# GPAT-2025

## Section-A

1. **Which technique is employed for the location of radioactive isotopes in biological and other materials by using X-ray sensitive film:**
(a) Liquid Scintillation Counter
(b) Sequential analysis
(c) Precursor–product sequence
(d) Autoradiograph

2. **Pyridine is a base with Kb equal to:**
(a) 3.2 × 10-6 (b) 3.8 × 10-7
(c) 2.3 × 10-9 (d) 1.7 × 10-12

3. **Which is an example of continuous shelf moving bed dryer:**
(a) Vacuum Tumble Dryer (b) Turbo Tray Dryer
(c) Tray Dryer (d) Spray Dryer

4. **Match the following with the type of causative agents:**

| Disease | Causative agents |
|---|---|
| P. Tuberculosis | i. Bacteria |
| Q. Diphtheria | ii. Viral |
| R. Yellow fever | iii. Toxoid |
| S. Malaria | iv. Protozoa |

(a) P(i), Q(iii), R(ii), S(iv) (b) P(i), Q(ii), R(iii), S(iv)
(c) P(ii), Q(iii), R(iv), S(i) (d) P(iv), Q(iii), R(ii), S(i)

5. **Total number of stereoisomers for 3-bromo-2-butanol is:**
(a) 2 (b) 4 (c) 6 (d) 8

6. **Cis-trans (Z/E) isomerism is exhibited by all except:**
(a) 4-chloro-2 -pentene (b) 1-butene
(c) 2-chloro-3-hexene (d) 2 butene-1-ol

7. **In supercritical fluid extraction, critical temperature (tc) and critical pressure (pc) for $CO_2$ are:**
(a) 31°C and 54 atm (b) 51°C and 74 atm
(c) 51°C and 54 atm (d) 31°C and 74 atm

8. **Trikatu in Ayurveda is the combination of:**
(a) Black mustard, long pepper and ginger
(b) Black pepper, small pepper and ginger
(c) Black pepper, long pepper and betal
(d) Black pepper, long pepper and ginger

9. **Molecules in the smectic liquid crystals are characterized by which one of the following:**
(a) Mobility in two directions and no rotation
(b) Mobility in three directions and rotation in one axis
(c) Mobility in three directions and no rotation
(d) Mobility in two directions and rotation in one axis

10. **Arrange the following alkenes in order of its stability:**
(a) Trans-2-butene > cis-2-butene > isobutene > but-1-ene
(b) Cis-2-butene > trans-2-butene > but-1-ene > isobutene
(c) Trans-2-butene > isobutene > cis-2-butene > but-1-ene
(d) Isobutene > trans-2-butene > cis-2-butene > but-1-ene

11. **Which of the following is the correctly matched pair:**

| Parameter | Method |
|---|---|
| P. True density | (i) Reciprocal of bulk density |
| Q. Granule density | (ii) Graduated cylinder method |
| R. Bulk density | (iii) Helium pycnometer |
| S. Bulkiness | (iv) Mercury displacement method |

(a) P(i), Q(ii), R(iii), S(iv) (b) P(iii), Q(iv), R(ii), S(i)
(c) P(iii), Q(ii), R(iv), S(i) (d) P(i), Q(ii), R(iv), S(iii)

12. **Which of the following diluent is incompatible with primary amines:**
(a) Mannitol (b) Dextrose
(c) Microcrystalline Cellulose (d) Lactose

13. **When the highest dose of a drug is soluble in 250 ml or less of an aqueous medium over the pH range from 1 to 6.8 at 37°C and the extent of absorption in humans is expected to be more than or equal to 85 % of the administered dose, the drug is said to be classified in which of the BCS Class:**
(a) Class I (b) Class III (c) Class II (d) Class IV

14. **Identify the naturally occurring pilocarpine:**
(a) 2S,5R-(+)-pilocarpine (b) 2R,4R-(-)-pilocarpine
(c) 3R,4S-(-)-pilocarpine (d) 3S,4R-(+)-pilocarpine

15. **Which among the following is a class-II methods for tonicity adjustment:**
(a) Sodium chloride equivalent method
(b) Molecular concentration method
(c) White Vincent method
(d) Cryoscopic method

16. **Benzene undergoes Friedel-Crafts reaction with isopropyl bromide in the presence of anhydrous aluminum chloride catalyst to give:**
(a) Acetophenone (b) n-Propylbenzene
(c) Isopropylbenzene (d) Benzophenone

17. **Match pair of drug with its family:**

| Column A | Column B |
|---|---|
| a) Snake Root | i) Compositae |
| b) Artemisia | ii) Rosaceae |
| c) Bitter Almond | iii) Apocyanaceae |
| d) Myrrh | iv) Burseraceae |

(a) a-iv, b-ii, c -iii, d-i (b) a- iv, b-iii, c- ii, d-i
(c) a-i, b-iv, c-ii, d-iii (d) a-iii, b-i, c-ii, d-iv

**18. What is the USP prescribed maximum concentration limit for Benzalkonium chloride to be used as preservative in parenteral formulations:**
(a) 0.001% (b) 0.005% (c) 0.01% (d) 0.05%

**19. n-Butane exists in how many numbers of conformational isomers:**
(a) One anti and one gauche (b) One anti and two gauche
(c) Two anti and two gauche (d) Two anti and one gauche

**20. Alkyl halides are converted into alkanes by:**
(a) Grignard reagent (b) Birch reduction
(c) Sabatier-Senderens reaction (d) Wurtz reaction

**21. Rheogram of which system does not start from the origin:**
(a) Pseudoplastic systems (b) Plastic systems
(c) Dilatant systems (d) Newtonian systems

**22. Choose the correct statements regarding Tannins from the following:**
**A)** Tannin solution precipitate alkaloids
**B)** Hydrolysable tannins produces gallic and ellagic acid by acid or enzyme hydrolysis
**C)** Condensed tannins are converted into red colored substance known as phlobaphenes on treatment with acid or enzymes
**D)** Tannins are insoluble in water
(a) Only B & C (b) Only A
(c) Only A and D (d) Only A, B & C

**23. Which of the following is used for the evaluation of disinfectants:**
(a) Draves test (b) Widal test
(c) Chick Martin test (d) VDRL test

**24. Match the following: Mechanism of action Drug**

| Mechanism of action | Drug |
|---|---|
| 1. Inhibits arabinosyl transferases | a. Rifampicin |
| 2. Inhibits DNA dependent RNA polymerase | b. Bedaquiline |
| 3. Inhibits folate synthase | c. Ethambutol |
| 4. Inhibits mycobacterial ATP- synthase | d. Para- aminosalicylic acid |

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

**25. Glycogenic amino acids entered in TCA cycle except:**
(a) Aspartate (b) Alanine (c) Glycine (d) Glutamate

## Section-B

**26. What is the purpose of knowing the value of "m" in the Ilkovic equation:**
(a) To determine the drop time
(b) To calculate mass of electrons transferred
(c) To calculate the mass flow rate of mercury
(d) To determine the mass of analyte

**27. Choose the correct sentence/s from the following:**
**(P) Anthraquinone derivatives are generally detected by Borntrager's test.**
**(Q) Anthrone is pale yellow substance and soluble in alkali.**
**(R) Anthranol is insoluble in alkali and shows strong red fluorescence.**
**(S) Borntrager's test is negative for anthranols (reduced forms).**
(a) Only P and S (b) Only P
(c) Only Q and R (d) Only R

**28. Which of the following indicator is not used in complexometric titrations:**
(a) Ferroin (b) Xylenol orange
(c) Calcon mixture (d) Mordant Black II

**29. Which instrument is used for measurement of structural breakdown in thixotropic material:**
(a) Planimeter (b) Orifice meter
(c) Viscometer (d) Rotameter

**30. Which of the following alkaloids are found as salts of meconic acid:**
(a) Rauwolfia alkaloids (b) Opium alkaloids
(c) Tropane alkaloids (d) Ergot alkaloids

**31. If the granule density of potassium bicarbonate powder is 2.350 g/cc and true density is 3.560 g/cc, then determine intraparticle porosity:**
(a) 0.56 (b) 0.66 (c) 0.34 (d) 0.24

**32. Vincristine can be analysed by UV spectrophotometer at λmax:**
(a) 217 nm (b) 245 nm (c) 360 nm (d) 297 nm

**33. Minimum manufacturing space required for "Habb-Unani medicine" as per Schedule T of Drugs and Cosmetic Act is:**
(a) 100 Sq Ft (b) 150 Sq Ft
(c) 200 Sq Ft (d) 50 Sq Ft

**34. Triple point of water occurs at which temperature and pressure:**
(a) 0.098°C and 4.58 mmHg
(b) 0.0098°F and 4.58 mmHg
(c) 0.0098°C and 4.58 mmHg
(d) 0.098°F and 4.58 mmHg

**35. Multimeric enzymes which binds substrate in a cooperative fashion analogous to the binding of oxygen in haemoglobin can be best studied by:**
(a) Hill coefficient
(b) Craig's plot
(c) Michaelis-Menten expression
(d) Hansch plot

**36. Morphine shows absorbance of Ultraviolet light at wavelength:**
(a) 276 nm (b) 256 nm (c) 286 nm (d) 266 nm

**37. What is the fasting physiological pH value in the jejunum:**
(a) 3.2 ± 0.4 (b) 8.6 ± 0.4
(c) 4.8 ± 0.4 (d) 6.8 ± 0.4

**38. The iron content present in the gelatin for the manufacturing of soft gelatin capsules shell should not exceed:**
(a) 25 PPM (b) 20 PPM (c) 50 PPM (d) 15 PPM

**39. Aryl fluorides can be obtained from controlled thermal decomposition of dry aryldiazonium fluoroborates in the following reaction:**
(a) Gomberg reaction (b) Balz-Schiemann reaction
(c) Sandmeyer reaction (d) Gattermann reaction

**40. Which of the following is an exception to Markovnikov's rule:**
(a) Addition of H2O to an alkene in the presence of acid
(b) Addition of HCl to an alkene
(c) Addition of HI to an alkene
(d) Addition of HBr to an alkene in the presence of peroxides

**41. Stationary phase used in steroid separation by paper chromatography is:**
(a) Silica paper (b) Kieselguhr paper
(c) Acetylated paper (d) Carboxyl paper

**42. Debye is the unit for measuring:**
(a) Dipole moment (b) Bond energy
(c) Dissociation constant (d) Field effect

**43. Amongst the following liquids, which liquid has a highest surface tension against water at 20°C:**
(a) Carbon Tetrachloride (b) Oleic acid
(c) Octane (d) Mercury

**44. While performing conductometric titrations for the estimation of acetic acid using 0.1 M sodium hydroxide, after complete neutralization of acetic acid, further addition of titrant causes:**
(a) Increase in the conductance of the solution
(b) No change in conductance of the solution
(c) Colour changes to orange red
(d) Decrease in conductance of the solution

**45. The particle size range that can be analysed by Optical Microscopy method is:**
(a) 500-1000 µm (b) 200-500 µm
(c) 0.5-150 µm (d) 0.001-0.1 µm

**46. Manufacturing specifications for tooling have been standardized by:**
(a) Academy of Pharmaceutical Sciences
(b) Indian Pharmacopeial Commission
(c) Physican Desk reference of Industry
(d) National Drug Code

**47. When the log number of microrganisms is plotted against time, an essentially straight line results. The inverse slope of this line is called:**
(a) Thermal death time (b) D value
(c) Z value (d) Half life

**48. Ring juncture or backbone carbons in 5α-cholestane molecule are:**
(a) 5,8,9,10,13 and 15 (b) 5,8,9,10,13 and 14
(c) 5,8,9,10,11 and 14 (d) 5,6,9,10,13 and 14

**49. Sedative hypnotic barbiturates are having pKa value in the range of:**
(a) A. 9.2-11.1 (b) 7.6-8.4 (c) 4.9-6.4 (d) 2.7-5.6

**50. Which of the following is a characteristic of a deflocculated suspension:**
(a) Suspension is easily redispersable
(b) A sediment is formed slowly
(c) A sediment is formed rapidly
(d) Particles form loose aggregates

## Section-C

**51. For a drug if the label or the container bears the name of an individual or company purporting to be the manufacturer of the drug where the individual or company is fictitious or does not exist, such a drug is called**
(a) Adulterated drug (b) Mixed drug
(c) Misbranded drug (d) Spurious drug Question

**52. What score range is categorized as 'Probable' in the Naranjo Causality Assessment Scale for adverse drug reactions (ADR):**
(a) 1 - 4 (b) ≤ 0 (c) ≥ 9 (d) 5 - 8

**53. Furosemide inhibits:**
(a) The Na+ /Cl- co-transporter in the distal convoluted tubule
(b) The Na+ channel controlled by aldosterone's protein mediator
(c) The Na+ /K+ /2Cl- co-transporter in the ascending loop of Henle
(d) The Na+ /K+ co-transporter in the distal nephron and collecting tubules

**54. Which of the following drugs when given with warfarin induces hepatic P450 enzymes:**
(a) Amiodarone (b) Ciprofloxacin
(c) Carbamazepine (d) Metronidazole

**55. Match the following:**

| | |
|---|---|
| A) Schedule G | P) Life period of drugs |
| B) Schedule H | Q) Standards for Surgical dressing |
| C) Schedule F-2 | R) Drugs to be used under RMP |
| D) Schedule P | S) List of Prescription drugs |

(a) A-R; B-S; C-Q & D-P (b) A-R; B-S; C-P & D-Q
(c) A-P; B-Q; C-R & D-S (d) A-P; B-Q; C-S & D-R

**56. In A/B trans ring junction of steroid, hydrogen atom at 5th position has:**
(a) Alpha configuration (b) Eclipsed conformation
(c) Gauche conformation (d) Beta configuration

**57. Which of the following is a peroxisome proliferator-activated receptor gamma agonist:**
(a) Sulphonyl ureas (b) Metformin
(c) Pioglitazone (d) Acarbose

**58. Match the following:**

| Class | Antiarrhythmic drugs |
|---|---|
| 1. Class I | a. Disopyramide |
| 2. Class-II | b. Metoprolol |
| 3. Class-III | c. Amiodarone |
| 4. Class-IV | d. Verapamil |

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

**59. Which one of the following antiplatelet drug acts by P2Y12 receptor antagonism:**
(a) Dipyridamol (b) Tirofiban
(c) Clopidogrel (d) Aspirin

**60. The cyanide ions can be determined by Nephelo-Turbidimetry as salt of cyanide with:**
(a) Silver (Ag) (b) Gold (Au)
(c) Sodium (Na) (d) Potassium (K)

**61. The number of carbon present in Pregnane is:**
(a) 27 (b) 18 (c) 19 (d) 21

**62. Albinism is due to complete or partial absence of the following enzyme:**
(a) Hydroxylase (b) Tyrosinase
(c) β hydroxylase (d) Pyurvase

**63. Match the following:**

| Class | Drug |
|---|---|
| 1. Alkylating agent | a. Mechlorethamine |
| 2. Platinum analog | b. Cisplatin |
| 3. Antimetabolite | c. 5-Fluorouracil |
| 4. Growth factor receptor inhibitor | d. Cetuximab |

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

**64. Which of the following will be most easily diazotised:**
(a) P-Nitro aniline (b) P-Choloroaniline
(c) Aniline (d) P-Bromo aniline

**65. Mirabegron is primarily used in the treatment of overactive bladder. It is well known as:**
(a) β2-selective adrenergic receptor agonist
(b) β3-selective adrenergic receptor agonist
(c) Non-selective α-blocker
(d) Selective M3 receptor antagonist

**66. Which of the following is not a part of the Karl Fischer reagent:**
(a) Sulfur dioxide (b) Pyridine
(c) Pyrimidine (d) Iodine

**67. Arrange the following steps in the correct order as they occur in the drug discovery process:**
**1. Lead Optimisation 2. Target Selection**
**3. Lead Finding**
(a) 2 -> 1 -> 3 (b) 2 -> 3 -> 1
(c) 3 -> 1 -> 2 (d) 1 -> 2 -> 3

**68. Which parasitic worm is responsible for causing lymphatic filariasis:**
(a) Necator americanus (b) Onchocerca volvulus
(c) Ancylostoma duodenale (d) Brugia malay

**69. Oral vaccines such as Dukoral® and ShancholTM, provide protection against:**
(a) Ebola virus (b) Pneumonia
(c) Cholera (d) Polio

**70. Methotrexate is the classic antimetabolite of folic acid structurally derived by Nmethylation of the para-aminobenzoic acid residue (PABA) and replacement of a pteridine hydroxyl by the following bioisosteric group:**
(a) SH (b) CF (c) CH3 (d) NH2

**71. A structural hybrid of Meperidine and Methadone is:**
(a) Lofentanil (b) Pentazocine
(c) Loperamide (d) Diphenoxylate

**72. Which of the following statement(s) is/are correct regarding Salt bridge used in potentiometric titrations:**
**I.** Prevents possible contamination of the reference electrodes with the test solutions
**II.** Not designed as part of reference electrode
**III.** Has no effect on liquid junction potential
**IV.** Mostly solidified with 3% agar
(a) I & IV (b) III & IV (c) I only (d) I & III

**73. Match the following:**

| Pancreatic islet cells type | Secretory Product |
|---|---|
| 1. Alpha (α) cell | a. Glucagon |
| 2. Beta (β) cell | b. Somatostatin |
| 3. Delta (δ) cell | c. Gastrin |
| 4. G cell | d. Proinsulin |

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

**74. Select the proper sequence from start of contraction regarding skeletal muscle contraction:**
**A.** Release of calcium from sarcoplasmic reticulum after change in potential
**B.** Stimulation of motor end plate with acetylcholine
**C.** Troponin binds with calcium causing expose of binding sites for myosin
**D.** Actin and myosin crossbridge leads to power stroke
(a) ABCD (b) BACD (c) BCAD (d) BCDA

**75. BPaLM regimen is a combination of following drugs:**
(a) Bedaquiline, Pyrazinamide, Linezolid and Moxifloxacin
(b) Bedaquiline, Pretomanid, Linezolid and Montelukast
(c) Bedaquiline, Pretomanid, Linezolid and Moxifloxacin
(d) Bedaquiline, Pyrazinamide, Levofloxacin and Moxifloxacin

## Section-D

**76. Which statistical test is appropriate for comparing the means of two independent groups:**
(a) ANOVA (b) Pooled t-Test
(c) Sample t-Test (d) Paired t-Test

**77. An antibiotic has an elimination half life of 3 to 6 hours in the general population. A patient was given an IV infusion of an antibiotic at an infusion rate of 15 mg/h. Blood samples were taken at 8 and 24 hours, and plasma drug concentrations were 5.5 and 6.5 mg/L, respectively. Estimate the elimination half - life of the drug in this patient:**
(a) 2.96 hours (b) 3.58 hours
(c) 4.96 hours (d) 1.58 hours

**78. In a study, 50% of women diagnosed with venous thrombosis were found to be using oral contraceptives compared to a group without thrombosis. What type of study design is represented:**
(a) Case control study
(b) Cohort study
(c) Randomised controlled study
(d) Cross-sectional study

**79. According to USP, sparingly soluble refers to how many parts of solvent is required to dissolve one part of the solute:**
(a) From 30 to 100 (b) From 1000 to 10000
(c) From 10 to 30 (d) From 100 to 1000

**80. What is the effect of co-administering diltiazem with cyclosporin:**
(a) Increased nephrotoxicity of diltiazem
(b) Decreased blood levels of cyclosporin
(c) Increased blood levels of cyclosporin
(d) No interaction between the two drugs

**81. How much volume of raw spirit can an excise officer withdraw as sample:**
(a) Maximum three samples from a batch each not more than 150 mL
(b) Maximum two samples from a batch each not more than 100 mL
(c) Maximum three samples from a batch each not more than 100 mL
(d) Maximum two samples from a batch each not more than 150 mL

**82. The flow in which viscosity increases when the substance is sheared is known as:**
(a) Newtonian flow (b) Dilatant flow
(c) Plastic flow (d) Pseudoplastic flow

**83. According to Baeyer Strain Theory, which of the following cycloalkanes is most stable:**
(a) Cyclooctane (b) Cyclopropane
(c) Cyclopentane (d) Cyclobutane

**84. Which equation is used for explaining the theory of filtration:**
(a) Dalton's equation (b) Darcy's equation
(c) BET equation (d) Stoke's equation

**85. What is the blood concentration ratio of Trimethoprim and Sulfamethoxazole after their administration in the ratio of 1:5:**
(a) 1:5 (b) 1:10 (c) 1:20 (d) 1:1

**86. What type of reaction is the Diels-Alder reaction:**
(a) Elimination (b) Nucleophilic addition
(c) Cycloaddition (d) Electrophilic substitution

**87. How much sodium hydroxide is required to prepare 200 ml of 0.15 M solution:**
(a) 1.2 gram (b) 1.0 gram (c) 1.5 gram (d) 1.8 gram

**88. Walden inversion is associated with:**
(a) Elimination reaction (b) SN2 reaction
(c) Both SN1 and SN2 reactions (d) SN1 reaction

**89. Which of the following masking agents is used to mask the Iron (II) ion during the complexometric titration:**
(a) Ammonium fluoride (b) Thioglycerol
(c) Potassium cyanide (d) Triethanolamine

**90. Which one of the following is an antidote for organophosphorous poisoning:**
(a) Sodium thiosulphate (b) Pralidoxime
(c) Naloxone (d) Physostigmine

**91. The below mentioned equation is known as:**
(a) Boltzmann-Planck equation
(b) BET equation
(c) Clausius-Mossotti equation
(d) Clausius-Clapeyron equation

$$\log\frac{P2}{P1} = \frac{\Delta H_v(T2 - T1)}{2.303RT1T2}$$

**92. Match the following schedule with their correct description: Schedules Descriptions**
**(I) Schedule FF (P) Standard for sterilized umbilical tapes**
**(II) Schedule F3 (Q) Requirements and guidelines on clinical trials for import and manufacture of new drug**
**(III) Schedule V (R) Standard for ophthalmic preparations**
**(IV) Schedule Y (S) Standard for patent or proprietary medicines**
(a) I-R, II-P, III-S, IV-Q
(b) I-P, II-R, III-S, IV-Q
(c) I-R, II-Q, III-P, IV-S
(d) I-P, II-Q, III-R, IV-S

**93. The recombination of the fragments can be avoided by maintaining which of the following systems that decreases the number of collisions between fragments or molecules:**
(a) High Temperature (b) High Pressure
(c) Low Temperature (d) Low Pressure

**94. Nitrodisc is an example of which type of drug delivery system:**
(a) Ocular (b) Transdermal
(c) Nasal (d) Mucosal

**95. The Kozeny - Carman equation is related to:**
(a) Pressure drop in turbulent flow
(b) Heat transfer coefficient
(c) Permeability to particle size and bed porosity
(d) Sedimentation velocity

**96. Which of following test is distribution free, i.e., does not require any assumption to be made about population following normal or any other distribution:**
(a) ANOVA (b) Kruskal Wallis test
(c) Fischer LSD test (d) Student t-test

**97. The indicator involved in Fajans method is:**
(a) Xylene orange (b) Methyl red
(c) Dichlorofluorescein (d) Phenolphthalein

**98. Which one of the following anticonvulsant drugs act on a selective molecular target:**
(a) Gabapentin (b) Lamotrigine
(c) Pregabalin (d) Tiagabine

**99. Vigabatrin is an inhibitor of:**
(a) Chloride ion channels (b) GABA transaminase
(c) Voltage gated Na+ channel (d) GABA synthase

**100. As per ICH guidelines, the temperature and humidity conditions of climatic zone-II respectively are:**
(a) 30°C, 65 % RH (b) 21°C, 45 % RH
(c) 25°C, 60 % RH (d) 30°C, 35 % RH

## Section-E

**101. Which nasal decongestant is a selective α-2 adrenergic receptor agonist:**
(a) Loratadine (b) Oxymetazoline
(c) Montelukast (d) Cetirizine

**102. After which phase of clinical trial, can a pharmaceutical company submit new drug application (NDA) to the licensing authority:**
(a) Phase II (b) Phase III (c) Phase I (d) Phase IV

**103. Bempedoic acid, a dicarboxylic acid, is a new class of cholesterol-lowering drug that act by inhibiting:**
(a) ATP-citrate lyase
(b) Apolipoprotein B-100 synthesis
(c) Microsomal Triglyceride transfer protein
(d) Proprotein Convertase Subtilism / Kexin type 9

**104. 5HT 2A/2C inhibitor used to treat migraine is:**
(a) Renzapride (b) Ketanserin
(c) Methysergide (d) Metoclopramide

**105. Energy of activation (Ea) of thermal decomposition of glucose by first order reaction can be calculated from:**
(a) The X-axis intercept of Arrhenius plot
(b) The Y-axis intercept of Arrhenius plot
(c) The slope of Arrhenius plot
(d) From rate constant at room temperature

**106. Which one of the following anemias is characterized by microcytic, hypochromic red blood cells:**
(a) Pernicious anemia (b) Hemolytic anemia
(c) Iron deficiency anemia (d) Aplastic anemia

**107. Zeta potential of aqueous suspension can be determined by measuring:**
(a) Dielectric constant
(b) Electrophoretic mobility of particles
(c) Density
(d) Charges on particles

**108. Which of the following causes shift in the oxygen-hemoglobin dissociation curve to the right:**
(a) Increased PCO2 (b) Increased PO2
(c) Decreased H+ concentration (d) Decreased PCO2

**109. Which of the following pair is correctly matched in terms of laxative type and its mechanism of action:**
(a) Prucalopride : 5-$HT_4$ agonist
(b) Lactulose : Stimulant laxative
(c) Lubiprostone : Faecal softener
(d) Senna : Bulk forming laxative

**110. Which broad spectrum antimicrobial agent is commonly used for preservation of pharmaceutical formulations:**
(a) Sorbic acid (b) Vitamin C
(c) Benzalkonium chloride (d) Benzoic acid

**111. Which electrolyte imbalance is commonly associated with Amphotericin B:**
(a) Hypokalemia (b) Hypermagnesemia
(c) Hyponatremia (d) Hypercalcemia

**112. The sedimentation volume of pharmaceutical suspension is:**
(a) Ultimate height of sediment / Initial height of total suspension
(b) Volume of sediment
(c) Volume of flocculated suspension
(d) Initial height of total suspension / Ultimate height of sediment

**113. A type IV PDE inhibitor used for the treatment of COPD is:**
(a) Roflumilast (b) Cromoglicate
(c) Reslizumab (d) Montelukast

**114. Thixotropic behaviour is associated with:**
(a) Sol-gel-sol transformation

(b) B. Solid and liquid behaviour
(c) Decrease in viscosity
(d) Increase in viscosity

**115. Antiviral drugs used for the treatment of influenza act by inhibiting the enzyme:**
(a) Reverse transcriptase (b) DNA polymerase
(c) Protease (d) Neuraminidase

**116. The common name of convective transport is:**
(a) Passive transport (b) Pore transport
(c) Active transport (d) Endocytosis

**117. Which one of the following is used in the treatment of bronchial asthma and belongs to beta-2 sympathomimetics:**
(a) Salmeterol (b) Theophylline
(c) Ketotifen (d) Ipratropium bromide

**118. Which of the following anticancer medications causes Hand - Foot syndrome:**
(a) Vincristine (b) Methotrexate
(c) Capecitabine (d) Doxorubicin

**119. Which of the following is a characteristic of HIV infection:**
(a) Increased natural killer cell activity
(b) Increased B cell function
(c) Depletion of $CD4^+$ T cells
(d) Increased $CD8^+$ T cells

**120. In slow IV infusion, what is the time to reach 99% of the steady state concentration:**
(a) 2.32 half lives (b) 6.65 half lives
(c) 4.32 half lives (d) 3.32 half lives

**121. A powder has Carr's compressibility index value in the range of 12-16. The flowability of the powder is:**
(a) Excellent (b) Good (c) Poor (d) Fair

**122. All of the following are long acting GnRH agonists EXCEPT:**
(a) Cabergoline (b) Ganirelix
(c) Triptorelin (d) Buserelin

**123. Bambuterol is a prodrug of:**
(a) Salmeterol (b) Terbutaline
(c) Indacaterol (d) Albuterol

**124. Manucol is also known as:**
(a) Sodium alginate (b) Alginic acid
(c) Guar gum (d) Carbopol

**125. ISO standard presenting the model for quality assurance in design, development, production, installation and servicing is:**
(a) ISO 9002 (b) ISO 9000
(c) ISO 9004 (d) ISO 9001

## Answer Key

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

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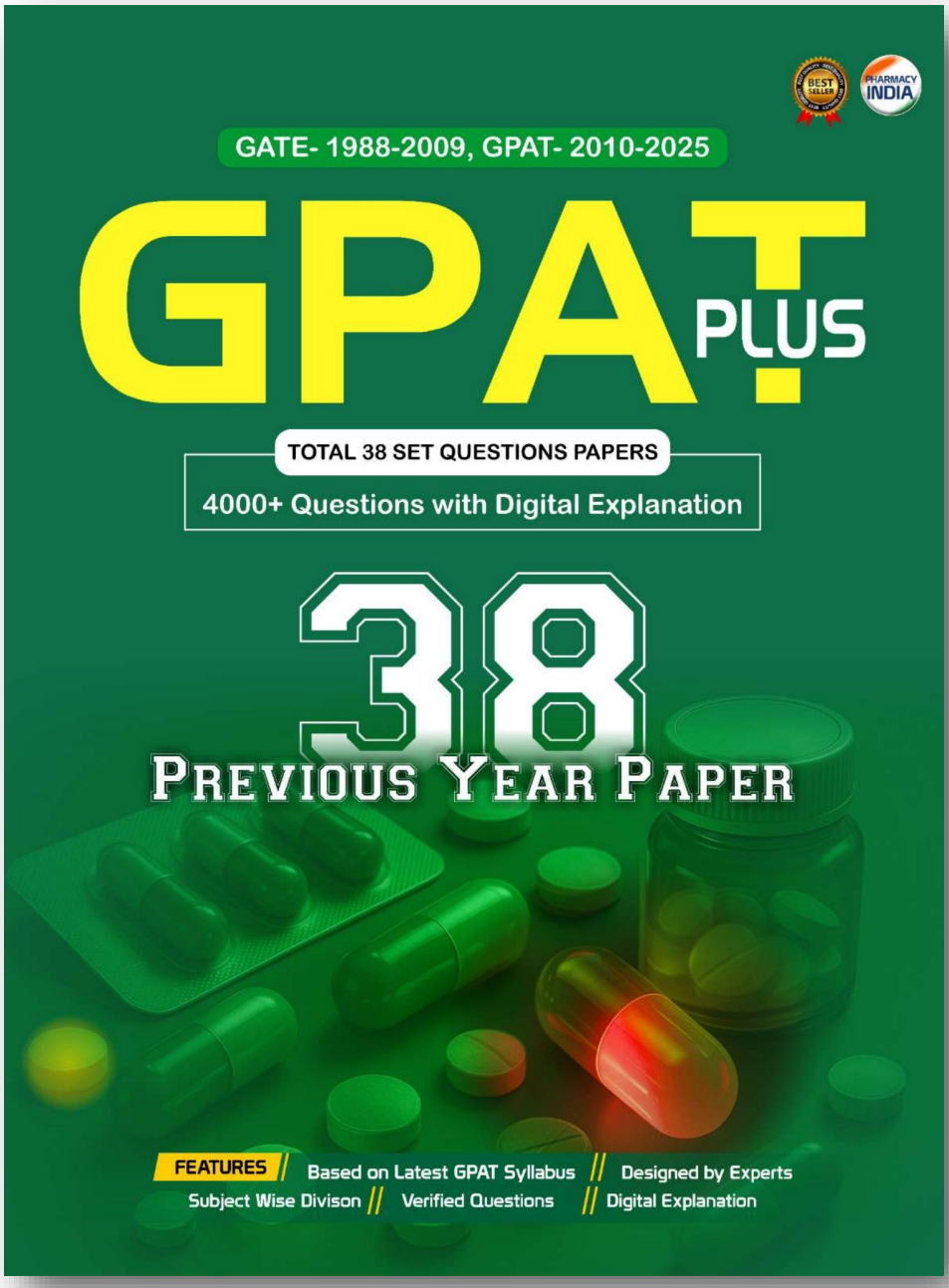


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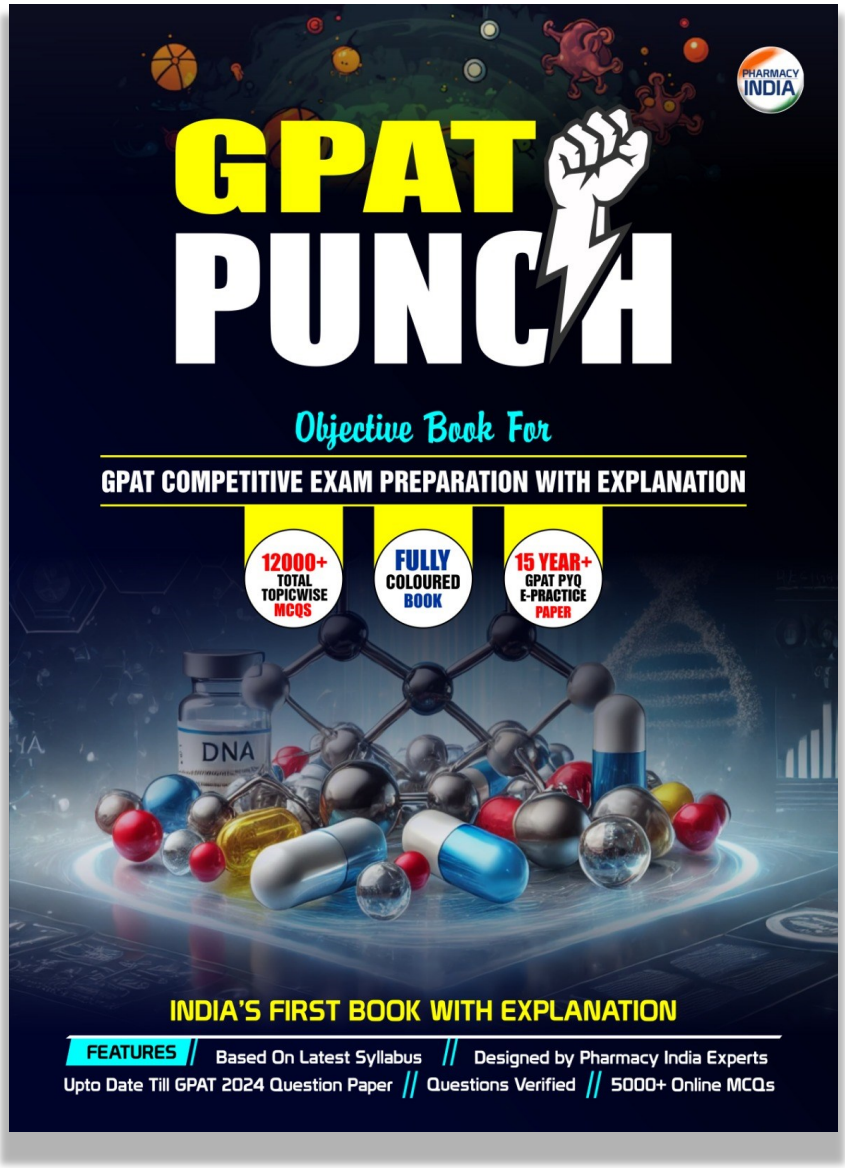


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