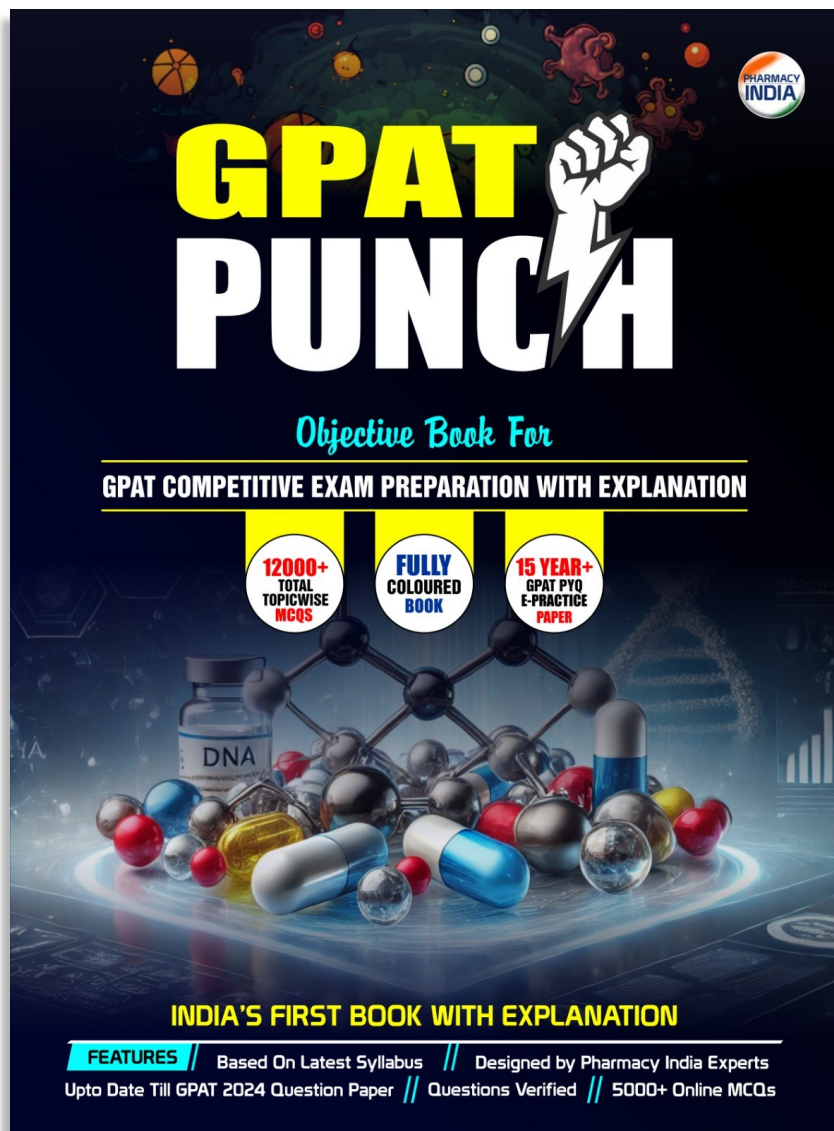
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