GPAT-2021

Multiple Choice Questions

Pharmaceutics

1. **The USP defines _____ as liquid preparations of vegetable drugs, containing akohol as a solvent or as a preservative, or both, so made that, unless otherwise specified in an Individual monograph, each milliliter contains the therapeutic constituents of 1 gram of the standard drug that it represents**
(a) Tinctures (b) Extracts
(c) Infusion (d) Fluid extracts

2. **Match List I with List II**

List-1 (Equipment)	List-II (Model/Trade Name/Type)
1. Low shear mixer	[P] Manestry Drycota
2. Rotary tablet machine	[Q] Chilsonator (Fitzpatrick)
3. Capsule filling machine	[R] Shted Double Cone Mixer
4. Compaction mill	[S] Prosolv (IRS Pharma)
	[T] PCF 1200 Model (Pharma Land)

Choose the correct answer from the options given below
(a) 1-[P], 2-[Q], 3- [S], 4-[R]
(b) 1-[Q], 2-[R], 3-[P], 4-[S]
(c) 1-[R], 2-[P], 3-[S], 4-[Q]
(d) 1-[P], 2-[Q], 3-[S], 4-[R]

3. **The properties of solutions containing surface active agents change sharply over a nar row concentration range and are called as**
(a) Critical micelle concentration
(b) lonic concentration
(c) Hydrogen ion concentration
(d) Surface tension

4. **HEPA filters are defined as A or more efficient in removing, from the air. B particles generated by vaporization of the hydrocarbon Emory 3004**
(a) A-99.99% B-0.1 mm
(b) A-99.00 % B-0.3 mm
(c) A-99.99% B-0.3 mm
(d) A-99.00 % B-0.1 mm

5. **Name the popular system for ocular delivery of pilocarpine. Based on membrance. controlled reservoir systems**
(a) Ocusert (b) Alzet pump
(c) Progestasert (d) Nitrodur

6. **The phenomenon of increasing the solubility of weak electrolytes and non-polar mol ecules by the addition of a water miscible solvent in which the drug has good solubility is called**
(a) Complexation (b) Co-solvency
(c) Solubilization (d) Hydrotrophy

7. **The system volume is increased when sheared is called**
(a) Dilatant flow (b) Newtonian flow
(c) Plastic flow (d) Pseudoplastic flow

8. **The value of R in energy of activation is**
(a) 1.98 cal/deg molecule (b) 1.89 cal/deg molecule
(c) 8.91 cal/deg molecule (d) 9.18 cal/deg molecule

9. **Which of the following ointment bases is an ingredient of an absorption base**
(a) Petrolatum (b) lanolin
(c) Hydrogenated castor oil (d) cetyl alcohol

10. **Chitosan possesses which of the following property**
(a) Hypocholesterolemic
(b) Antimicrobial
(c) Wound healing
(d) all of these

11. **p-gp (p-glycoprotein) is highly expressed on the**
(a) Lungs
(b) Pancreas
(c) Superficial columnar epithelial cells of ileum and colon
(d) Heart

12. **Select the equation that gives the rate of drug dissolution from a tablet**
(a) Fick's law
(b) Henderson Hasselbalch equation
(c) Noyes Whitney Equation
(d) Michaelis Menten equation

13. **Assertion [A] and the other is labelled as Reason [R]**
Assertion [A]: Quillala tincture is included in Potassium Citrate Mixture BPC.
Reason [R]: Because Quillaia tincture act as an emulgent in Potassium Citrate Mix ture BPC, and prevent separation of lemon oil as a surface layer when the lemon spirit is added. 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]
(b) Both [A] and [R] are true but [R] is NOT the correct explanation of [A]
(c) [A] is true but [R] is false
(d) [A] is false but [R] is true

14. **Powers of drug inspectors appointed under the Drugs and Cosmetic Act. 1940 are mentioned under which of the following section of the Act**
(a) 20 (b) 21 (c) 22 (d) 23

15. **Purpose of Seal coating step of Sugar coating is**
(a) Gives smooth surface to the tablet
(b) Enhances weight of the tablet for coating
(c) Gives sweet taste to the Tablet
(d) Prevent moisture penetration into the tablet

16. Differential manometer has advantage over simple manometer

(a) Handling is simple
(b) It can measure smaller pressure difference
(c) Viscosity can be determined along with pressure difference
(d) It is used when pressure difference is high

17. Match the Tablet Diluents with their properties

List-1 (Tablet Diluent)	List-II (Properties)
1. Lactose	[P] 2 to 4 percent of moisture
2. Mannitol	[Q] Maillard reaction
3. Cakium phosphate	[R] Negative heat of solution
4. Specially dried starch	[S] Contraindicated for Tetracycline

Choose the correct answer from the options given below

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

18. To determine the effect of breath holding on the deposition of particles, the sedimenta tion efficiency, S, is defined as

(a) S=(Distance the particle falls during breath hokling) + (Mean regional airway diameter)
(b) S = (Distance the partick falls during breath holding) x (Half the mean regional airway diameter)
(c) S= (Distance the partick falls during breath holding) + (Twice mean regional airway diameter)
(d) s = (Distance the particle falls during breath holding) - (Mean regional airway diameter)

19. Dynamic Vapour Sorption (DVS) isotherm is a plot of A versus B

(a) A-Crystallization Peak Energy (1/8) B- Percentage Relative Humidity
(b) A-Percentage Change in Mass B - Percentage Relative Humidity
(c) A-Crystallization Peak Energy [J / g] B-Percentage Change in Mass
(d) A-Crystallization Peak Energy (I / g) B- Amorphous Content

20. The size of aqueous filled pores is _____ A^0

(a) 1-3 (b) 11-18 (c) 19-25 (d) 4-10

21. The majority of drugs that least binded to antivascular tissue is

(a) Liver (b) Muscle (c) Lungs (d) Kidneys

22. Distribution is perfusion rate limited in case of _____ drugs

(a) Ionic (b) Lipophilic
(c) Polar (d) Water soluble

23. For very weak acidic drugs. With pKa >8

(a) They are unionized at all pH, hence absorption is rapid and independent of Gl pH
(b) They are affected by changes in pH, hence absorption is pH dependent
(c) They are ionized in the entire pH range of GIT, hence poorly absorbed from GIT
(d) They are ionized in the gastric pH, hence better ab sorbed from the stomach

24. Match List I with List II

/LVW ,	/LVW ,,
, QJUHGLHQWV -) RXQG LQ 5XE ber Closures	Example
1. Activator	[P] Zinc dibutyklithiocarbamate
2. Curing agent	[Q] Stearic acid
3. Accelerator	[R] Carbon black
4. Fillers	[S] Neoprene
	[T] Peroxides

Choose the correct answer from the options given below

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

25. The part of prescription that means take thou' is

(a) Subscription (b) Inscription
(c) Superscription (d) Signatura

26. Which of the following drugs can be imported without a license

(a) Drugs specified in schedule H
(b) Drugs specified in schedule X
(c) Drugs in schedule-C, required for manufacturing and not for medicinal use
(d) Drugs in schedul-C required for manufacturing and for medicinal use

27. The initial concentration of a drug decomposing according to first order Idnetics is 28 units/ml. The specific decomposition rate, k obtained from an Arrhenius plot is 2.09 x10^{-5} hr^{-1} at room temperature. 25°C. Previous experimentation has shown that when the concentration of the drug fall below 15 units/mL it is not sufficiently potent for use and should be removed from the market. What expiration date should be assigned to this product

(a) Approximately 31,012.15 hours
(b) Approximately 32,225.56 hours
(c) Approximately 27,216.12 hours
(d) Approximately 29,869.23 hours

28. For solid oral drug products, a change in the concentration of which of the following excipients is more likely to influence the bioavailability of a drug

(a) Starch
(b) Magnesium stearate
(c) Microcrystalline cellulose
(d) Lactose

29. Match List I with List II

/LVW 7HUP RU 3KUDVH ,, 0HDQL	
1. Gutturi	[P] Into the left ear
2. In oculum sinistram	[Q] Into the right eye
3. In aurem sinistram	[R] For the left eye
4. In oculum dextrum	[S] To the throat
4. Fillers	[S] Neoprene

Choose the correct answer from the options given below
(a) 1- [S], 2- [R], 3- [P], 4- [Q]
(b) 1- [Q], 2- [P], 3- [S], 4- [R]
(c) 1- [R], 2- [S], 3- [P], 4- [Q]
(d) 1- [P], 2- [R], 3- [Q], 4- [S]

30. Application for the issue of a permit to import small quantities of drugs for personal use are shall be made in
(a) Form - 12 (b) Form - 12A
(c) Form - 12AA (d) Form - 13

31. One of the following apparatus is used to determine particle size by the gravity sedi mentation method
(a) Pyknometer (b) Ostwalds viscometer
(c) Anderson apparatus (d) Friabilator

32. The relationship between the vapor pressure and the absolute temperature of a liquid is expressed by
(a) Biles Equation
(b) Lien and Kennon Equation
(c) Jouk-Thomson Equation
(d) Chausius- Chapeyron Equation

33. Preservatives are usually not added to
(a) Small volume parenterals
(b) Large volume parenterals
(c) All parenterals
(d) Bacteriostatic water for injection

34. Match the following

1. Schedule M	[P] Regulations regarding Life period and storage of various drugs
2. Schedule FF	[Q] Regulations for manufacturing, Premis-es. Waste disposal requirements of plant and equipments (Good Manufacturing Practices)
3. Schedule G	[R] Various drugs to be used under the med-ical supervision
4. Schedule P	[S] Standards for Ophthalmic preparations

Choose the correct answer from the options given below
(a) 1- [P], 2- [Q], 3- [R], 4- [S]
(b) 1- [Q], 2- [S], 3- [R], 4- [P]
(c) 1- [S], 2- [Q], 3- [R], 4- [P]
(d) 1- [R], 2- [P], 3- [Q], 4- [S]

35. In case of solvates the following are examples of Class I residual solvents that have been classified by the ICH
(a) Benzene, carbon tetrachloride and 1,2-dichloroethane
(b) Acetonitrile, cyclohexane and toluene
(c) Methanol and N.N-dimethylacetamide
(d) Acetic acid, acetone and ethanol

36. Compendium of pharmaceuticals and specialties is an International drug compendia from
(a) German Pharmaceutical Association
(b) Australian Pharmaceutical Association
(c) Indian Pharmaceutical Association
(d) Canadian Pharmaceutical Association

37. Which of the following ICH Harmonized Tripartite Guidelines related to stability, pro vides approaches that allows for bracketing and matrixing designs for stability testing. This is especially important when a new drug product is to be commercialized with multiple strengths in multi-ple packaging configurations
(a) Q1F (b) Q1D (c) Q1B (d) Q 1A

38. For depot injections, in which drug is slowly released over weeks or months, which bioequivalence study design is used
(a) Multiple dose study design
(b) Replicated crossover study design
(c) Nonreplicate, parallel study design
(d) Randomized crossover design

39. Match List I with List II

List-1 (Name of Material)	List - II (Remark)
1. Brasses	[P] Copper-Tin Alloy
2. 18/8 Stainless steel	[Q] Rigid material
3. Keebush	[R] Chromium and Nickel
4. Bronzes	[S] Flexible material
	[T] Copper-Zinc alloys

Choose the correct answer from the options given below
(a) 1- [T], 2- [R], 3- [Q], 4- [P]
(b) 1- [R], 2- [Q], 3- [P], 4- [T]
(c) 1- [S], 2- [Q], 3- [P], 4- [R]
(d) 1- [Q], 2- [S], 3- [T], 4- [R]

Pharmacology

40. A condition in which there is severe loss of extracellu-lar fluid due to hemorrhage. diarrhea, severe vomiting or sweating followed by shrinkage of blood volume, reduction of venous inflow to the heart, reduction of cardiac output and fall of blood pressure is known as
(a) Hypovolemic shock (c) Septic shock
(b) Anaphylactic shock (d) Cardiogenic shock

41. "Wheal and Flare" reaction is characteristic reaction associated with identification of
(a) Type -1 hypersensitivity reaction
(b) Type-2 hypersensitivity reaction
(c) Type-3 hypersensitivity reaction
(d) Type-4 hypersensitivity reaction

42. The immunosuppressant action of cyclosporine is due to
(a) Interference with antigen recognition
(b) Inhibition of gene transcription of interleukins
(c) Blockade of tissue response to inflammatory
(d) Inhibition of cell wall synthesis

43. In healing of excised wound, there is
(a) Less tissue loss
(b) Less inflammatory exudate
(c) Less necrotic tissue to be removed
(d) More granulation tissue is required

44. A 3-year-old child presented to OPD with the symp-toms of influenza. Aspirin is contraindicated in the patient because of increased risk of
(a) Gastric bleeding (b) Thrombocytopenia
(c) Fanconi Syndrome (d) Reye's syndrome

45. Conversion of T, to T, inhibition is associated with
(a) Propylthiouracil (b) Radioactive iodine
(c) Lugol's lodine (d) Carbimazole

46. Hemophilia A is caused due to the reduction in the quantity or activity of which of the following clotting factors
(a) Vitamin-K (b) Clotting factor - IV
(c) Clotting factor-IX (d) Clotting factor-VIII

47. A hypertensive patient Mr. Zee already receiving a drug 'X' to control his blood pres sure was prescribed a tricyclic antidepressant. This resulted in the abolition of the antihypertensive action of 'X: Which of the following drug could be X.
(a) Enalapril (b) Clonidine
(c) Atenolol (d) Diltiazem

48. Which one of the following drugs that is not absorbed orally, is not a bronchodilator, does not have any direct effects on smooth muscles yet is effective in antigen-induced exercise-induced and irritant - induced asthma though not all asthmatics respond to It positively
(a) Salbutamol (b) Montelukast
(c) Sodium cromoglycate (d) Terbutaline

49. Which one of the following is NOT an endogenous opioid peptide
(a) Met enkephalin (b) Leuenkephalin
(c) Dynorphin (d) Beta lipotropin

50. The split up of time cycle of cardiac cycle
(a) VS-0.3 sec VD-0.5 sec AS-0.1sec AD-0.7 sec
(b) VS-0.5 sec VD-0.3 sec AS-0.7 sec AD -0.1 sec
(c) VS-0.3 sec VD-0.5 sec AS-0.5 sec AD -0.3 sec
(d) VS-0.5 sec AD-0.3 sec AS-0.3 sec AD -0.5 sec

51. Vigabatrin produces anti- epileptic activity through
(a) Potentiating GABA mediated neuronal inhibition by depressing GABA transporters
(b) Modifying synaptic release of glutamate/GABA by binding to a specific synaptic protein
(c) Inhibiting GABA transaminase enzyme which degrades GABA
(d) Potentiating post synaptic GAGA receptor effect

52. Match the following

1. Apoptosis	[P] Progressive degradative action of Enzymes
2. Necrosis cells to day	[Q] Tightly regulated intracellular program in which destined
3. Anaplasia	[R] Abnormal mass of tissue
4. Neoplasm	[S] Lack of differentiation

Choose the correct answer from the options given below
(a) 1- [Q], 2 - [P], 3 - [S], 4 - [R]
(b) 1- [S], 2 - [R], 3 - [Q], 4 - [P]
(c) 2- [P], 3 - [Q], 4 - [R], 1 - [S]
(d) 3- [Q], 4 - [R], 1 - [S], 2 - [P]

53. Which one of the following plexus is a part of the central nervous system in the brain and consists of capillaries, ventricles, and ependymal cells
(a) Celiac plexus (b) Choroid plexus
(c) Cervical plexus (d) Brachial plexus

54. To monitor the safety of the new drug under actual conditions of use in large number of patients has been classified as _____ Clinical trials
(a) Phase III (c) Phase IV
(b) Phase II (d) Phase I

55. Which among the following statement is correct with respect to their mechanism of action
(a) Sitagliptin/Vildagliptin: Dipeptidyl peptidase-4 inhibitors
(b) Dapagliflozine/Canaglifozine: AMPK activators
(c) Glibenclamide/ Glimepiride: a-Glucosidase inhibitors
(d) Acarose/Metformin: KATP channel blockers

56. Which of the following is non-epithelial malignancy tumor
(a) Naevus (b) Adenoma
(c) Lipoma (d) Fibrosarcoma

57. Conversion of pseudostratified columnar epithelium in chronic bronchitis and bronchiectasis to columnar type epithelium is an example of which type of metaplasia
(a) Squamous metaplasta (b) Columnar metaplasia
(c) Osseous metaplasia (d) Cartilaginous metaplasia

58. Long-term use of thiazide diuretics in hypertension can produce all of the following EXCEPT
(a) Hyperkalemia (b) Hyperuricemia
(c) Hyperlipidemia (d) Hyperglycemia

59. Total number of facial bones in the human adult
(a) 1 (b) 7 (c) 14 (d) 21

60. The B1 and B2 adrenergic receptor subtype agonist acting at atrioventricular node produces following responses
(a) Increases contractility and conduction velocity
(b) Increases automaticity and conduction velocity
(c) Increases contractility and automaticity
(d) Increases conduction velocity and heart rate

61. Which one of the following is a competitive antagonist at benzodiazepine site of GABA-receptor gated chloride channel
(a) Muscimol (b) Flumazenil
(c) Picrotoxin (d) Beta carboline (DMCM)

62. Some individuals are obsessed with using purgatives regularly as a reflection of their psychological problem. Dangers of purgative overuse include all of the following EXCEPT
(a) Flaring up of intestinal pathology like rupture of inflamed appendix
(b) Fluid and electrolyte imbalance, especially hypokalemia
(c) Steatorrhoea, malabsorption syndrome
(d) Protein build up in the body as a result of enteropathy

63. Which of the following is wrongly matched combination of anti-arrhythmic drugs and their class
(a) Lidocaine - IB (b) Disopyramide - II
(c) Diltiazem-IV (d) Amiodarone III

64. Which one of the following calcium channel blockers used as anti-anginal agents has the highest possibility to produce a negative inotropic effect. AV nodal block Bradycardia, decreased cardiac output, constipation, edema and is contra-indicated in sick sinus syndrome

(a) Nifedipine (b) Amlodipine
(c) Diltiazem (d) Verapamil

65. Prostaglandin analogous have therapeutic utility in the following EXCEPT

(a) Impotence
(b) Peripheral vascular disease
(c) Palliative treatment of patent ductus arteriosus
(d) Pulmonary hypertension

Pharmacognosy

66. Given below are two statements, one is labelled as Assertion [A] and the other is labelled as Reason [R]

Assertion [A]: The Ayurvedic drug Asava contains self-generated akohol

Reason [R]: For preparation of Asava the extract of drugs is subjected to a process of calci nation

In light of the above statements.

Choose the most appropriate answer from the options given below:

(a) Both [A] and [R] are correct and [R] is the correct explanation of [A]
(b) Both [A] and [R] are correct but [R] is NOT the correct explanation of [A]
(c) [A] is correct but [R] is not correct
(d) [A] is not correct but [R] is correct

67. The following classification of herbal drugs gives better understanding of biosynthetic pathway in the drug

(a) Botanical (b) Chemotaxonomical
(c) Taxonomical (d) Chemical

68. Match the types of terpenes under column I with their respective examples under Column II

Column-1 (Types of terpenes)	Column II (Examples)
1. Monoterpenes	[P] Lycopene
2. Diterpenes	[Q] Camphor
3. Sesquiterpenes	[R] Taxol
4. Tetraterpenes	[S] Zingiberene

Choose the correct answer from the options given below

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

69. The ring structure present in strychnine is

(a) Indole (b) Purine (c) Imidazole (d) Phenanthre

70. Limit for the following heavy metal/s is/are mentioned in the WHO guidelines for herbal drug evaluation

[A] Cadmium **[B] Lead**
[C] Mercury **[D] Arsenic**

Choose the correct answer from the options given below

(a) A, B and D only (b) Only D
(c) Only B and D (d) Only A and C

71. Match the following under chemical compounds under Column I with their respective chemical tests under Column II

&ROXPQ , &RPS&RQXGPVQ ,, &KH	
1. Quinine	[P] Borntrager's
2. Diploxin	[Q] Thalleoquin
3. Atropine	[R] Vitali Morin
4. Sennosides	[S] Keller killiani

Choose the correct answer from the options given below

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

72. Marker compound analysis is one of the useful methods for evaluation of herbal drugs. The following statement is NOT true about marker compound analysis

(a) Used to verify potency or identity of herbal drug
(b) Marker compounds are always therapeutically active
(c) Quantification of marker compounds can be carried out by HPLC/HPTLC/GC
(d) The marker compounds are generally secondary metabolites.

73. In Gambir-fluorescin test the petroleum spirit layer shows

(a) Green fluorescence (b) Blue fluorescence
(c) Yellow fluorescence (d) Red fluorescence drug

74. Which one of the following is unorganized

(a) Rauwolfia Root (b) Acacia Gum
(c) Senna Leaves (d) Cinchona Bark

75. Which one of the following is not a gene insertion technique into a eukaryotic

(a) Electroporation cell (b) lontophoresis
(c) Shot gun sequencing (d) Microinjection

76. Which one of the following alkaloid contains isoquinoline nucleus

(a) Quinine (b) Hyoscyamine
(c) Piperine (d) Papaverine

Pharmaceutical Chemistry

77. Desmethyl diazepam is an active metabolite, having an elimination half-life of more than 40 hours, of all the following drugs EXCEPT

(a) Flurazepam (b) Chlordiazepoxide
(c) Clorazepate (d) Diazepam

78. Which of the following method is used for the determination of osmotic pressure

(a) Beckmann's method
(b) Berkeley and Hartley's method
(c) Cottrell's method
(d) Landsberger's method

79. Which is NOT the colligative property
[P] Depression of freezing point
[R] Elevation of vapour pressure
[Q] Elevation of boiling point
[S] Osmotic pressure
Choose the correct one of the following
(a) (P) (Q) and (S) (b) (P) and (Q)
(c) (P) and (S) (d) (R) only

80. Substitution constant for Meta benzoic acids is denoted by
(a) σm (sigma m) (b) pka(H) (c) pm (rho m) (d) pHm

81. Which of the following is NOT an intensive property
(a) Concentration (b) Density
(c) Pressure (d) Volume

82. A diuretic compound Cyclothiazide has a _____ substituent at C-3 of 1, 2, 4-Benzothiadiazine nucleus
(a) 5-Bornen-2-yl (b) 5-Norbornen-2-yl
(c) 2-Bornen-5-yl (d) 2-Norbornen-5-yl

83. Which among the following drugs on standing in aqueous 2,5-bis (aminoxy-methyl) 3, 6-diketopiperazine solution can dimerize to
(a) Pyrazinamide (b) Ethionamide
(c) Diethylcarbamazine (d) Cycloserine

84. This compound 2, 5, 8, 11, 14, 17, 20, 23, 26-nona-oxaoctacosan-28-yl p-[butylamino) benzoate is usually known for its _____ activity
(a) Antifungal 85. Silver nitrate
(b) Antitussive is used for limit
(c) Vitamin
(d) Glucocorticoid

85. Silver nitrate reagent is used for limit test in Indian pharmacopoeia for
(a) Lead (b) Iron (c) Chloride (d) Mercury

86. Formaldehyde undergoes Grignard reaction to give
(a) Primary alcohol (b) Secondary alcohol
(c) Tertiary alcohol (d) Quaternary alcohol

87. Pyridine upon hydrogenation in presence of platinum at 25°C and 3 ATM pressure yieks.
(a) Piperidine (b) 2, 3-Dihydropyridine
(c) Pyrazine (d) 3, 4-Dihydropyridine

88. Which of the following drug belongs to class of antibiotic called ansamycins
(a) Rifampin (b) Streptomycin
(c) Azithromycin (d) Streptozotocin

89. The dehydration of aldol product of two acetaldehyde molecules through E1cb mechanism affords formation of
(a) 1-Butenal (b) 2-Butenal
(c) 3-Butenal (d) 4-Butenal

90. Four-membered fully saturated heterocycle containing one oxygen is called
(a) Oxiren (b) Oxiran (c) Oxet (d) Oxetane

91. Which among the following cations has the lowest molar ionic conductivity in water at infinite dilution and at 25 degree centigrade
(a) Hydrogen ion (b) Lithium ion
(c) Sodium ion (d) Silver ion

92. Formation of pyranose structure from glucose leads to formation of diastereoisomers called
(a) Anomers (b) Epimers
(c) Tautomers (d) Metamers

93. The effect of activation or deactivation of an incoming functional group to an aromatic compound is strongest at
(a) Only ortho position
(b) Only Meta position
(c) Only para position
(d) Both ortho and para positions

94. Which of the following is orally active testosterone derivative having progestational activity
(a) Oxymesterone (b) Dihydrotestosterone
(c) Ethisterone (d) Nomegestrol

95. One of the following functional group makes benzoic acid weaker
(a) Nitro group (b) Hydroxy group
(c) Chloro group (d) Acetyl group

96. An epoxy ring can be prepared by
(a) DCC oxidation of alcohol
(b) Prevost reaction
(c) Darzens glycidic ester synthesis
(d) Swern oxidation

97. Amine group protection during peptide synthesis can be accomplished by converting the amine to
(a) 9-Fluorenylmethylcarbamate (b) 1,3-Dithiane
(c) Tetrahydropyranyl ether (d) Dimethylacetal

98. In Mier's theory of supersaturation, solubility chart displays the profile of curve with positive and very low slope in
(a) KNO_3 (b) NaCl (c) $MnSO_4$ (d) None of these

99. Which of the following is a half-reaction
(a) $Zn + Cu^{2+} \rightarrow Zn^{2+} + Cu$ (b) $H^+ + OH^- \rightarrow H_20$
(c) $Ag^+ + e^- \rightarrow Ag$ (d) $Ag^+ Cl^- \rightarrow AgCl$

100. When one of the reactants is present in such great excess that its concentration may be considered constant or nearly so, the reaction is said to be of
(a) Second order (b) Pseudo-order
(c) Zero order (d) Third order

101. The absorption maxima of ephedrine hydrochloride and chlorocresol are 257 nm and 279 nm respectively and the A (1%, 1 cm) values in 0.1M hydrochloric acid solution are: 9.0 and zero for ephedrine hydrochloride at 257 nm and at 279 nm respectively. For chlorocresol itis 20.0 and 105.0 at 257 nm and at 279 nm respectively. Calculate the concentration of ephedrine hydrochloride in a batch of Ephedrine hydrochloride injection, diluted 1 to 25 with water, giving the absorbance in 1 cm cell of 0.424 at 279 nm and 0.972 at 257 nm.
(a) 1.010 mg/ml (b) 6.25 mg/ml
(c) 12.5 mg/ml (d) 24.75 mg/ml

102. The total number of possible stereoisomers for 3-bromo-2-butanol are
(a) 2 (b) 4 (c) 6 (d) 8

Pharmaceutical Analysis

103. Which among the following nuclei can exhibit NMR spectrum
(a) ^{28}Si (b) ^{16}O (c) ^{14}C (d) ^{14}N

104. The hydrogen deficiency index for a compound with molecular formula C, H,NO, BrS
(a) 9 (b) 10 (c) 13 (d) 8

105. Which among the following is not a calibration parameter for UV visible spectrophotometer
[A] Control of wavelength
[B] Control of absorbance
[C] Resolution
[D] Control of transmitted radiation
[E] Spectral slit width
Choose the correct answer from the options given below
(a) A, B and D only (b) A, B, C and E only
(c) A, B and C only (d) A and B only

106. Light directed synthesis on silica wafers is a part of
(a) Bulk synthesis (b) Combinatorial synthesis
(c) Assymetric synthesis (d) Inorganic synthesis

107. A compound gives two fragments in a mass spectrometer. They are $C19H7N^+$ and $C19H50^+$ in separate peaks due to these fragments the instrument should have resolution of
(a) They cannot be separated (b) 2.417×10^2
(c) 3.402×10^4 (d) 1.042×10^4

108. The wave length at which maximum absorption of radiation takes place is known a
(a) $^{\beta}$max (b) $^{\alpha}$max (c) $^{\lambda}$max (d) ^{A}max

109. What will be type of proton NMR spectrum of 2,2-dimethylpropane
(a) Quartet (b) Doublet (c) Triplet (d) Singlet

110. For 1,3-butadiene, there are _____ molecular orbitals for electrons
(a) 2 (b) 4 (c) 6 (d) 8

Other Subjects

111. Which of the following is false about HMP shunt
(a) No ATP formation
(b) Formation of NADPH
(c) Synthesis of ribose-5-phosphate
(d) Non-oxidative phase of HMP pathway is irreversible

112. All the following can determine the protein structure EXCEPT
(a) Mass spectrometry
(b) X-ray crystallography
(c) High performance liquid chromatography
(d) NMR spectroscopy

113. How many molecules of acyl-CoA are produced in beta-oxidation of palmitic acid
(a) Six (b) Seven
(c) Eight (d) Nine

114. Class of enzymes which use oxygen as a hydrogen acceptor are known as
(a) Dehydrogenases (b) Oxidases
(c) Cytochromes (d) Nicotinamide coenzymes

115. Match the following vaccines under Column I with their respective content under

& R O X P Q	& R O X P Q , ,
9 D F F L Q H	& R Q W H Q W
1. OPV	[P] Killed bacteria
2. Typhoid (TAB)	[Q] Live bacteria
3. Tetanus	[R] Killed virus
4. BCG	[S] Live virus
	[T] Toxoid

Choose the correct answer from the options given below
(a) 1- [R], 2- [T], 3- [P], 4- [Q]
(b) 1- [P], 2- [Q], 3- [T], 4- [R]
(c) 1- [S], 2- [P], 3- [T], 4- [Q]
(d) 1- [Q], 2- [R], 3- [S], 4- [P]

116. Hospital formulary consists of
(a) List of hospital staff
(b) List of drugs present in the hospital
(c) List of equipments
(d) List of patients

117. The immunity acquired by inoculation of living organism of attenuated virulence is
(a) Natural passive immunity
(b) Passive immunity
(c) Artificial acquired immunity
(d) Natural active immunity

118. Which of the following microbial form listed below, exhibits the highest level of resis tance to physical and chemical methods of growth control
(a) Naked Virus (b) Protozoan cyst
(c) Vegetative bacterial cell (d) Bacterial endospore

119. Given below are two statements, one is labelled as Assertion [A] and the other is b belled as Reason [R]
Assertion [A]: Gram negative bacteria do not retain the primary stain when washed with alcohol and subsequently stained again with secondary stain.
Reason [R]: The outer membrane of gram negative bacteria contains lipopolysaccharides. 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]
(b) Both [A] and [R] are true but [R is NOT the correct explanation of [A]
(c) [A] is true but [R] is not false
(d) [A] is false but [R] is true

120. Which of the following product life cycle' phases, it is indicative of market saturation in the sense that all the potential customers have bought the product EXCEPT those who have decided not to have it

(a) Growth phas (b) Introductory phase
(c) Decline Phase (d) Maturity phase

121. Glucose upon treatment with nitric acid yields
(a) Gluconic acid (b) Glucaric acid
(c) Glucitol (d) Heptanoic acid

122. The artificial or synthetic seeds are prepared by the following process
(a) Somatic hybridization and culture
(b) Somatic embryogenesis and immobilization
(c) Microprojectile and transformation
(d) Artificial pollination and embryogenesis

123. Which of the following statement is the correct description of product positioning
(a) Selecting one or more segment to enter
(b) Occupying distinctive position in the mind of customer
(c) Identifying group of buyers with common need
(d) Distinguishes company's product form competitor's product

124. The total number of amino acids in human insulin (total number of amino acids in A and B chain) is
(a) 51 (b) 84 (c) 32 (d) 08

125. Mixed micelle of lipids with bile acids and lipid soluble vitamins are absorbed by
(a) Pancreatic lipase (b) Apo lipoproteins
(c) Enterocytes (d) Chylomicrons

Answer Key

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