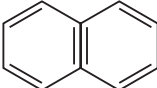


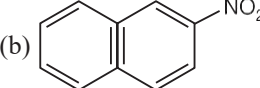
GPAT 2023 Question Paper Shift 2

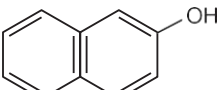
Pharmaceutical chemistry

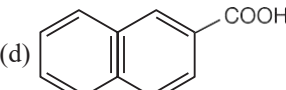
Tick mark the appropriate choice

- Conversion of cyclic ketone to ring expanded cyclic ester takes place by:
 - Willgerodt rearrangement
 - Baeyer Villiger rearrangement
 - Michael rearrangement
 - Lossen rearrangement
- Carbohydrates have hydrogen oxygen atom ratio of:
 - 1 : 2
 - 3 : 1
 - 1 : 3
 - 2 : 1
- Alkyl group in Grignard reagent serve as
 - Carbene
 - Free radical
 - Aromatic carbocation
 - Carbanion
- The potential of the calomel electrode depends upon
 - Concentration of mercuric chloride
 - Concentration of mercury
 - The concentration of potassium chloride solution
 - Membrane
- The addition of Monobasic Potassium Phosphate to the suspended Bismuth Subnitrate particles cause the A to B owing to the C:
 - A-positive zeta potential, B-decrease, C-adsorption of the negatively charged phosphate anion
 - A-negative zeta potential, B-decrease, C-adsorption of the negatively charged phosphate anion
 - A-positive zeta potential, B-increase, C-adsorption of the negatively charged phosphate anion
 - A-positive zeta potential, B-decrease, C-adsorption of the positively charged hydrogen anion
- Which of the following compound would be expected to have greatest fluorescence?

(a) 

(b) 

(c) 

(d) 
- Which of the following is not a sulphonamide derivative?
 - Rizatriptan
 - Sumatriptan
 - Almotriptan
 - Naratriptan
- When exposed to carbon monoxide, the base pigment of Cytochrome P enzymes absorb light at:
 - 450 nm
 - 370 nm
 - 254 nm
 - 600 nm
- A = Br₂, B = KOH, C = NaNH₂ Which heterocyclic ring is fused to a steroidal nucleus in Danazol?
 - Thiazole
 - Isoxazole
 - Imidazole
 - Pyrazole

10. Match List I with List II:

List I: Name of the drug		List II: Chemical class	
A.	Zolpidem	I.	Cyclopyrrolone
B.	Zaleplon	II.	Benzodiazepine
C.	Zopiclone	III.	Imidazopyridine
D.	Triazolam	IV.	Pyrazolopyrimidine

Choose the correct answer from the options given below

- A-IV, B-III, C-II, D-I
 - A-II, B-IV, C-III, D-I
 - A-III, B-IV, C-I, D-II
 - A-I, B-III, C-IV, D-II
- Addition of HBr to 1,3-butadiene at 40°C yields:
 - 80% 1,2-addition product and 20% 1,4-addition product
 - 80% 1,2-addition product and 20% 1,3-addition product
 - 80% 1,4-addition product and 20% 1,2-addition product
 - 80% 1,2-addition product and 20% 1,3-addition product
 - Identify A, B and C in below reaction:

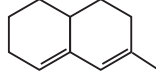
$$\text{H}_3\text{C}-\text{CH}=\text{CH}_2 \xrightarrow{\text{A}} \text{H}_3\text{C}-\underset{\text{Br}}{\text{CH}}-\text{CH}_2 \xrightarrow{\text{B}} \text{H}_3\text{C}-\text{CH}=\text{CH}-\text{Br} \xrightarrow{\text{C}} \text{H}_3\text{C}-\text{CH}=\text{CH}$$

 - A = Br₂, B = KOH, C = NaNH₂
 - A = Br₂, B = HCl, C = NaNH₂
 - A = Br₂, B = HCl, C = NaNH₄
 - A = Br₂, B = KOH, C = NaNH₂
 - Which of the following factor make carbonyl group in acyl compounds, too, susceptible to nucleophilic attack?
 - The tendency of oxygen to acquire electrons even at the expense of gaining positive charge
 - The tendency of oxygen to acquire electrons even at the expense of gaining negative charge
 - The tendency of carbon to loose electrons even at the expense of gaining negative charge
 - The tendency of carbon to loose electrons even at the expense of gaining positive charge
 - The tendency of carbon to loose electrons even at the expense of gaining positive charge Identify intermediate forms in following substitution reaction:

$$\text{C}_6\text{H}_4\text{Cl} \xrightarrow{\text{NH}_2^-} ? \xrightarrow{\text{NH}_3} \text{C}_6\text{H}_4\text{NH}_2$$

 - Cyclohexa-1,3-dien-4-yne
 - Cyclohexa-1,4-dien-5-yne
 - Cyclohexa-1,3-dien-5-yne
 - Cyclohexa-1,5-dien-4-yne
 - In atomic absorption spectroscopy, back ground correction performed using a single hollow cathode lamp pulsed first with a low current and then with a high current is called:
 - Smith Hieftje background correction



- (b) Continuous source background correction
(c) Zeeman effect background correction
(d) Hollow cathode background correction
16. _____ is an example of aromatic nucleophilic substitution reaction.
(a) Gatterman Koch reaction (b) **Chichibabin**
(c) Kolbes reaction (d) Friedel-Crafts reaction
17. Phenol reacts with chloroform in presence of aqueous sodium hydroxide to give chief product:
(a) 2-Chloro Benzaldehyde (b) **2-Hydroxy Benzaldehyde**
(c) 2-Hydroxy Benzaldehyde (d) 3-Chloro Benzaldehyde
18. Replacement of the diazonium group by halogen in presence of copper powder is:
(a) Gabriel reaction (b) Gattermann reaction
(c) Hofmann reaction (d) **Sandmeyer reaction**
19. Which of the following ICH Hannonized Tripartite Guidelines related to stability, provides the general requirements for stability, testing of new drug substances and products?
(a) **Q1A (R2)** (b) Q1B
(c) Q1D (d) Q1E
20. All the following about back nitration are true, EXCEPT:
(a) **It is performed when the rate of reaction between the analyte and reagent is fast**
(b) It is performed when the rate of reaction between the analyte and reagent is slow
(c) It is performed when the standard lacks stability
(d) It is the process in which excess of standard solution used to react with an analyte is determined by titration with a second standard solution
21. Identify pair of C₄ epimers:
(a) **D-glucose and D-galactose**
(b) D-glucose and D-fructose
(c) D-glucose and D-mannose
(d) D-glucose and D-xylulose
22. Amphetamine undergoes one of the following metabolic reaction to convert to 1-phenyl-2-propanol metabolite via ketone formation:
(a) Hydrolysis (b) Oxidation
(c) **Reduction** (d) Hydroxylation
23. What is the popular common name for a bioactive compound with chemical name of (m-hydroxyphenyl)-trimethyl ammonium methyl sulphate dimethyl carbamate?
(a) **Neostigmine** (b) Pyridostigmine
(c) Physostigmine (d) Metastigmine
24. Which among the following Cephalosporins has an unusual 5-thio-1,2,3,4-tetrazole substituent attached to core heterocyclic nucleus through a methylene bridge?
(a) Cefazolin (b) **Cefamandole**
(c) Cefoxitin (d) Cefadroxil
25. The C-2 epimer of D-glucose is:
(a) **D-Mannose** (b) L-Fructose
(c) D-Glucopyranose (d) L-Arabinose
26. A chromatogram of a peak provided a retention time at 5.4 minutes and 0.41 base width of the peak. The number of plates or the peak obtained is:
(a) 210.7 (b) **173.5**
(c) 78.4 (d) 2775.5
27. Following statement is correct with respect to voltage sensitive calcium channels:
(a) **L-type Blocker : Nifedipine**
(b) T-type Blocker : Verapamil
(c) N-type Blocker : Mibefradil
(d) R-type Blocker : Diltiazem
28. Which one of the following molecules has a dipole moment?
(a) CS₂ (b) CO₂
(c) CH₄ (d) **CHCl₃**
29. In UV spectrophotometer, lamp used to generate UV spectrum is:
(a) Tungsten (b) Sodium vapor
(c) **LED** (d) **Deuterium**
30. Which of the following factors affect the heat of reaction based on Kirchoff equation?
(a) Molecularity (b) **Temperature**
(c) Pressure (d) Volume
31. Which one of the following is an example of a chelate?
(a) Cisplatin (b) **Hemoglobin**
(c) Iodine (d) Ferrocene
32. A 2.0% saline solution is:
(a) Hypotonic (b) **Hypertonic**
(c) Isotonic (d) Iso-osmotic
33. Which of the following is correct order of stability of free radicals?
(a) **allyl > 3° > 2° > 1° > CH₃°**
(b) 3° > 2° > 1° > allyl > CH₃°
(c) CH₃° > 3° > 2° > 1° > allyl
(d) 3° > 2° > 1° > CH₃° > allyl
34. Predict the theoretical max value for the following compound using Woodward-Fieser rules. Base value for the compound is 215 nm:

(a) **240 nm** (b) 220 nm (c) 225 nm (d) 235 nm
35. EDTA is an example of:
(a) Unidentate Ligand (b) Bidentate Ligand
(c) Tridentate Ligand (d) **Hexadentate Ligand**
36. Isoquinoline on treatment with oleum at 90°C yields majorly:
(a) Isoquinoline-3-sulfonic acid
(b) **Isoquinoline-5-sulfonic acid**
(c) Isoquinoline-6-sulfonic acid
(d) Isoquinoline-7-sulfonic acid
37. Eicosanoids are polyunsaturated fatty acids of _____ carbons:
(a) 30 (b) 25 (c) 15 (d) **20**



38. Efficiency of an reversible engine is given by

- (a) Clapeyron equation
- (b) Carnot theorem
- (c) Claussius Clapeyron equation
- (d) Gibbs-Helmholtz

Pharmaceutics and allied subjects

39. Noye-Whitney's equation predicts:

- (a) An increase of dissolution rate if the particle size is reduced by micronization because of an increase in area
- (b) relationship between the radius of the diffusing molecule and its diffusion coefficient
- (c) The influence of electrolyte on the rate constant
- (d) An equilibrium between the surfactant and the drug molecules at the surface of the solution and in the bulk of the solution.

40. Which among the following is not used as NSAID?

- (a) Indomethacin extended release 75 mg
- (b) Aspirin 75 mg
- (c) Naproxen 500 mg
- (d) Mefenamic acid 500 mg

41. One of the following drugs is not meant for systemic use:

- (a) Netilmycin
- (b) Sisomicin
- (c) Neomycin
- (d) Paramomycin

42. Indicate which of the following molecular characteristics will be expected to increase the solubility of a simple solute in an aqueous solution:

- (a) A high melting point
- (b) The presence of polar group
- (c) A high molecular surface area
- (d) A high boiling point

43. Which type of *in-vitro-in-vivo* correlation compares % drug released vs % drug absorbed?

- (a) Level C
- (b) Level A
- (c) Multiple level C
- (d) Level B

44. Which of the following characteristics is most likely to be associated with a high apparent volume of distribution?

- (a) Penetration across the blood brain and blood testis barriers
- (b) Extensive binding to plasma protein
- (c) Distribution into total body water
- (d) Extensive binding to tissue constituents

45. Autoimmunity refers to:

- (a) An automatic trigger of the immune system directed against a specific pathogen
- (b) Failure to distinguish between self and non-self
- (c) An automatic segregation of T and B cells
- (d) Failure of B-cells to interact with T-cells

46. Ideally BA studies should be carried on _____ volunteers.

- (a) Aged
- (b) Children
- (c) Healthy
- (d) Patient

47. In a mechanical model of a viscoelastic material, showing both viscosity of liquid state and elasticity of solid-state combined in series is termed as:

- (a) Maxwell Element
- (b) Creep Element
- (c) Voight Element
- (d) Retardation Element

48. Recombination process in a cell occurring through the mediation of phages is called:

- (a) Transfection
- (b) Transduction
- (c) Conjugation
- (d) Transformation

49. Which of the following is a cellular?

- (a) Bacteria
- (b) Fungus
- (c) Virus
- (d) Amoeba

50. If S is the solubility of small particles of radius r , is the normal solubility (i.e., of a solid consisting of fairly large particles), is the interfacial energy, M is the molecular weight of the solid, ρ is the density of the bulk solid, R is the gas constant and T is the thermodynamic temperature, then which of the following equation indicates the changes in interfacial free energy that accompany the dissolution of particles of varying sizes causing the solubility of substance to increase with decreasing particle size?

- (a) $\log(S_0/S) = 2\gamma Mr/2.303RT\rho$
- (b) $\log(S/S_0) = 2\gamma M/2.303RT\rho r$
- (c) $\log(S/S_0) = 2\gamma Mr/2.303RT\rho$
- (d) $\log(S_0/S) = 2\gamma Mr/2.303RT\rho r$

51. Given below are two statements, one labelled as Assertion (A) and the other labelled as Reason (R):

Assertion (A): In case of Salicylic Acid Ointment BP Wool Alcohol Ointment made with white soft paraffin is used.

Reason (R): Wood Alcohol Ointment made with white soft paraffin is used because the medicament is coloured. In the light of the above statements, choose the most appropriate 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 and (R) is false
- (d) (A) is false and (R) is true

52. Match List I with List II:

List I: Dissolution apparatus		List II: Name	
A.	Type I	I.	Reciprocating holder
B.	Type 5	II.	Paddled overdisk
C.	USP App 6	III.	Basket type
D.	USP App 7	IV.	Cylinder apparatus

Choose the correct answer from the options given below:

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



53. The Schick test is used to determine susceptibility to:
 (a) Measles (b) Polio (c) **Diphtheria** (d) Typhoid
54. Absorption of Vitmain B₁₂ is facilitated by
 (a) Hydrogel (b) **Glycoprotein**
 (b) Lipoprotein (d) Microprotein
55. A clear, sweetened hydroalcoholic liquid containing medicament, is known as:
 (a) **Elixir** (b) Syrup (c) Tincture (d) Decoction
56. Match List with List II:

List I: Name of Emulsifier		List II: Remark	
A.	Triethanolamine oleate	I.	Surface-active agent (non-ionic)
B.	N-ethyl N-ethyl morpholinium ethosulfate (Atlas G-263)	II.	Hydrophilic colloid
C.	Polyxyethelene sorbitan mono oleate (Atlas Tween 80)	III.	Surface-active agent (anionic)
D.	Gelatin	IV.	w/o Emulsifier (HLB = 4.3)
		V.	Surface active agent (cationic)

Choose the correct answer from the options given below

- (a) A-II, B-IV, C-V, D-III (b) **A-III, B-V, C-I, D-II**
 (c) A-V, B-IV, C-II, D-III (d) A-IV, B-III, C-V, D-I
57. Which of the following equipment is based on the principle of Pohlman liquid whistle?
 (a) **Ultrasonifier** (b) Mechanical stirrer
 (b) Silverson homogeniser (d) Colloid mill
58. A sample of glucose was decomposed at 140°C in a solution containing 0.030 M HCl. The velocity constant k, was found to be 0.0080 hr⁻¹. If the spontaneous rate constant, is 0.0010 hr⁻¹, and the catalysis due to hydroxyl ions in this acidic solution is considered as negligible, then the catalytic coefficient, kH is:
 (a) 0.22 per mole per hour (b) **0.233 per mole per hour**
 (c) 0.27 per mole per hour (d) 0.29 per mole per hour
59. Which of the following is the correct choice of particle size measurement technique in scoring order of size?
 (i) Sieve (ii) Anderson Pipette
 (iii) Coulter counter (iv) Light scattering
 Arrange the correct order
 (a) **ii, iv, iii, i** (b) ii, iv, iii, i
 (c) i, iii, ii, iv (d) iv, i, iii, ii
60. Which of the following drugs does not bind to haemoglobin?
 A. Chlorpromazine B. Phenobarbital
 C. Phenothizine D. Phenytoin
 Choose the most appropriate answer from the options given below:
 (a) **B, C and D only** (b) B and D only

- (c) C and D only (d) A only
61. 'Picking' is a term used to describe:
 (a) Separation of tablet into two or more layers
 (b) **The situation when the surface material from a tablet that is sticking to and being removed from the tablet's surface by a punch**
 (c) Unequal distribution of colour on a tablet
 (d) Partial or complete separation of the top and bottom crowns of a tablet from the main body of the tablet
62. Enzyme asparaginase is obtained from:
 (a) *Clostridium histolyticum* (b) *Bacillus subtilis*
 (c) ***Erwinia caratovora*** (d) *Khuyveromyces lactis*
63. Which of these is not a colligative property?
 (a) Osmotic pressure
 (b) **Polymorphism**
 (c) Depression of freezing point
 (d) Elevation in boiling point
64. R_f Hingers hypothesis relates
 (i) Energy used in size reduction
 (ii) New surface area produced
 (iii) Equivalent shape
 (iv) Reynold's number
 Arrange the correct order
 (a) **i and ii** (b) ii and iii (c) i and iii (d) i and iv
65. Given below are two statements:
 Statement I: Rubber stoppers cannot withstand pyrogen-destructive temperatures.
 Statement II: In case of rubber stopper for injections reliance must be on an effective sequence of washing, thorough rinsing with WFI, prompt sterilization and protective storage to ensure adequate pyrogen control.
 In the light of the above statements, choose the most appropriate answer from the options given below:
 (a) **Statement I and Statement II are correct**
 (b) Statement I and Statement II are incorrect
 (c) Statement I is correct but Statement II are incorrect
 (d) Statement I is incorrect but Statement II are correct
66. Sarong SpA semiautomatic equipment is used for the:
 (a) Filling and packaging line for topical pharmaceutical aerosols
 (b) **Production of suppositories**
 (c) Filling of hard gelatin capsule
 (d) Inserting rubber closure in vials
67. In 1798 Edward Jenner published his work on _____
 (a) **Vaccination** (b) Prescription writing
 (c) Isolation of morphine (d) Isolation of codeine



68. Absolute solubility does not rely on standard condition of:
 (a) pH (b) Pressure
 (c) Temperature (d) Volume
69. Modified Lowry's Procedure is used to characterize:
 (a) Protein-Content in allergen product
 (b) Protein profile in allergen product
 (c) Potency of allergen product
 (d) Storage condition of allergen product
70. Vanishing cream is an ointment that may be classified as:
 (a) Water soluble base (b) Oleaginous base
 (b) Absorption base (d) Emulsion base
71. Match List I with List II:

List I: Parts of the valve assembly		List II: Purpose of parts	
A.	Gasket	I.	Links the dip tube and the stem and the actuator
B.	Spring	II.	Prevents the leakage
C.	Mounting cup	III.	Holds the Gasket in place
D.	Housing	IV.	Holds the valve in place

Choose the correct answer from the options given below:

- (a) A-III, B-II, C-IV, D-I (b) A-II, B-III, C-IV, D-I
 (c) A-IV, B-I, C-II, D-III (d) A-III, B-I, C-IV, D-II
72. In terms of the kinetics, degradation in suspension is:
 (a) First order (b) Second order
 (c) Pseudo zero order (d) Zero order
73. While preparing the following:
 R_x
 Salicylic acid: 3 g
 Sulfur ppt: 7 g
 Lanolin: 10 g
 White petroleum: 10 g
 The pharmacist should:
 (a) Use a rubber spatula to weigh and levigate the salicylic acid
 (b) Mix the powders using geometric dilution in a mortar
 (c) Place on an ointment tile and levigate the ingredients using geometric dilution
 (d) All the above

Pharmacognosy and allied subjects

74. The following are adulterants of clove except one, choose the most appropriate option:
 (a) Mother clove (b) Clove stalk
 (c) Blown clove (d) Clove bud
75. Unicellular conical, warty trichomes, paracytic stomata, xylem vessels with annular thickening are important microscopical features of which plant?
 (a) *Datura metal* (b) *Cassia angustifolia*
 (c) *Digitalis purpurea* (d) *Atropa belladonna*

76. Terpene indole alkaloid derived from L-Tryptophan via secologanin is:
 (a) Morphine (b) Codeine
 (c) Ajmalicine (d) Thebaine
77. Sesquiterpenes are biosynthesised from _____ in plants.
 (a) Farnesyl-pyrophosphate
 (b) Geranyl farnesyl pyrophosphate
 (c) Terpenes
 (d) Degraded products of terpenes
78. Ayurvedic fermented preparation includes
 (a) Churans (b) Tailas
 (b) Bhasmas (d) Aristas and Asavas
79. Chemically volatile oils differ from fixed oils in one of the following characters:
 (a) Mixtures of eleoptenes adn steroptenes
 (b) Presence of flavonoids
 (c) Presence of plant acids
 (d) Hydrophilic in nature
80. The alcohol solution of Sudan-II and tincture of alkana are the reagents used for identification of following type of secondary metabolites:
 (a) Resins (b) Alkaloids
 (c) Fixed oils (d) Volatile oils
81. Aloe contains _____ type of glycosides:
 (a) C-glycosides (b) O-glycosides
 (c) S-glycosides (d) N-glycosides
82. Modified borntreger's test is used to detect the presence of which type of glycosides:
 (a) O-type of glycosides (b) C-type of glycosides
 (c) S-type of glycosides (d) N-type of glycosides
83. Which one of the following drug is skeletal muscle relaxant?
 (a) *Datura stramonium*
 (b) *Atropa belladonna*
 (c) *Hyoscyamus niger*
 (d) *Chondrodendron tomentosum*
84. Which one of the following is an autosomal dominant syndrome in its inheritance?
 (a) Gilbert's syndrome
 (b) Crigler-Naijar syndrome Type-I
 (c) Dubin-Johnson syndrome
 (d) Rotor syndrome
85. Fight or flight responses are mediated by
 (a) Parasympathetic division of Autonomus nervous system
 (b) Sympathetic division of Autonomus nervous system
 (c) Serotonergic nervous system
 (d) Histaminergic nervous sytem
86. One of the following match is correct choose it:
 (a) M_1 Acetylcholine receptors confined to brain M_2 Acetylcholine receptors neural M_3 Acetylcholine receptors are cardiac M_4 Acetylcholine receptors glandular
 (b) M_1 Acetylcholine receptors neural M_2 Acetylcholine



receptors confined to brain M_3 Acetylcholine receptors are cardiac M_4 Acetylcholine receptors glandular

- (c) M_1 Acetylcholine receptors neural M_2 Acetylcholine receptors cardiac M_3 Acetylcholine receptors are cardiac to glandular M_4 Acetylcholine receptors confined to brain
- (d) M_1 Acetylcholine receptors glandular M_2 Acetylcholine receptors neural M_3 Acetylcholine receptors are cardiac to brain M_4 Acetylcholine receptors cardiac

87. Match List I with List II:

List I		List II	
A.	Vibrations in skeletal muscles of larynx	I.	Facial contractions
B.	Involuntary contraction of skeletal muscles that is regulated by the brain	II.	Regulate voice
C.	Contraction of skeletal muscles in the legs	III.	Shivering
D.	Pull of skeletal muscles on attachments of skin of face	IV.	Assists return of blood to the heart
		V.	Causes facial expression

Choose the correct answer from the options given below:

- (a) A-II, B-III, C-IV, D-I (b) A-III, B-IV, C-I, D-V
(c) A-II, B-III, C-IV, D-V (d) A-III, B-IV, C-V, D-I
88. ___ is a protein marker which can be detected within three hours of acute ischemic kidney injury from patient's urine.
- (a) N-acetyl- β -D-glucose aminidase
(b) Gluthione-S-transferase
(c) Neutrophil gelatinase associated lipocalin
(d) γ -glutamyl transpeptidase
89. Which of the following genes responsible for graft rejection in humans?
- (a) Highly polymorphic HLA genes
(b) APP genes
(c) hMSH₂ gene
(d) FMR1 gene
90. Most common type of megaloblastic anemia caused by malabsorption of vitamin B₁₂ and characterized by decreased production of hydrochloric acid in the stomach and a deficiency of intrinsic factor is
- (a) Iron deficiency anemia (b) Sideroblastic anemia
(c) Pernicious anemia (d) Aplastic anemia
91. Which of the following is not an ACE inhibitor?
- (a) Captopril (b) Tarandopril
(d) Lisinopril (c) Verapamil

92. Choose the most appropriate answer:
- A. *Enterobius vermicularis*-pin worm
B. *Strongyloids stercoralis*-Thread worm
C. *Wuchereria bancrofti*-Filarial worm
D. *Dracunculus medinensis*-Guinea worm
- (a) Only B and C are correct
(b) Only A and B are correct
(c) A, B, C and D are correct
(d) Only B, C and D are correct
93. ___ activates G-protein gated potassium channel resulting in membrane hyperpolarization.
- (a) α_1 adrenergic receptor (b) α_2 adrenergic receptor
(c) β_1 adrenergic receptor (d) β_2 adrenergic receptor
94. Exenatide is a:
- (a) Glucagon like peptide 1 (GLP1) receptor agonist
(b) Diphenyl Peptidase-4 (DPP4) inhibitors
(c) Facilitator of glucose transport across the cell
(d) Inhibitor of glucose absorption in the GIT
116. The good management principle revolves around the three R's these are:
- (a) Ration, Rotation and Responsibility
(b) Reward, Recognition and Responsibility
(c) Research, Recreation and Responsibility
(d) Reverse engineering, Research and Responsibility.
95. Prominent biochemical features of Grave's disease are
- (a) Decreased ionized calcium in body fluids
(b) Decreased T₄ and T₃ in circulation
(c) Increased ionized calcium in body fluids
(d) Increased T₄ and T₃ in circulation
96. Laboratory findings of which one of the following diseases include markedly elevated serum amylase levels during the first 24 hours followed by rising serum lipase levels within 72-96 hours?
- (a) Acute pancreatitis (b) Cirrhosis of liver
(c) Jaundice (d) Cystic fibrosis of lungs
97. Which of the following is a third generation cephalosporin?
- (a) Cefotaxime (b) Cefuroxime
(c) Cefazoline (d) Cefepime
98. Deficiency of _____ enzyme is found in Hers' disease.
- (a) Muscle glycogen phosphorylase
(b) Liver glycogen phosphorylase
(c) Phosphofructokinase
(d) Glucose-6-phosphatase
99. One of the following is correct match or mechanisms. Select it:



- (a) Methotrexate-Inhibition of microtubules, Vinca alkaloids-Inhibition of Purine synthesis, Bleomycin-Inhibitors of RNA, 5-Fluoro Uracil-DNA damage
- (b) Methotrexate-DNA damage, Vinca alkaloids-Inhibition of microtubules, Bleomycin-Inhibitors of 2-deoxythymidylate, 5-Fluoro Uracil-DNA damage
- (c) Methotrexate-DNA damage, Vinca alkaloids-RNA damage, Bleomycin-Inhibition of Purine synthesis, 5-Fluoro Uracil-Inhibition of 2-deoxythymidylate
- (d) Methotrexate-Inhibition of Purine synthesis, Vinca alkaloids-Inhibition of Microtubules, Bleomycin-DNA damage, 5-Fluoro Uracil-inhibition of 2-deoxythymidylate

100. Para aminohippuric acid (PAH) clearance test is employed to measure:

- (a) Renal blood flow
- (b) Liver blood flow
- (c) Cerebral blood flow
- (d) Venous blood flow

101. The β -adrenergic antagonist propranolol (20-20 mg/kg) is prescribed to around 50% of maniac patients receiving Lithium is to mitigate the side effect:

- (a) Anxiety
- (b) Bradycardia
- (c) Hypertension
- (d) Tremor

102. Which class of antibody opsonizes antigens for phagocytosis through two different pathways?

- (a) Immunoglobulin G (IgG)
- (b) Immunoglobulin M (IgM)
- (c) Immunoglobulin A (IgA)
- (d) Immunoglobulin E (IgE)

103. Anti-rheumatoid drug which is contraindicated in patients with renal and hepatic impairment

- (a) Sulfasalazine
- (b) Methotrexate
- (c) Corticosteroids
- (d) Azathoprine

104. Which among the following is an amino-alcohol analogue that has weak visceral anticholinergic activity but is a strong nicotinic drug?

- (a) Biperiden
- (b) Orphenadrine
- (c) Poldine
- (d) Propantheline

105. Which one of the following interferes with the release of cholinergic neurotransmitter, acetylcholine by the neurons of autonomic nervous system?

- (a) Reserpine
- (b) Guanethidine
- (c) Hemicholinium
- (d) Botulinum toxin

106. Which one of the following types of hepatitis can lead to fulminant hepatitis causing massive hepatic cell death more frequently among infected pregnant women, showing third trimester mortality as high as 30%?

- (a) Hepatitis A
- (b) Hepatitis B
- (c) Hepatitis C
- (d) Hepatitis E

107. Valproate and Carbamazepine can be used as first line drugs for the management of following type of seizure.

- (a) Both partial seizure and Tonic-clonic seizure

- (b) Both Tonic-clonic seizure and Status epilepticus
- (c) Only Febrile seizures
- (d) Both Febrile seizures and Status epilepticus

117. Match List I with List II

List I		List II	
A.	Penicillin	I.	Single cell protein
B.	Rutin	II.	Ion exchange chromatography for recovery
C.	Streptomycin	III.	Primary metabolite
D.	Amino acids	IV.	Phenyl acetic acid as precursor

Choose the correct answer from the options given below:

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

118. Schedule 'O' governs the standards for:

- (a) List of equipment to run a pharmacy
- (b) Life period (expiry) of drugs
- (c) Disinfectant fluids
- (d) Manufacturing and analytical records of drugs

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
- (c) Schedule M-2
- (d) Schedule M-3

119. The more appropriate purpose of spiral scrapper in Swenson-Walker crystalliser is:

- (a) Agitation of sample (solution)
- (b) Conveying the crystals
- (c) Prevent an accumulation of crystals on the cooling surface
- (d) Provides desired temperature to the sample (solution)

120. If u is velocity of fluid, ρ is density of fluid, L is length of the pipe, D is diameter of the pipe, f is friction factor and

ΔP_1 is pressure drop, then the equation $\Delta P_1 = (2fu^2L\rho)$

$\div \Delta$ represents

- (a) Hagen Poiseuille equation
- (b) Bernoulli equation
- (c) Fannings equation
- (d) Reynolds equation

121. Who is the primary source of information for doctors' prescribing behaviour?

- (a) Competitor
- (b) Wholesaler
- (c) Fellow doctor
- (d) Retailer

108. Which phase of cell cycle is the shortest phase in terms of time?

- (a) G₁
- (b) S
- (c) M
- (d) G₂

122. The number of persons elected as the member of the Pharmacy Council of India from the teaching profession is:



- (a) Five (b) Size
 (b) Seven (d) Eight

123. 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.	Ophthalmic 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

124. The fluid flows through the filter medium by virtue of:

- (a) Pressure difference across the filter
 (b) Temperature difference across the filter
 (c) Volume difference across the filter
 (d) Potential difference across the filter

125. Match the photopharmaceutical with the plant species from which they are produced:

List I Compound		List II Plant species	
A.	Cardinolides	I.	<i>Ruta graveolens</i>
B.	Rutin	II.	<i>Catharanthus roseus</i>
C.	Ajamalicine	III.	<i>Papaver somnifera</i>
D.	Codeine	IV.	<i>Digitalis lanata</i>

Choose the correct answer from the options given below:

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

