GPAT 2023 Question Paper Shift 1

Pharmaceutical chemistry

Tick mark the appropriate choice

1. Which one among the following drugs has the IUPAC name, α, α, $\bar{\alpha}$, $\bar{\alpha}$ – tetramethyl 5-(1 H-1, 2,4-triazole-1-ylmethyl)-1,3-benzenediacetonitrile:

(a) Letrozole (b) Aminglutethimide
(b) (c) Exemestane (d) Anastrozole

2. Which one of the following compound is a precursor for the biosynthesis of cholesterol?

(a) Progesterone (b) Lanosterol
(b) Cholic acid (d) Coprostanol

3. E2 elimination converts neomethyl chloride into a mixture of the following compounds:

(a) 4-menthene (75%) and 2-methene (25%)
(b) 3-menthene (25%) and 5-methene (75%)
(c) 1-menthene (50%) and 3-methene (50%)
(d) 3-menthene (75%) and 2-methene (25%)

4. Establishing a complete structure of_____is more complex problem than others.

(a) Polysaccharide (b) Protein
(b) Nucleic acid (d) Peptide

5. Dipole-dipole weak interactions are also called as:

(a) London forces (b) Debye inteactions
(c) Electrovalent forces (d) Keesom forces

6. The following are the processes occurring during flame atomization in atomic absorption spectrometry:

(i) Volatilization (ii) Ionization
(iii) Nebulization (iv) Desolvation
(v) Dissociation

Arrange the processes in sequential order and choose the correct answer from below:

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

7. A mixture of p-anisaldehyde and formaldehyde in the presence of concentrated sodium hydroxide results in:

(a) Sodium-p-methoxy benzene
(b) P-Methoxy benzyl alcohol
(c) p-Methoxy benzoyl alcohol
(d) p-Methoxy sodium benzoate

8. Ethyl-2 (p-chlorophenoxyl)-2-methyl propionate is IUPAC name of:

(a) Fenofibrate (b) Colestipol
(b) Clofibrate (d) Colesevelam

9. The reaction between napthalene and chromium trioxide in the presence of glacial acetic yields:

(a) Naphthalene-1.4-dione
(b) 4-Hydroxynaphthalen-1 (4H)-one
(c) Napthanelen-1.2-dione
(d) 1-Hydroxynaphthalen-2(1H)-one

10. Following is an example of a typical anti-psychotic _____

(a) Haloperidol (b) Clozapine
(b) Thioridazine (d) Fluphenazine

11. Which one is not the characteristics of the Hexose Monophosphate Pathway?

(a) It produces CO_2
(b) It requires ATP for phosphorylation
(c) It is controlled by inhibition of glucose-6 phosphate dehydrogenase by NADPH

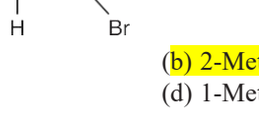
12. Platinum electrode surrounded by an outer tube, in which hydrogen passes entering through side inlet and escaping at the bottom through the test solution, is called as:

(a) Silver electrode (b) Calomel electrode
(c) Standard hydrogen electrode
(d) Indicator electrode

13. Which of the following gives correct rank order from fastest to slowest of the relative rates in SN^2 reaction ofmethyl bromide, tert-butyl bromide, isopropyl bromide and ethyl bromide?

(a) Methyl bromide > Ethyl Bromide > Isopropyl bromide > tert-Butyl bromide
(b) tert-Butyl bromide > Isopropyl bromide > Ethyl Bromide > Methyl bromide
(c) Ethyl Bromide > Methyl bromide > Isopropyl bromide > tert-Butyl bromide >
(d) Methyl bromide > Ethyl Bromide > tert-Butyl bromide > Isopropyl bromide

14. Choose the correct and major product formed in the below-given reaction from the choices listed below:

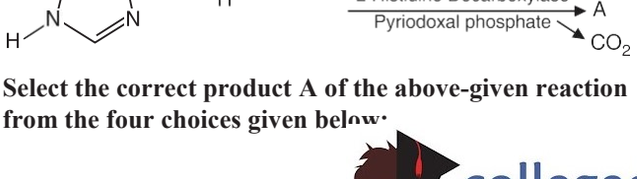


(a) 3-Pentene (b) 2-Methyl-2-butene
(c) 1-Pentane (d) 1-Methyl-2-butene

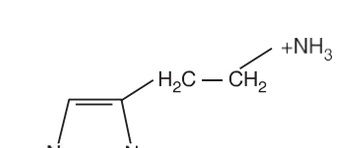
15. Select the correct set of anticancer drugs that belong to "pyrimidine and related compounds":

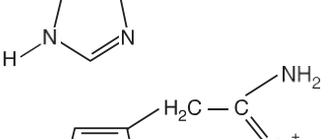
(a) 5-Flurouracil, Tegafur, Decitabine, 5-Azacytidine
(b) 5-Flurouracil, Tegafur, Decitabine, Clofarabine
(c) Tegafur, Decitabine, 5-Azacytidine, Pentostatin
(d) Tegafur, Decitabine, 5-Azacytidine, Clofarabine

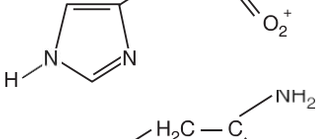
16.

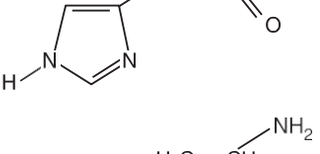


Select the correct product A of the above-given reaction from the four choices given below:

(a) 

(b) 

(c) 

(d) 

17. **The law of relative lowering of vapour pressure was given by:**
(a) Raoult (b) Ostwald (c) Henry (d) Van't Hoff

18. **The perfect orientation for a Diels-Alder reaction between the reactants is:**
(a) Diene should be S-cis and reaction endo facing
(b) Diene should be S-cis and reaction exo facing
(c) Diene should be S-trans and reaction endo facing
(d) Diene should be S-trans and reaction exo facing

19. **How would you prepare 2000 mL of 0.15 M NaOH aqueous solution?**
(a) Dissolve 12 g of NaOH in distilled water and dilute to 2000 mL
(b) Dissolve 15 g of NaOH in distilled water and dilute to 2000 mL
(c) Dissolve 10 g of NaOH in distilled water and dilute to 2000 mL
(d) Dissolve 7.5 g of NaOH in distilled water and dilute to 2000 mL

20. **The molecular formula of purine is:**
(a) $C_5H_4N_4$ (b) $C_6H_5N_3$ (c) $C_7H_6N_2$ (d) $C_4H_3N_2$

21. **Given below are two statements, one is labelled as Assertion and the other is labelled as Reason**

Assertion (A): The disadvantage of atomic absorption spectroscopy is the need for each element to be analysed.

Reason (R): As atomic absorption spectrophotometer uses different halocathode lamp for each element, it is very specific for an individual element under test.

In light of the above statements, choose the correct answer from the options given below:
(a) Both A and R are true and R is the correct explanation of A
(c) A is true but R is false
(d) A is false but R is true
(e) (b) Both A and R are true and R is NOT the correct explanation of A

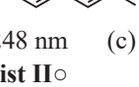
22. **In context to voltametry, which of the following statement is false?**
(a) Technique can be used to analyse organic compounds containing carbonyl groups
(b) Organic solvents cannot be used as aqueous organic mixture in this technique
(c) Immuno sensors are available in voltametry
(d) Triangular waveform is used for excitation of solution in cyclic voltametry.

23. **Choose the correct order of decreasing dielectric constant:**
(a) Water > Formamide > Methanol > Acetone
(b) Water > Methanol > Acetone > Formamide
(c) Formamide > Acetone > Methanol > Water
(d) Formamide > Water > Methanol > Acetone

24. **How many optical isomers are possible for lactic acid?**
(a) 2 (b) 4 (c) 6 (d) 8

25. **Identify what is not a continuum source of radiation for use in absorption and fluorescent spectrophotometers?**
(a) Argon are lamp (b) Hollow-cathode lamp
(b) Deuterium lamp (d) Xenon are lamp

26. **Predict the wavelength of absorption band in the UV spectrum of the below shown structure:**



(a) 252 nm (b) 248 nm (c) 244 nm (d) 240 nm

27. **Match List I and List II**

List I Name of Vitamin		List II Functions of Vitamins	
A.	Riboflavin	I.	The electron acceptor for isocitrate dehydrogenase
B.	Niacin	II.	Decarboxylation of alpha-ketoglutarate dehydrogenase
C.	Thiamine	III.	Part of coenzyme A
D.	Pantothenic acid	IV.	Cofactor for succinate dehydrogenase
		V.	Enzyme activity regulator, such as for protein kinase C

Choose the correct answer from the options given below:

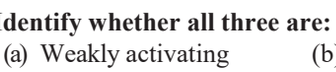
(a) A-IV, B-I, C-II, D-III (b) A-III, B-II, C-IV, D-V
(b) A-I, B-III, C-IV, D-II (d) A-II, B-V, C-I, D-IV

28. The correct rank order of orientation of sulfonation in toluene is:
(a) 2-methylbenzenesulfonic Acid > 3-methylbenzenesulfonic acid > 4-methylbenzenesulfonic acid
(b) 3-methylbenzenesulfonic acid > 2-methylbenzenesulfonic acid > 4-methylbenzenesulfonic acid
(c) 3-methylbenzenesulfonic acid > 2-methylbenzenesulfonic acid > 4-methylbenzenesulfonic acid
(d) 4-methylbenzenesulfonic acid > 2-methylbenzenesulfonic acid > 3-methylbenzenesulfonic acid

29. A reagent may attach itself to a conjugated diene to the carbons at the two ends of the conjugated system. Identify the reaction involved from the following:
(a) 1,2-addition (b) 1,4-addition
(c) 1,3-addition (d) 2,4-addition

30. Invert sugar is a product obtained by the hydrolysis of:
(a) Maltose (b) Sucrose (c) Lactose (d) Dextrin

31. Following groups exert any one of the effects on electrophilic aromatic substitution



Identify whether all three are:
(a) Weakly activating (b) Deactiviting
(c) Moderately activating (d) Strongly activating

32. DNA and RNA contain the following two major purine bases:
(a) Guanine and cytosine (b) Adenine and guanine
(c) Thymine and uracil (d) Adenine and uracil

33. Following is not an example of carbapenem
(a) Thienamycin (b) Imipenem
(c) Piperacillin (d) Meropenem

34. As the solution of a strong electrolyte is diluted the following phenomenon is observed:
(a) The specific conductance decrease and equivalent conductance increases
(b) The specific conductance increases and equivalent conductance decreases
(c) Both specific conductance and equivalent conductance increase
(d) Both specific conductance and equivalent conductance decrease

35. Lucas test is very rapid with:
(a) 1° alcohol (b) 2° alcohol
(c) 3° alcohol (d) Phenol

36. The molecule having zero dipole moment is
(a) BF_3 (b) HF (c) NH_3 (d) CH_3Cl

37. Electrophilic substitution reaction of pyridine, when carried out in the presence of KNO_3 and conc. H_2SO_4 at 300°C, leads to the formation of:
(a) 4-Nitropyridine (b) 3-Nitropyridine
(b) 2-Nitropyridine (d) N-nitro pyridinium salt

Pharmaceutics and allied subjects

38. Which of the following molecular properties can be determined by Themogravimetric Analysis?
(a) Solubility (b) Hygroscopicity
(c) Colour stability (d) Hydrolysis

39. Which of the following emulsifiers has the highest HLB value?
(a) Span 80 (b) Acacia
(c) Tween 80 (d) Sodium lauryl sulfate

40. In pharmacokinetic models, the term "compartment" means:
(a) Blood (b) Individual organ
(c) Extracellular fluid
(d) Hypothetical pool of tissue

41. Which of the following pharmaceutical solvent has the highest dielectric constant at 25°C?
(a) Glycerin (b) Ethanol (c) Acetone (d) Phenol

42. Kozeny Carmen equation is used to determine the _____
(a) Viscosity of a liquid
(b) Surface area of the powder
(c) Surface tension of a liquid
(d) Density of a liquid

43. Which of the following substances are not used as humectants in emulsions?
(a) Propylene glycol (b) Sorbitol
(b) Tocopherol (d) Glycerol

44. Which of the following Urinary Tract Anti-Infective agents an acidic pH of urine for optimum action?
(a) Gentamicin (b) Erytharomycin
(c) Carbenicillin (d) Streptomycin

***45.* Under which of the following conditions *in-vitro-in-vivo* correlation for a drug fails?**
(a) When the drug's absorption takes place by a complex process
(b) When the dissolution medium is adequately simulated
(c) When the drug is highly soluble
(d) When the drug is highly permeable but poorly soluble

46. Acrystalline powder that contains water of crystallization or hydration; this water can be liberated either during manipulations or an exposure to a low – humidity environment – then the powder will become sticky and pasty, or it may even liquefy. Such a powder is called:
(a) Eutectic (b) Hygroscopic
(c) Deliquescent (d) Efflorescent

47. Out of the following solvents which one is not a polar solvent?
(a) Ethanol (b) Methanol (c) Hexane (d) Water

48. Which of the following levels of IVIVC is represented by "the relatinship between one dissolution time point (e.g.,

t 50%) and one mean pharmacokinetic parameter, such as AUC, T_{max} or C_{max}"?

(a) Level A (b) Level B (c) Level C (d) Level D

54. **A component of film-coating solution to make film more liable, enhance spread over tablets, beads and granules, is called:**

(a) Adsorbent (b) Humectant
(c) Stiffening agent (d) Plasticizer

49. **Which of the following USP Glass Type is NOT SUITABLE for parenteral packaging?**

(a) Type I (b) Type II (c) Type III (d) Type IV

50. **The difference in velocity between two planes of liquids separated/infinitesimal distance is called**

(a) Rate of shear (b) Rate of flow
(c) Rate of force (d) Shearing stress

51. **The required amount of adjusting substance required to make a hypotonic solution, isotonic is given by the (where, W = adjusting substance, a = freezing point depression of unadjusted solution and b = freezing point depression of water)**

(a) $W = \frac{a - 0.52}{b}$ (b) $W = \frac{0.52 - a}{b}$

(c) $W = \frac{0.52 - b}{a}$ (d) $W = \frac{b - 0.52}{a}$

55. **Which of the following is the common chemical name for Propellant 11?**

(a) Dichlorodifluoromethane
(b) Dichlorotetrafluorethane
(c) Trichloromonofluoromethane
(d) Chloropentafluoroethene

56. **Match the following List I with List II with respect to most specific Activity / Property in formulation of disperse system**

List I Formulation Ingredient		List II Activity / Property	
A.	Salts of d-glu-curonic acid poly-peptides and amino acids	I.	Are pseudoplastic and plastic in nature
B.	Surfactants, both ionic and non-ionic	II.	Form a multimolecular film around the dispersed droplets of oil in an o/w emulsion
C.	Magnesium aluminium silicate	III.	Emulsifier belonging to the class of solid particles forms w/o emulsions
D.	Structured vehicles	IV.	Emulsifier belonging to the class of solid particles and forms o/w emulsion
		V.	Have been used to bring about flocculation of suspended particles

Choose the correct answer from the options given below:

(a) A-II, B-V, C-IV, D-I (b) A-V, B-IV, C-II, D-I
(c) A-V, B-IV, C-II, D-I (d) A-IV, B-III, C-II, D-I

57. **Match the process of reproduction and genetic exchange under Column I with the explanation under Column II. Match List-I with List-II:**

List I Process of reproduction and genetic exchange		List II Explanation	
A.	Binary Fission	I.	Transfer of genetic material from the donor recipient bacterium through cell contact
B.	Transformation	II.	Common vegetative reproduction
C.	Transduction	III.	Transfer of genetic material in bacteria through virus
D.	Conjugation	IV.	Horizontal gene transfer by taking up of foreign genetic material (naked DNA)

A-I, B-III, C-IV, D-II (b) A-III, B-I, C-IV, D-II
(c) A-II, B-IV, C-I, D-III (d) A-II, B-IV, C-III, D-I

58. **Which of the following Climatic Zones (as per WHO Criteria) refers to "hot and humid climate"?**

(a) Zone I (b) Zone II (c) Zone III (d) Zone IV

59. **Given below are two statements, one is labelled as Assertion A and other is labelled as Reason R.**

Assertion (A): Exotoxins diffuse freely through the bacterial call wall into the medium in which the organisms are growing.

Reason (R): They are water soluble and can pass into the surrounding medium.

In the light of the above statements, choose the correct answer from the options given below:

(a) Both A and R are true and R is the correct explanation of A
(b) Both A and R are true and R is NOT the correct explanation of A
(c) A is true but R is false
(d) A is false but R is true

60. **What is the percentage of alcohol in a mixture obtained by mixing 5 L of 25%, 3 L of 40% and 2L of 15% alcohol?**

(a) 27.5% v/v (b) 30.5% v/v
(c) 25.5% v/v (d) 26.5% v/v

61. **Clear, sweetened hydroalcoholic solutions intended for oral use, usually flavoured to enhance their palatibility, are called:**

(a) Aromatic waters (b) Elixirs
(c) Syrups (d) Tinctures

62. **Which of the following ointment bases is an "absorption base"?**
(a) Hydrophilic petrolatum USP.
(b) Hydrophilic ointment USP
(c) PEG ointment NF
(d) Yellow ointment, USP

63. **A tablet excipient, whose function to ensure that table formulation and ejection can occur with low friction between the solid and the die wall is called:**
(a) Glidant (b) Lubricant
(c) Anti-adhesive (d) Binder

64. **Which of the following drugs has an apparent volume of distribution approximately 6500 litres?**
(a) Amoxicillin (b) Ibuprofen
(c) Chloroquine (d) Diazepam

65. **Which of the following surfactants is an ANIONIC surfactant?**
(a) Lecithin (b) Sorbitan esters
(b) Benzalkonium chloride (d) Soaps

66. **For disguishing the astringent and metallic taste of iron salts in children's mixture, the following flavouring agent is used:**
(a) Lemon syrup
(b) Liquorice liquid extract
(c) Aromatic water
(d) Orange syrup and compound orange syrup

67. **Clatharates crystallize in the form of**
(a) Channel type structure (b) Tetragonal type structure
(c) Cubic type lattice (d) Cage like lattice

68. **Match the following concept in List I with parameters in List II:**

List I Concept		List II Parameters	
A.	Volume of distribution	I.	Measure volume of real physiological plasma
B.	Evans blue	II.	Human serum albumin
C.	3.5-5%	III.	Volume of blood
D.	Metallothionin	IV.	Ratio of body drug content to plasma concentration
		V.	Protein present in kidney to bind metal

Choose the correct answer from the options give below:
(a) A-I, B-II, C-III, D-IV (b) A-B, B-IV, C-III, D-II
(c) A-IV, B-I, C-II, D-V (d) A-III, B-II, C-IV, D-V

69. **Basic dyes are used in microbiological staining. Which of the following statement is wrong about mechanism of staining?**
(a) The positive ions on the surface of bacteria form a coloured complex with the dye
(b) Ionic exchange between the negative charge on the bacteria and positive charge of dye takes place
(c) Ionic exchange between the positive charge on the bacteria and negative charge of dye takes place
(d) The neutral charge on the surface of bacteria forms a coloured complex with the basic dye

70. **Which of the following terms is used to describe the "partial or complete separation of the top or body crowns of a tablet from the main body of the tablet"?**
(a) Lamination (b) Capping
(c) Picking (d) Mottling

71. **Which of the following formulations are "pharmaceutically equivalent"? Match List-I with List-II**

Ingredient		Functions		Tablet A	Tablet B	Tablet C	Tablet D
A.	Acetaminophen	I.	Drug	300 mg	—	300 mg	300 mg
B.	Aspirin	II.	Drug	—	300 mg	—	—
C.	Lactose	III.	Filler	100 mg	100 mg	—	100 mg
D.	Avicel	IV.	Filler	—	—	100 mg	—
	Starch		Disintegrant	50 mg	50 mg	—	50 mg
	Avicel		Disintegrant	–	—	50 mg	—
	Magsterate		Lubricant	2 mg	2 mg	2 mg	2 mg
	Gelatin		Binder	10 mg	10 mg	10 mg	10 mg

Choose the correct answer from the options given below:
(a) A and B (b) B and C (c) A and C (d) B and D

72. **The interfacial forces are related to the contact angle by**
(a) Nernest Equation (b) Stoke's Equation
(c) Young's Equation (d) Laplace Equation

73. **In the Langmuir Isotherm, following statements are true except one:**
(a) Adsorbed layer is uniform all over adsorbent
(b) No desorption takes place when the gas strikes solid surface
(c) No interaction between the adjacent adsorbed molecules takes place
(d) The layer of the gas adsorbed on the solid adsorbent is one molecule thick

74. **What is the approximate amount of Powder (in mg) that can be filled in empty gelatin capsules of size 00?**
(a) 1040 mg (b) 650 mg (c) 325 mg (d) 162 mg

75. **In absence of instruction by the prescriber, unless otherwise directed, the dose given for the mixture preparation should be stated on the label as**
(a) Two five ml spoonful to be taken three times a day in water
(b) One five ml spoonful to be taken three times a day in water

(c) Two five ml spoonful to be taken two times a day in water
(d) One five ml spoonful to be taken two times a day in water

76. Suspensions containing a high percentage (about 50% or greater) of small, deflocculated particles would show which of the following flow properties?
(a) Plastic flow (b) Dilatant flow
(c) Newtonian flow (d) Pseudoplastic flow

Pharmacognosy and allied subjects

77. Lignin is a complex polymer which can be stained pink in the tissue using the following chemicals?
(a) Chloral Hydrate and Phloroglucinol
(b) Chlor-Zinc-Iodine
(c) Phloroglucinol and hydrochloric acid
(d) Chloral Hydrate, Zinc and Ammonia

78. Which one of the right sequence of the intermediates in the biosynthesis of opium alkaloids?
A. Tyrosine B. Reticuline
C. Codeine D. Morphine
E. Thebaine

Choose the correct answer from the options given below:
(a) A, B, C, D, E (b) A, B, E, C, D
(c) A, B, E, D, C (d) A, B, D, E , C

79. Isabgol belongs to family:
(a) Apocynaceae (b) Plantaginaceae
(c) Solanaceae (d) Golaceae

80. If the resins contain benzoic acids or cinnamic acids they are called _____
(a) Colophony (b) Balsams
(c) Glucoresins (d) Resene

81. Lycopodium spores are used in quantitative microscopy for the following:
A. Determine % purity of drugs
B. Estimation of percentage of foreign organic matter
C. Determination of palisade ratio
D. Measurement of area of single layered tissue

Choose the correct answer from the options given below:
(a) A, B and C only (b) A, B and D only
(c) A only (d) B and D only

82. Arrange the following intermediates in the synthesis of isoprenoids in the right sequence
A. Squalence B. Farnesyl PP
C. Geranyl PP D. Acetyl CoA
E. Mevalonate

Choose the correct answer from the options given below:
(a) D, B, C, A, E (b) D, E, C, B, A
(c) B, C, D, A, E (d) E, B, C, A, D

83. The ring structure present in strygchnine alkaloid is _____
(a) Indole (b) Purine
(c) Phenanthrene (d) Imidazole

84. Match the types of glycosides under Column I with their respective examples under Column II and choose the correct option:

Column I Glycosides		Column II Examples	
A.	Anthracene	I.	Digitalis
B.	Cardiac	II.	Licorice
C.	Saponin	III.	Senna
D.	Cyanogenetic	IV.	Ashwagandha
		V.	Bitter Almond

Choose the correct answer from the options given below:
(a) A-III, B-I, C-II, D-V (b) A-V, B-I, C-II, D-III
(c) A-IV, B-II, C-I, D-IIII (d) A-II, B-III, C-IV, D-I

85. Quinine and quinidine differs in:
(a) Molecular formula
(b) Rotating the plane of polarized light
(c) Chemical nature
(d) Precusors of biosynthesis

86. Match the following Ayurvedic formulations under Column I with the process properties under Column II and choose the correct options.

Column I: Ayurvedic formulations		Column II: Process of property	
A.	Bhasma	I.	Semisolid
B.	Arista	II.	Calcination
C.	Churna	III.	Alcohol generation
D.	Lehya	IV.	Dry powder
		V.	Decoction

Choose the correct answer from the options given below:
(a) A-I, B-III, C-IV, D-V (b) A-III, B-II, C-I, D-IV
(c) A-III, B-V, C-I, D-II (d) A-II, B-III, C-IV, D-I

Pharmacology and allied subject

87. When a New Drug Application (NDA) made?
(a) Once a animal studies are done is declared safe in animals
(b) Once the animal studies are done and declared safe and effective in animal studies
(c) After the phase III clinical trials
(d) After the phase IV clinical trials

88. Trastuzumab is a/an
(a) Angiogensis inhibitor
(b) EGF receptor (HER 1) inhibitor
(c) BCR-ABL tyrosine kinase inhibitor
(d) EGFR/HER2 inhibitor

89. Identify the drug that is not among the drugs recommended as first time drug in the treatment of Partial seizers with or without generalization:

(a) Carbamazepine (b) Valproate
(b) Diazepam (d) Lamotrigine

90. What do you mean by Orphan Drug?
(a) A drug for a disease which is not having any other treatment options at all
(b) A drug which is useful for rare disease
(c) A drug that is available in abundance
(d) A drug meant to be distributed among the orphans who can not afford the cost of the drug

91. Which of the following hyperlipidaemic drugs act via a GPCR?
(a) Nicotinic acid (b) Fenofibrate
(c) Atorvastatin (d) Ezetimibe

92. Match the following cells of immune system List I with their functions List II:

List I Immune sytem		List II Functions	
A.	Mast cells	I.	Master of immune system
B.	Lymphocytes	II.	Allergic reactions
C.	T-cells	III.	Cell mediated immune reactions
D.	Monocytes-Macrophages	IV.	Antigen recognition, Phagocytosis

Choose the correct answer from the options given below:
(a) A-I, B-II, C-III, D-IV (b) A-II, B-I, C-III, D-IV
(c) A-III, B-I, C-II, D-IV (d) A-I, B-III, C-II, D-IV

93. Which of the following drug can produce mydriasis without cycloplegia?
(a) Atropine (b) Tropicamide
(c) Homatropine (d) Ephedrine

94. Normal value of HbA1c falls in the range of
(a) 0.1% to 0.8% (b) 6.5% to 7.5%
(c) 21.5% to 24.5% (d) 51.5% to 53.5%

95. All the following are TNF-α Inhibitors except:
(a) Etanercept (b) Infliximan
(c) Adalizumab (d) Basiliximab

96. A 70 kg woman was administered 1000 mg of the drug as i.v. bolus. After its uniform distribution in the body, the plasma concentration of the drug was found to be 50 mg/L. What is its volume of distribution?
(a) 70L (b) 500L (c) 20L (d) 0.1L

97. A hypertensive patient receiving a drug 'Y' for managing BP was prescribed a tricyclic antidepressant. As a result, there was an abolition of the antihypertensive action of 'Y'. Which of the following drug could be 'Y'?
(a) Atenolol (b) Captopril (c) Clonidine (d) Diltiazem

98. Put the events of acute inflammation in proper sequence:
(a) Accumulation of the fluid and plasma at the affected site, intravascular activation of platelets, polymorpheo- nuclear neutriphils, followed by healing
(b) Polymoephonuclear netrophils, accumulation of fluid and plasma at the affected site, intravascular activation of platelets, followed by healing
(c) Accumulation of fluid and plasms at the affected site, polymorphonuclear neutrophils, intravascular activation of platelets, followed by healing
(d) Intravascular activation of platelets, polymorphonuclear neutrophils, accumulation of fluid and plasma at the affected site, followed by healing

99. Which of the following has been found to act as a male contraceptive without affecting libido and potency?
(a) Cyproterone (b) Gossypol
(b) Centchroman (d) Goserelin

100. Which of the following is NOT an example of an mTOR inhibitor?
(a) Everolimus (b) Tacrolimus
(c) Temsirolimus (d) Sirolimus

101. Choose the most appropriate statement for the Peptic ulcer disease caused by NSAIDs.
(a) H_2 antagonists offer rapid healing
(b) Proton pump inhibitor is to be given only if the NSAID is discontinued
(c) H_2 antagonists offer rapid healing of ulcer provided the NSAID is discontinued
(d) NSAIDs are strictly contraindicated with Proton Pump Inhibitors

102. Which of the following drug used in the chemotherapy of some types of leukemia, satisfies the statements:
Statement I: It is effective orally.
Statement II: It has near 100% oral bioavailability.
In light of the above statements, choose the correct answer from the options given below:
(a) Asparaginase (b) Doxorubicin
(b) Mitomycin (d) Hydroxyurea

103. Lateral geniculate nucleus is associated with
(a) Vision (b) Hearing (c) Olfaction (d) Gustation

104. Given below are two statements:
Statement I: In vasospastic angina, the imbalance occurs when the myocardinal oxygen requirement increases, as during exercise, and coronary blood flow does not increase proportionately.
Statement II: In Prinzmetal's angina, oxygen delivery decreases as a result of reversible coronary vasospasm.
In light of the above statements, choose the most appropriate answer from the options given below:
(a) Both Statement I and Statement II are correct
(b) Both Statement I and Statement II are incorrect
(c) Statement I is correct and Statement II are incorrect
(d) Statement I is incorrect and Statement II are correct

105. A 70 kg woman was administered 1000 mg of the drug as i.v. bolus. After its uniform distribution in the body, the plasma concentration of the drug was found to be 50 mg/L. What is its volume of distribution?
(a) 70L (b) 500L (c) 20L (d) 0.1L

106. Which of the following is a tetracyclic antidepressant that has additional dopamine D_2 receptor blocking and neuroleptic properties, as well as a greater tendency to cause seizures in overdose?
(a) Dothiepin (b) Doxepin
(c) Trazodone (d) Amoxapine

107. Which of the following cranial nerve helps in accommodating the eye for near vision?
(a) Oculomotor (b) Optic
(b) Trochlear (d) Facial

108. In ECG, the P wave corresponds to the following event
(a) Atrial depolarisation (b) Ventricular depolarisation
(c) Atrial repolarisation (d) Ventricular repolarisation

109. A drug 'X' is more selective for the α_1 subunit of BZD receptors. It lacks effect on slow-wave sleep, minimum residual daytime sedation, no rebound insomnia on discontinuation, low abuse potential. Which of the following can be 'X'?
(a) Flurozepam (b) Flumazenil
(c) Melatonin (d) Zolpidem

110. Which of the following metabolite is used to inactivate the vasicotoxic metabolites leading to hemorrhagic cystitis by alkylating agents used in the treatment of cancer?
(a) Acroline (b) Aldophosphamide
(c) Cyclophosphamide (d) Mesna

111. All the following are true with Metoclopramide except:
(a) D_2 receptor antagonist
(b) 5-HT_1 receptor antagonist
(c) 5-HT_3 receptor antagonist
(d) 5-HT_4 receptor agonist

112. Which of the following is a fourth-generation cephalosporin?
(a) Ceftriaxone (b) Cefaclor
(b) Cefuroxime (d) Cefepime

113. Which of the following is true for bone tissue cell differentiation and maturation?
(a) Osteogenic → Osteblasts → Osteocytes
(b) Osteogenic → Osteblasts → Osteoclasts
(c) Osteocytes → Osteogenic → Osteblasts
(d) Ostoclasts → Osteblasts → Osteocytes

114. Given below are two statements:
Statement I: Levodapa is metabolized peripherally but capable of crossing Blood Brain Barrier, thus a best drug in treating Parkinsonism.
Statement II: Carbidopa crosses. Blood Brain Barrier, thus a best combination for protecting levodapa in CNS.
In light of the above statements, choose the correct answer from the options given below:
(a) Both Statement I and Statement II are true
(b) Both Statement I and Statement II are false
(c) Statement I is true but Statement II is false
(d) Statement I is false but Statement II is true

other subjects

115. Requirements of factory premises for the manufacture of cosmetics are mentioned in the Drugs and Cosmetics Rules, 1945 under:
(a) Schedule M (b) Schedule M-1
(b) Schedule M-2 (d) Schedule M-3

116. The formula to calculate liquid pressure is
(a) P = mgh (b) P = wgh (c) P = ρgh (d) P = Fgh

117. Drugs covered under this schedule are not permitted for repacking license. Identify the correct schedule.
(a) Schedule H (b) Schedule G
(c) Schedule O (d) Schedule C and C_1

118. Match List I and List II

List I: Fermentation Products		List II: Strain used	
A.	**Dextran**	**I.**	*Clostridium tetani*
B.	**Bacterial amylase**	**II.**	*Brevibacterium sp.*
C.	**Glutamic acid**	**III.**	*Leuconostac mesenteroids*
D.	**Vitamin B_{12}**	**IV.**	*Bacillus subtillis*
		V.	*Streptomyces olivaceus*

Choose the correct answer from the options given below:
(a) A-V, B-I, C-IV, D-III (b) A-I, B-IV, C-II, D-III
(c) A-II, B-III, C-V, D-IV (d) A-III, B-IV, C-II, D-V

119. Match List I and List II:

List I: Schedule		List II: Covers the	
A.	**Schedule Y**	**I.**	**Shelf of drugs**
B.	**Schedule FF**	**II.**	**Requirements for clinical trials**
C.	**Schedule O**	**III.**	**Disinfectant liquids**
D.	**Schedule P**	**IV.**	**Opthalmic ointments**

Choose the correct answer from the options given below:
(a) A-I, B-II, C-III, D-IV (b) A-II, B-III, C-IV, D-I
(c) A-IV, B-III, C-II, D-I (d) A-II, B-IV, C-III, D-I

120. Shift from 'try my product' to 'prefer my brand' marketing strategy is done at what stage of product life cycle?
(a) Introduction (b) Growth
(c) Maturity (d) Decline

121. Which of the following represents a complete list of products that are offered by a company for sale?
(a) Product variety (b) Product mix
(c) Product item (d) Product line

122. *Haemophilus influenzae* type B (Hib) vaccine is an example of:
(a) Toxoid vaccine
(b) Recombinant protein vaccine
(c) Conjugate vaccine
(d) Subunit vaccine

123. The drug price control order (DPCO) is an order issued by the Government under the_____which enables it to fix the prices of some essential bulk and their formulations

(a) Essential Commodities Amendment
(b) Ethical Commodities Act
(c) Essential Commodities Act
(d) Essential Commodities Accessories

_____

124. According to IP and BP very fine powder is one in which

(a) 90% particles pass through 350# sieve
(b) All particles pass through 350# sieve
(c) 90% particles are of size < 10 μm
(d) All particles pass through 120# sieve

125. The most efficient heat exchange between the particles and flowing air occurs in the _____

(a) Tray dryer (b) Vacuum dryer
(c) Fluidized bed dryer (d) Rotary dryer