

(DO NOT OPEN THIS QUESTION BOOKLET BEFORE TIME OR UNTIL YOU
ARE ASKED TO DO SO)

A

SET-Y

PG-EE-July, 2024

SUBJECT : Pharmaceutical Science

10161

Sr. No.

Time : 1¼ Hours

Max. Marks : 100

Total Questions : 100

Roll No. (in figures) _____ (in words) _____

Name _____ Date of Birth _____

Father's Name _____ Mother's Name _____

Date of Examination _____

(Signature of the Candidate)

(Signature of the Invigilator)

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PG-EE-July-2024/(Pharmaceutical Science)(SET-Y)/(A)

SEAL

1. Which of the following drugs is a H-2 blocker ?
 - (1) Mepyriamine
 - (2) Ranitidine
 - (3) Propranolol
 - (4) Chlorpromazine

2. Apoptosis is described by which of the following statements ?
 - (1) A disorganised disintegration of damaged cells resulting in products that trigger the inflammatory response
 - (2) Formation of new capillaries from existing blood vessels, an important stimulus being vascular endothelial growth factor
 - (3) Cell suicide by a built-in self-destruct mechanism; it consists of a genetically programmed sequence of biochemical events.
 - (4) None of the above

3. Which of the following statements is TRUE ?
 - (1) Parasympathetic effect on salivary glands is dilation
 - (2) Sympathetic effect on eye pupils is constriction
 - (3) Parasympathetic effect on heart atrial muscle is increased force
 - (4) Sympathetic effect on ciliary muscle is contraction

4. Which of the following drugs is a non-selective beta agonist (sympathomimetic) ?

| | |
|--------------------|-------------------|
| (1) Norepinephrine | (2) Salbutamol |
| (3) Isoprenaline | (4) Phenylephrine |

5. Which of the following proteins is used as a drug for the treatment of anaemia ?

| | |
|--------------------|-----------------|
| (1) Streptokinase | (2) Oxytocin |
| (3) Erythropoietin | (4) Interferons |

6. Which of the following is NOT a potassium sparing diuretic ?
- (1) Amiloride
 - (2) Triamterene
 - (3) Spironolactone
 - (4) Furosemide
7. Which of the following drugs stimulate insulin secretion and can cause hypoglycaemia ?
- (1) Tolbutamide
 - (2) Rosiglitazone
 - (3) Metformin
 - (4) Pioglitazone
8. Which of the following drugs is a Dopamine agonist ?
- | | |
|--------------------|-------------------|
| (1) Chlorpromazine | (2) Haloperidol |
| (3) Clopazine | (4) Bromocriptine |
9. Which of the following statements refers to Parkinson's disease ?
- (1) Age related dementia, distinct from vascular dementia, associated with brain infarction
 - (2) Progressive disorder of movement that occurs mainly in the elderly
 - (3) An inherited (autosomal dominant) disorder resulting in progressive brain degeneration, starting in adulthood and causing rapid deterioration and death
 - (4) Intracerebral thrombosis or haemorrhage resulting in rapid death of neurons in the centre of lesion
10. Which of the following is an ultra short acting (<6 hr) benzodiazepine ?
- | | |
|----------------|---------------|
| (1) Alprazolam | (2) Diazepam |
| (3) Clonazepam | (4) Midazolam |

A

11. Which of the following anti-epileptic drugs is used in Tonic-clonic (grand mal) seizures ?
- (1) Carbamazepine
 - (2) Ethosuximide
 - (3) Valporate
 - (4) Diazepam
12. Which of the following drugs is an Opioid antagonist ?
- (1) Morphine
 - (2) Codeine
 - (3) Meperidine
 - (4) Naltrexone
13. Which of the following drugs has a VERY STRONG dependence liability ?
- (1) Caffeine
 - (2) Cannabis
 - (3) Cocaine
 - (4) LSD
14. Which of the following drugs is a short acting anaesthetic ?
- | | |
|----------------|-----------------|
| (1) Procaine | (2) Lignocaine |
| (3) Tetracaine | (4) Bupivacaine |
15. Which of the following antibiotics is a drug of first choice for gram negative cocci (e.g., Neisseria gonorrhoea) ?
- | | |
|--------------------|------------------|
| (1) Penicillin G | (2) Penicillin V |
| (3) Flucloxacillin | (4) Amoxicillin |

16. Which of the following diseases is caused by a RNA Virus ?
- (1) Smallpox
 - (2) Herpes
 - (3) AIDS
 - (4) Mild cold or Flu
17. Which of the following drugs is used in Tapeworm infections ?
- (1) Praziquantel
 - (2) Mebendazole
 - (3) Levamisole
 - (4) Albendazole
18. Which of the following is NOT a characteristic of cancer cells ?
- (1) Uncontrolled proliferation
 - (2) Ability to metastasise
 - (3) Lack of capacity to differentiate
 - (4) Non invasiveness
19. Which of the following is a drug metabolising enzyme inducer ?
- (1) Phenobarbital
 - (2) Chloramphenicol
 - (3) Cimetidine
 - (4) Erythromycin
20. Which of the following drugs is an intravenous general anaesthetic ?
- | | |
|-------------------|----------------|
| (1) Halothane | (2) Isoflurane |
| (3) Nitrous oxide | (4) Propofol |

21. The value of Blood Urea Nitrogen (serum) will show a decrease in which of the following conditions ?
- (1) Liver failure
 - (2) Kidney disease
 - (3) Diabetes
 - (4) Myocardial infarction
22. An increase in the number of cells in a tissue due to an increase in the frequency of cell division is called :
- (1) Metaplasia
 - (2) Anaplasia
 - (3) Atrophy
 - (4) Hyperplasia
23. A painful conical thickening of the stratum corneum of the epidermis found principally over toe joints and between the toes, often caused by friction or pressure, is called :
- | | |
|-------------|------------|
| (1) Blister | (2) Comedo |
| (3) Corn | (4) Eczema |
24. A biaxial joint allowing movement in the sagittal and frontal planes (e.g., thumb, middle ear) is called :
- | | |
|------------------|-------------------------|
| (1) Hinge joint | (2) Saddle joint |
| (3) Planar joint | (4) Ball & socket joint |
25. Which of the following are "breathing muscles" ?
- (1) Trapezius, rhomboid
 - (2) Biceps, femoris
 - (3) Erector spinae
 - (4) Diaphragm, intercostals

26. Which law states : When two or more gases, which do not react chemically, are kept in a closed space, the total pressure exerted by the mixture is equal to the sum of individual gases ?
- (1) Graham's law
 - (2) Dalton's law
 - (3) Charles law
 - (4) Boyle's law
27. The unit of dipole moment is :
- (1) Dynes per cm
 - (2) Poise
 - (3) Dynes per square cm
 - (4) Debye
28. Which of the following is an example of anisotropic material ?
- | | |
|--------------|------------|
| (1) Graphite | (2) Glass |
| (3) Plastics | (4) Quartz |
29. The temperature at which a polymorphic substance changes from one form to another is called :
- (1) Equilibrium temperature
 - (2) Triple point
 - (3) Boyle's temperature
 - (4) Transition temperature
30. An apparatus used to measure heat changes during a chemical reaction is called :
- | | |
|-----------------|-------------------|
| (1) Polarimeter | (2) Calorimeter |
| (3) Colorimeter | (4) None of these |

31. A 3-letter code Asn and t-letter code N refers to which of the following amino acids ?
- (1) Alanine
 - (2) Arginine
 - (3) Asparagine
 - (4) Aspartic acid
32. Which of the following enzymes acts in joining two substrates at the expense of ATP hydrolysis ?
- (1) Transferases
 - (2) Hydrolases
 - (3) Lyases
 - (4) Ligases
33. Which of the following indicators gives yellow colour in acidic solutions and red colour in alkaline solutions ?
- | | |
|---------------------|----------------|
| (1) Phenol red | (2) Methyl red |
| (3) Phenolphthalein | (4) Litmus |
34. Which of the following pairs of colours is NOT complementary ?
- | | |
|-----------------------|---------------------|
| (1) Violet and yellow | (2) Red and green |
| (3) Blue and yellow | (4) Blue and orange |
35. Number of milligrams of potassium hydroxide required to neutralize the free acid in 1 gram of the fat or oil is called :
- (1) Acetyl value
 - (2) Saponification value
 - (3) Acid value
 - (4) Iodine value

36. Which of the following is a tri-carboxylic acid ?
- (1) Oxalic acid
 - (2) Succinic acid
 - (3) Adipic acid
 - (4) Citric acid
37. Sucrose is an example of :
- (1) Monosaccharides
 - (2) Disaccharides
 - (3) Oligosaccharides
 - (4) Polysaccharides
38. Which of the following is a dihydric alcohol ?
- (1) Phenol
 - (2) Paracetamol
 - (3) Resorcinol
 - (4) Phloroglucinol
39. Which of the following is a polynuclear hydrocarbon, containing 3 or more fused rings ?
- (1) Naphthalene
 - (2) Propranolol
 - (3) Tolnaftate
 - (4) Amitriptyline
40. Which of the following is an example of a fused ring heterocyclic compound ?
- | | |
|----------------|-------------|
| (1) Indole | (2) Pyrrole |
| (3) Pyrimidine | (4) Furan |

41. What is the common name of a drug represented by :
5-ethyl-5-phenylbarbituric acid ?
- (1) Cylcobarbitone
 - (2) Phenobarbitone
 - (3) Thiopentone
 - (4) Hexobarbital
42. What is the common name of the drug represented by :
N-diethylaminoacetyl-2,6-xylidine ?
- (1) Benzocaine
 - (2) Procaine
 - (3) Lignocaine
 - (4) Dibucaine
43. What is the common name of the drug represented by ?
4-Amino-N-(4,6-dimethyl-2-pyrimidinyl)benzene sulfonamide ?
- | | |
|--------------------|--------------------|
| (1) Sulfamethizole | (2) Sulfamethazine |
| (3) Sulfacetamide | (4) Sulfapyridine |
44. Which of the following metabolic pathways is not a Phase-I reaction ?
- | | |
|----------------|-----------------|
| (1) Oxidation | (2) Reduction |
| (3) Hydrolysis | (4) Acetylation |
45. 6-Mercaptopurine is a pharmacologically active metabolite of which of the following parent drug ?
- | | |
|------------------|-------------------|
| (1) Azathioprine | (2) Carbamazepine |
| (3) Diazepam | (4) Quinidine |

46. What is the IUPAC name of Eugenol ?
- (1) 4-chloro-3-methyl phenol
 - (2) Isopropyl-m-cresol
 - (3) 4-Allyl-2-methoxyphenol
 - (4) m-Dihydroxybenzen
47. What is the IUPAC name of Furosemide ?
- (1) 6-chloro-2H-1,2,4-benzothiadiazine-7-sulfonamide
 - (2) 2-chloro-5-(1-hydroxy-3-oxo-1-isoindoliny)benzene sulfonamide
 - (3) 4-chloro-2-(furan-2-ylmethylamino)I-5-sulfamoylanthranilic acid
 - (4) 2,4,7-Triamino-6-phenylpteridine
48. A solvent used to separate mixture of components (mobile phase) is called :
- (1) Eluent
 - (2) Elute
 - (3) Adsorbent
 - (4) Stationary phase
49. Which of the following spray reagents can be used for detecting phenolic compounds and tannins ?
- (1) Dragendroff's reagent
 - (2) Ninhydrin in acetone
 - (3) 3,5-Dinitrobenzoic acid
 - (4) Ferric chloride
50. Which of the following is an example of a strong cation resin ?
- (1) Sulfonated polystyrene
 - (2) Quaternary ammonium
 - (3) Cholestyramine
 - (4) Colistipol

56. Typical effects such as cell elongation, giving an increase in stem length, inhibition of root growth, adventitious root production and fruit - setting in the absence of pollination, can be attributed to :
- (1) Gibberlins (2) Auxins (3) Cytokinins (4) Absciscic acid
57. What is the source of Anhydrous Lanolin ?
- (1) By melting & purifying the honeycomb of *Apis mellifica* & other bees
(2) From the ground kernels of the *obroma cocoa* by hot expression
(3) Purified fat like substance prepared from the wool of the sheep *Ovis aries* (Bovidae)
(4) Dried ripe seeds of *Linum usitatissimum*
58. Give the common name of polysaccharide complexes containing uronic acids, which occur in the middle lamellae of cell walls and are abundant in fruits (e.g., apples, oranges) and roots (e.g., beets and gentian) :
- (1) Pectins (2) Algin (3) Chitins (4) Mucilages
59. What is the source of Jute ?
- (1) Pericyclic fibres of the stem of *Linum usitatissimum* (Lineaceae)
(2) Pericyclic fibres of the stem of *Cannibis sativa* (Cannabinaceae)
(3) Strands of phloem fibres from the stem bark of *Corchorus capsularis* & other species of *Corchorus* (Tiliaceae)
(4) Epidermal trichomes of the seeds of *Gossypium herbaceae* & other cultivated species of *Gossypium* (Malvaceae)
60. Which of the following types of Starch possess ?
- Hilum in the form of a point; eccentric about 1/3 to 1/4. Concentric striations well marked; some rings, however more distinct than others. Mostly simple granules, hatchet-, wedge or musel-shaped. A few compound grannules of 2 or 3 components firmly fixed together.
- (1) Maize starch (2) Wheat starch
(3) Rice starch (4) Potato starch

61. What is the source of Guar gum ?
- (1) Dried gum obtained from the stem & branches of *Acacia senegal* & other species of *Acacia* (Leguminosae)
 - (2) Ground endosperms of *Cyamopsis tetragonolobus*
 - (3) Artificially produced by the pure culture fermentation of *Xanthomonas campestris* on glucose.
 - (4) Dried ripe seeds of *Platago ovata* & other species (Plantaginaceae)
62. Dimeric compounds formed essentially by the union of two molecules of a phenyl propene derivative; optically active compounds, are commonly named as :
- (1) Lignans
 - (2) Lignin
 - (3) Xanthum
 - (4) Glycosides
63. Which of the following volatile oils contain a high percentage of phenols as primary components ?
- | | |
|---------------|----------------|
| (1) Coriander | (2) Lemon |
| (3) Clove | (4) Turpentine |
64. Which of the following is an oleo-gum-resin ?
- | | |
|----------------|----------------|
| (1) Chamomiles | (2) Asafoetida |
| (3) Cardamom | (4) Eucalyptus |
65. Which of the following is NOT an example of a steroidal saponin ?
- (1) Quillaic acid
 - (2) Sarsapogenin
 - (3) Dioscin
 - (4) Digitoxin

66. Stemwood of *Picrasma excelsa* (*Picroena excelsa* or *Aeschrion excelsa*) (Simaroubaceae) is commonly known as :
- (1) Clove (2) Cinnamon
(3) Ginger (4) Quassia
67. Test for stomatal index is employed to distinguish leaflets of which of the following drugs ?
- (1) Senna (2) Belladonna
(3) Digitalis (4) Cocoa
68. Which of the following drugs contains steroidal alkaloids ?
- (1) Colchicine (2) Quinine
(3) Solanum (4) Vinca
69. Which of the following is NOT an example of an essential oil ?
- (1) Sunflower oil (2) Peppermint oil
(3) Eucalyptus oil (4) Lemon oil
70. Which of the following polysaccharides is primarily of animal origin ?
- (1) Alpha amylose (2) Cellulose
(3) Glycogen (4) Inulins
71. Which of the following schedules gives the list of official books for Ayurveda, Sidda and Unani Systems of Medicine ?
- (1) Schedule I to the Drugs and Cosmetics Act, 1940
(2) Schedule II to the Drugs and Cosmetics Act, 1940
(3) Schedule A to the Drugs and Cosmetics Rules, 1945
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72. Which of the following persons is an NOT an ex-officio member of the Pharmacy Council of India ?
- (1) One teacher of any of the subjects (Pharmaceutical chemistry, pharmacy, pharmacology and pharmacognosy) from amongst persons on the teaching staff of an Indian University or a college affiliated thereto, which grants a degree or diploma in pharmacy
 - (2) Director General Health Services
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73. What is the term of a patent in India, as per the Patents Act, 1970 & rules thereunder ?
- (1) Twenty years from the date of grant of the patent
 - (2) Twenty years from the date of filing of the application for the patent
 - (3) Fourteen years from the date of grant of the patent
 - (4) Seven years from the date of grant of the patent
74. What the "proof strength" as per the Medicinal and Toilet Preparations Act, 1955 & rules thereunder ?
- (1) Straight up to two times alcohol by volume
 - (2) Absolute alcohol
 - (3) 57.1 % v/v of absolute alcohol
 - (4) 90 % v/v of absolute alcohol
75. As per the Narcotic Drugs and Psychotropic Substances Act, 1985 & rules thereunder, the definition of Opium derivative DOES NOT include which of the following:
- (1) Medicinal opium
 - (2) Prepared opium
 - (3) All preparations containing more than 0.2 percent of morphine or containing any diacetylmorphine
 - (4) Seeds of the opium poppy

76. Drug products in identical dosage forms that contain the same active ingredient(s), that is, the salt or ester, are of the same dosage form, use the same route of administration, identical in strength and concentration, and meet the same or compendial or other applicable standards (i.e., strength, quality, purity and identity) but may differ in characteristics such as shape, scoring configuration, release mechanisms, packaging, excipients, expiration time and within certain limits, labeling, are called :
- (1) Chemical equivalents (2) Pharmaceutical equivalents
(3) Pharmaceutical alternatives (4) Bioequivalent
77. Which of the following pharmacokinetic parameters cannot be determined exclusively using the urinary data ?
- (1) Biological Half life (2) Bioequivalence
(3) Rate of elimination (4) Apparent volume of distribution
78. When conducting any pharmacokinetic study, what should be maximum time for which blood or urine samples need to be collected ?
- (1) 4 biological half lives (2) 8 biological half lives
(3) 10 biological half lives (4) Any duration of time
79. Name the liquid preparations, intended for external use, containing highly volatile solvents [usually a base solution of pyroxyline (soluble gun-cotton) in a mixture of ether and alcohol] that evaporate to leave either a mechanical or therapeutic film :
- (1) Decoctions (2) Elixirs
(3) Infusions (4) Collodions
80. Name the dilute solutions containing water soluble extracts of vegetable drugs, prepared by macerating drugs in water for short periods of time :
- (1) Infusions
(2) Decoctions
(3) Percolations
(4) Glycerins

81. Semisolids that do not flow at low shear stress (exhibiting reversible deformation like elastic solids) but flow like liquids above their yield value (i.e., yield stress) are termed :
- (1) Newtonian
 - (2) Pseudoplastic
 - (3) Dilatant
 - (4) Plastic bodies
82. Which of the following liquids has the highest surface tension ?
- (1) Mercury
 - (2) Water
 - (3) Oleic acid
 - (4) Hexane
83. When there is little attraction between the dispersed phase and the dispersion medium, the system is called :
- (1) Lyophilic dispersions
 - (2) Lyophobic dispersions
 - (3) Suspensions
 - (4) Emulsions
84. Diameter of a sphere having the same gravitational settling velocity as the particle, is known as :
- (1) Martin's diameter
 - (2) Sieve diameter
 - (3) Stokes diameter
 - (4) Feret's diameter
85. Which of the following preservatives has antifungal action ?
- (1) Methyl paraben
 - (2) Benzyl alcohol
 - (3) Cresol
 - (4) Ethyl alcohol

86. Time taken to reduce a microbial population by 1 logarithm, or 90% of its initial value, under specified conditions, is known as :
- (1) Half life (2) Incubation value
(3) Z-value (4) D-value
87. Which of the following biological indicators is suitable for evaluation of steam sterilization ?
- (1) *Bacillus pumulis*
(2) *Bacillus subtilis*
(3) *Bacillus atrophaeus*
(4) *Bacillus anthracis*
88. Which of the following preparations is free of preservatives ?
- (1) Multi dose eye drops
(2) Small volume parenterals
(3) Large volume parenterals
(4) Parenterals prepared by sterile filtration
89. Excipients that prevent adhesion of the tablet material to the surface of the dies and punches, reduce interparticle friction, facilitate the ejection of tablets from the die cavity and may improve the rate of flow of the tablet granulation, are called :
- (1) Binders (2) Disintegrants
(3) Lubricants (4) Glidants
90. A capsule fill weight of 1425 mg, corresponding to powder density of 1.5 gm/ml, corresponds to which of the following capsule sizes ?
- (1) Size 4
(2) Size 1
(3) Size 0
(4) Size 00

91. Numerical designation of Aerosol propellant 11 corresponds to which of the following ?
- (1) Trichloromono-fluoro methane
 - (2) Dichloro-difluoro methane
 - (3) Dichloro-tetrafluoro methane
 - (4) Tetrafluoroethane
92. Name the ingredients, that function as a bulking agent for low dose actives, facilitating compression or encapsulation, in solid dosage forms :
- (1) Coating agents
 - (2) Disintegrants
 - (3) Lubricants
 - (4) Diluents
93. Which of the following climatic zones (as per ICH guidelines) are hot/dry zone, temp. 30 degree c, relative humidity 35 % RH ?
- | | |
|------------|---------------|
| (1) Zone 1 | (2) Zone 2 |
| (3) Zone 3 | (4) Zone IV a |
94. A drug having low solubility and high permeability is classified as which of the following ?
- | | |
|-------------------|------------------|
| (1) BCS Class I | (2) BCS Class II |
| (3) BCS Class III | (4) BCS Class IV |
95. A flow through cell type of dissolution apparatus is described in which of the following USP Apparatus ?
- (1) Apparatus 1
 - (2) Apparatus 2
 - (3) Apparatus 3
 - (4) Apparatus 4

96. Post approval clinical trials are typically designated as :
- (1) Phase I (2) Phase II
(3) Phase III (4) Phase IV
97. One fluid ounce contains approximately how many milliliters ?
- (1) 15 (2) 20
(3) 30 (4) 60
98. A measure of the separation of the positive and negative electrical charges within a system; that is, a measure of the systems' overall polarity, is called :
- (1) Zeta potential
(2) Dipole moment
(3) Electric potential
(4) Potential energy
99. How many parts of solvent are required for 1 part of solute, when the solubility is described as Freely soluble ?
- (1) From 1 to 10
(2) From 30 to 100
(3) From 1000 to 10000
(4) More than 10000
100. Which of the following filter medias is suitable for filtering solutions of highly reactive chemicals, such as strong acids ?
- (1) Filter paper
(2) Membrane filters
(3) Glass wool filters
(4) Paper pulp filter

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 - (4) Seven years from the date of grant of the patent

4. What the "proof strength" as per the Medicinal and Toilet Preparations Act, 1955 & rules thereunder ?
 - (1) Straight up to two times alcohol by volume
 - (2) Absolute alcohol
 - (3) 57.1 % v/v of absolute alcohol
 - (4) 90 % v/v of absolute alcohol

5. As per the Narcotic Drugs and Psychotropic Substances Act, 1985 & rules thereunder, the definition of Opium derivative DOES NOT include which of the following:
- (1) Medicinal opium
 - (2) Prepared opium
 - (3) All preparations containing more than 0.2 percent of morphine or containing any diacetylmorphine
 - (4) Seeds of the opium poppy
6. Drug products in identical dosage forms that contain the same active ingredient(s), that is, the salt or ester, are of the same dosage form, use the same route of administration, identical in strength and concentration, and meet the same or compendial or other applicable standards (i.e., strength, quality, purity and identity) but may differ in characteristics such as shape, scoring configuration, release mechanisms, packaging, excipients, expiration time and within certain limits, labeling, are called :
- (1) Chemical equivalents
 - (2) Pharmaceutical equivalents
 - (3) Pharmaceutical alternatives
 - (4) Bioequivalent
7. Which of the following pharmacokinetic parameters cannot be determined exclusively using the urinary data ?
- (1) Biological Half life
 - (2) Bioequivalence
 - (3) Rate of elimination
 - (4) Apparent volume of distribution
8. When conducting any pharmacokinetic study, what should be maximum time for which blood or urine samples need to be collected ?
- (1) 4 biological half lives
 - (2) 8 biological half lives
 - (3) 10 biological half lives
 - (4) Any duration of time
9. Name the liquid preparations, intended for external use, containing highly volatile solvents [usually a base solution of pyroxyline (soluble gun-cotton) in a mixture of ether and alcohol] that evaporate to leave either a mechanical or therapeutic film :
- (1) Decoctions
 - (2) Elixirs
 - (3) Infusions
 - (4) Collodions

10. Name the dilute solutions containing water soluble extracts of vegetable drugs, prepared by macerating drugs in water for short periods of time :
- (1) Infusions (2) Decoctions
(3) Percolations (4) Glycerins
11. What is the range of visible spectrum ?
- (1) 1 to 180 nm (2) 180 to 400 nm
(3) 400 to 750 nm (4) More than 750 nm
12. Emission of light by certain materials, when they are relatively cool, is called :
- (1) Fluorescence (2) Phosphorescence
(3) Incandescence (4) Luminiscence
13. The technique in which radiation is absorbed by ground state atoms, atoms get excited, not dependent upon temperature, and absorb specific wavelength of light that are characteristic of the element, is called :
- (1) Flame photometry (2) Atomic absorption spectroscopy
(3) Infrared spectroscopy (4) Fluorimetry
14. In FTIR, which of the following regions represent vibrations of the free -OH group ?
- (1) 2960 - 2850 per cm (2) 1500 - 1350 per cm
(3) 3700 to 3500 per cm (4) 1410 - 1300 per cm
15. A spectroscopic technique, typically used to determine vibration modes of molecules (also rotational & other low frequency modes) is called :
- (1) Atomic absorption spectroscopy
(2) Visible spectroscopy
(3) FTIR spectroscopy
(4) Raman Spectroscopy

16. Typical effects such as cell elongation, giving an increase in stem length, inhibition of root growth, adventitious root production and fruit - setting in the absence of pollination, can be attributed to :
- (1) Gibberlins (2) Auxins (3) Cytokinins (4) Abscisic acid
17. What is the source of Anhydrous Lanolin ?
- (1) By melting & purifying the honeycomb of *Apis mellifica* & other bees
(2) From the ground kernels of the *obroma cocoa* by hot expression
(3) Purified fat like substance prepared from the wool of the sheep *Ovis aries* (Bovidae)
(4) Dried ripe seeds of *Linum usitatissimum*
18. Give the common name of polysaccharide complexes containing uronic acids, which occur in the middle lamellae of cell walls and are abundant in fruits (e.g., apples, oranges) and roots (e.g., beets and gentian) :
- (1) Pectins (2) Algin (3) Chitins (4) Mucilages
19. What is the source of Jute ?
- (1) Pericyclic fibres of the stem of *Linum usitatissimum* (Lineaceae)
(2) Pericyclic fibres of the stem of *Cannibis sativa* (Cannabinaceae)
(3) Strands of phloem fibres from the stem bark of *Corchorus capsularis* & other species of *Corchorus* (Tiliaceae)
(4) Epidermal trichomes of the seeds of *Gossypium herbaceae* & other cultivated species of *Gossypium* (Malvaceae)
20. Which of the following types of Starch possess ?
- Hilum in the form of a point; eccentric about 1/3 to 14. Concentric striations well marked; some rings, however more distinct than others. Mostly simple granules, hatchet-, wedge or musel-shaped. A few compound grannules of 2 or 3 components firmly fixed together.
- (1) Maize starch (2) Wheat starch
(3) Rice starch (4) Potato starch

21. A 3-letter code Asn and t-letter code N refers to which of the following amino acids ?
- (1) Alanine
 - (2) Arginine
 - (3) Asparagine
 - (4) Aspartic acid
22. Which of the following enzymes acts in joining two substrates at the expense of ATP hydrolysis ?
- (1) Transferases
 - (2) Hydrolases
 - (3) Lyases
 - (4) Ligases
23. Which of the following indicators gives yellow colour in acidic solutions and red colour in alkaline solutions ?
- | | |
|---------------------|----------------|
| (1) Phenol red | (2) Methyl red |
| (3) Phenolphthalein | (4) Litmus |
24. Which of the following pairs of colours is NOT complementary ?
- | | |
|-----------------------|---------------------|
| (1) Violet and yellow | (2) Red and green |
| (3) Blue and yellow | (4) Blue and orange |
25. Number of milligrams of potassium hydroxide required to neutralize the free acid in 1 gram of the fat or oil is called :
- (1) Acetyl value
 - (2) Saponification value
 - (3) Acid value
 - (4) Iodine value

26. Which of the following is a tri-carboxylic acid ?
- (1) Oxalic acid
 - (2) Succinic acid
 - (3) Adipic acid
 - (4) Citric acid
27. Sucrose is an example of :
- (1) Monosaccharides
 - (2) Disaccharides
 - (3) Oligosaccharides
 - (4) Polysaccharides
28. Which of the following is a dihydric alcohol ?
- (1) Phenol
 - (2) Paracetamol
 - (3) Resorcinol
 - (4) Phloroglucinol
29. Which of the following is a polynuclear hydrocarbon, containing 3 or more fused rings ?
- (1) Naphthalene
 - (2) Propranolol
 - (3) Tolnaftate
 - (4) Amitriptyline
30. Which of the following is an example of a fused ring heterocyclic compound ?
- | | |
|----------------|-------------|
| (1) Indole | (2) Pyrrole |
| (3) Pyrimidine | (4) Furan |

31. Which of the following anti-epileptic drugs is used in Tonic-clonic (grand mal) seizures ?
- (1) Carbamazepine
 - (2) Ethosuximide
 - (3) Valporate
 - (4) Diazepam
32. Which of the following drugs is an Opioid antagonist ?
- (1) Morphine
 - (2) Codeine
 - (3) Meperidine
 - (4) Naltrexone
33. Which of the following drugs has a VERY STRONG dependence liability ?
- (1) Caffeine
 - (2) Cannabis
 - (3) Cocaine
 - (4) LSD
34. Which of the following drugs is a short acting anaesthetic ?
- (1) Procaine
 - (2) Lignocaine
 - (3) Tetracaine
 - (4) Bupivacaine
35. Which of the following antibiotics is a drug of first choice for gram negative cocci (e.g., Neisseria gonorrhoea) ?
- (1) Penicillin G
 - (2) Penicillin V
 - (3) Flucloxacillin
 - (4) Amoxicillin

36. Which of the following diseases is caused by a RNA Virus ?
- (1) Smallpox
 - (2) Herpes
 - (3) AIDS
 - (4) Mild cold or Flu
37. Which of the following drugs is used in Tapeworm infections ?
- (1) Praziquantel
 - (2) Mebendazole
 - (3) Levamisole
 - (4) Albendazole
38. Which of the following is NOT a characteristic of cancer cells ?
- (1) Uncontrolled proliferation
 - (2) Ability to metastasise
 - (3) Lack of capacity to differentiate
 - (4) Non invasiveness
39. Which of the following is a drug metabolising enzyme inducer ?
- (1) Phenobarbital
 - (2) Chloramphenicol
 - (3) Cimetidine
 - (4) Erythromycin
40. Which of the following drugs is an intravenous general anaesthetic ?
- | | |
|-------------------|----------------|
| (1) Halothane | (2) Isoflurane |
| (3) Nitrous oxide | (4) Propofol |

41. Numerical designation of Aerosol propellant 11 corresponds to which of the following ?
- (1) Trichloromono-fluoro methane
 - (2) Dichloro-difluoro methane
 - (3) Dichloro-tetrafluoro methane
 - (4) Tetrafluoroethane
42. Name the ingredients, that function as a bulking agent for low dose actives, facilitating compression or encapsulation, in solid dosage forms :
- (1) Coating agents
 - (2) Disintegrants
 - (3) Lubricants
 - (4) Diluents
43. Which of the following climatic zones (as per ICH guidelines) are hot/dry zone, temp. 30 degree c, relative humidity 35 % RH ?
- | | |
|------------|---------------|
| (1) Zone 1 | (2) Zone 2 |
| (3) Zone 3 | (4) Zone IV a |
44. A drug having low solubility and high permeability is classified as which of the following ?
- | | |
|-------------------|------------------|
| (1) BCS Class I | (2) BCS Class II |
| (3) BCS Class III | (4) BCS Class IV |
45. A flow through cell type of dissolution apparatus is described in which of the following USP Apparatus ?
- (1) Apparatus 1
 - (2) Apparatus 2
 - (3) Apparatus 3
 - (4) Apparatus 4

46. Post approval clinical trials are typically designated as :
- (1) Phase I (2) Phase II
(3) Phase III (4) Phase IV
47. One fluid ounce contains approximately how many milliliters ?
- (1) 15 (2) 20
(3) 30 (4) 60
48. A measure of the separation of the positive and negative electrical charges within a system; that is, a measure of the systems' overall polarity, is called :
- (1) Zeta potential
(2) Dipole moment
(3) Electric potential
(4) Potential energy
49. How many parts of solvent are required for 1 part of solute, when the solubility is described as Freely soluble ?
- (1) From 1 to 10
(2) From 30 to 100
(3) From 1000 to 10000
(4) More than 10000
50. Which of the following filter medias is suitable for filtering solutions of highly reactive chemicals, such as strong acids ?
- (1) Filter paper
(2) Membrane filters
(3) Glass wool filters
(4) Paper pulp filter

51. What is the source of Guar gum ?
- (1) Dried gum obtained from the stem & branches of *Acacia senegal* & other species of *Acacia* (Leguminosae)
 - (2) Ground endosperms of *Cyamopsis tetragonolobus*
 - (3) Artificially produced by the pure culture fermentation of *Xanthomonas campestris* on glucose.
 - (4) Dried ripe seeds of *Platago ovata* & other species (Plantaginaceae)
52. Dimeric compounds formed essentially by the union of two molecules of a phenyl propene derivative; optically active compounds, are commonly named as :
- (1) Lignans
 - (2) Lignin
 - (3) Xanthum
 - (4) Glycosides
53. Which of the following volatile oils contain a high percentage of phenols as primary components ?
- | | |
|---------------|----------------|
| (1) Coriander | (2) Lemon |
| (3) Clove | (4) Turpentine |
54. Which of the following is an oleo-gum-resin ?
- | | |
|----------------|----------------|
| (1) Chamomiles | (2) Asafoetida |
| (3) Cardamom | (4) Eucalyptus |
55. Which of the following is NOT an example of a steroidal saponin ?
- (1) Quillaic acid
 - (2) Sarsapogenin
 - (3) Dioscin
 - (4) Digitoxin

56. Stemwood of *Picrasma excelsa* (*Picroena excelsa* or *Aeschrion excelsa*) (Simaroubaceae) is commonly known as :
- (1) Clove
 - (2) Cinnamon
 - (3) Ginger
 - (4) Quassia
57. Test for stomatal index is employed to distinguish leaflets of which of the following drugs ?
- (1) Senna
 - (2) Belladonna
 - (3) Digitalis
 - (4) Cocoa
58. Which of the following drugs contains steroidal alkaloids ?
- (1) Colchicine
 - (2) Quinine
 - (3) Solanum
 - (4) Vinca
59. Which of the following is NOT an example of an essential oil ?
- (1) Sunflower oil
 - (2) Peppermint oil
 - (3) Eucalyptus oil
 - (4) Lemon oil
60. Which of the following polysaccharides is primarily of animal origin ?
- (1) Alpha amylose
 - (2) Cellulose
 - (3) Glycogen
 - (4) Inulins

61. Semisolids that do not flow at low shear stress (exhibiting reversible deformation like elastic solids) but flow like liquids above their yield value (i.e., yield stress) are termed :
- (1) Newtonian
 - (2) Pseudoplastic
 - (3) Dilatant
 - (4) Plastic bodies
62. Which of the following liquids has the highest surface tension ?
- (1) Mercury
 - (2) Water
 - (3) Oleic acid
 - (4) Hexane
63. When there is little attraction between the dispersed phase and the dispersion medium, the system is called :
- (1) Lyophilic dispersions
 - (2) Lyophobic dispersions
 - (3) Suspensions
 - (4) Emulsions
64. Diameter of a sphere having the same gravitational settling velocity as the particle, is known as :
- (1) Martin's diameter
 - (2) Sieve diameter
 - (3) Stokes diameter
 - (4) Feret's diameter
65. Which of the following preservatives has antifungal action ?
- (1) Methyl paraben
 - (2) Benzyl alcohol
 - (3) Cresol
 - (4) Ethyl alcohol

66. Time taken to reduce a microbial population by 1 logarithm, or 90% of its initial value, under specified conditions, is known as :
- (1) Half life (2) Incubation value
(3) Z-value (4) D-value
67. Which of the following biological indicators is suitable for evaluation of steam sterilization ?
- (1) *Bacillus pumulis*
(2) *Bacillus subtilis*
(3) *Bacillus atrophaeus*
(4) *Bacillus anthracis*
68. Which of the following preparations is free of preservatives ?
- (1) Multi dose eye drops
(2) Small volume parenterals
(3) Large volume parenterals
(4) Parenterals prepared by sterile filtration
69. Excipients that prevent adhesion of the tablet material to the surface of the dies and punches, reduce interparticle friction, facilitate the ejection of tablets from the die cavity and may improve the rate of flow of the tablet granulation, are called :
- (1) Binders (2) Disintegrants
(3) Lubricants (4) Glidants
70. A capsule fill weight of 1425 mg, corresponding to powder density of 1.5 gm/ml, corresponds to which of the following capsule sizes ?
- (1) Size 4
(2) Size 1
(3) Size 0
(4) Size 00

71. What is the common name of a drug represented by :
5-ethyl-5-phenylbarbituric acid ?
- (1) Cyclobarbitone
 - (2) Phenobarbitone
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- | | |
|--------------------|--------------------|
| (1) Sulfamethizole | (2) Sulfamethazine |
| (3) Sulfacetamide | (4) Sulfapyridine |
74. Which of the following metabolic pathways is not a Phase-I reaction ?
- | | |
|----------------|-----------------|
| (1) Oxidation | (2) Reduction |
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75. 6-Mercaptopurine is a pharmacologically active metabolite of which of the following parent drug ?
- | | |
|------------------|-------------------|
| (1) Azathioprine | (2) Carbamazepine |
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76. What is the IUPAC name of Eugenol ?
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 - (2) Isopropyl-m-cresol
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 - (4) m-Dihydroxybenzen
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- (1) 6-chloro-2H-1,2,4-benzothiadiazine-7-sulfonamide
 - (2) 2-chloro-5-(1-hydroxy-3-oxo-1-isoindolinyl)benzene sulfonamide
 - (3) 4-chloro-2-(furan-2-ylmethylamino)I-5-sulfamoylanthranilic acid
 - (4) 2,4,7-Triamino-6-phenylpteridine
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- (1) Eluent
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 - (3) Adsorbent
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79. Which of the following spray reagents can be used for detecting phenolic compounds and tannins ?
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80. Which of the following is an example of a strong cation resin ?
- (1) Sulfonated polystyrene
 - (2) Quaternary ammonium
 - (3) Cholestyramine
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81. The value of Blood Urea Nitrogen (serum) will show a decrease in which of the following conditions ?
- (1) Liver failure
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- (1) Metaplasia
 - (2) Anaplasia
 - (3) Atrophy
 - (4) Hyperplasia
83. A painful conical thickening of the stratum corneum of the epidermis found principally over toe joints and between the toes, often caused by friction or pressure, is called :
- (1) Blister
 - (2) Comedo
 - (3) Corn
 - (4) Eczema
84. A biaxial joint allowing movement in the sagittal and frontal planes (e.g., thumb, middle ear) is called :
- (1) Hinge joint
 - (2) Saddle joint
 - (3) Planar joint
 - (4) Ball & socket joint
85. Which of the following are "breathing muscles" ?
- (1) Trapezius, rhomboid
 - (2) Biceps, femoris
 - (3) Erector spinae
 - (4) Diaphragm, intercostals

86. Which law states : When two or more gases, which do not react chemically, are kept in a closed space, the total pressure exerted by the mixture is equal to the sum of individual gases ?
- (1) Graham's law
 - (2) Dalton's law
 - (3) Charles law
 - (4) Boyle's law
87. The unit of dipole moment is :
- (1) Dynes per cm
 - (2) Poise
 - (3) Dynes per square cm
 - (4) Debye
88. Which of the following is an example of anisotropic material ?
- | | |
|--------------|------------|
| (1) Graphite | (2) Glass |
| (3) Plastics | (4) Quartz |
89. The temperature at which a polymorphic substance changes from one form to another is called :
- (1) Equilibrium temperature
 - (2) Triple point
 - (3) Boyle's temperature
 - (4) Transition temperature
90. An apparatus used to measure heat changes during a chemical reaction is called :
- | | |
|-----------------|-------------------|
| (1) Polarimeter | (2) Calorimeter |
| (3) Colorimeter | (4) None of these |

91. Which of the following drugs is a H-2 blocker ?
- (1) Mepyramine
 - (2) Ranitidine
 - (3) Propranolol
 - (4) Chlorpromazine
92. Apoptosis is described by which of the following statements ?
- (1) A disorganised disintegration of damaged cells resulting in products that trigger the inflammatory response
 - (2) Formation of new capillaries from existing blood vessels, an important stimulus being vascular endothelial growth factor
 - (3) Cell suicide by a built-in self-destruct mechanism; it consists of a genetically programmed sequence of biochemical events.
 - (4) None of the above
93. Which of the following statements is TRUE ?
- (1) Parasympathetic effect on salivary glands is dilation
 - (2) Sympathetic effect on eye pupils is constriction
 - (3) Parasympathetic effect on heart atrial muscle is increased force
 - (4) Sympathetic effect on ciliary muscle is contraction
94. Which of the following drugs is a non-selective beta agonist (sympathomimetic) ?
- | | |
|--------------------|-------------------|
| (1) Norepinephrine | (2) Salbutamol |
| (3) Isoprenaline | (4) Phenylephrine |
95. Which of the following proteins is used as a drug for the treatment of anaemia ?
- | | |
|--------------------|-----------------|
| (1) Streptokinase | (2) Oxytocin |
| (3) Erythropoietin | (4) Interferons |

96. Which of the following is NOT a potassium sparing diuretic ?
- (1) Amiloride
 - (2) Triamterene
 - (3) Spironolactone
 - (4) Furosemide
97. Which of the following drugs stimulate insulin secretion and can cause hypoglycaemia ?
- (1) Tolbutamide
 - (2) Rosiglitazone
 - (3) Metformin
 - (4) Pioglitazone
98. Which of the following drugs is a Dopamine agonist ?
- | | |
|--------------------|-------------------|
| (1) Chlorpromazine | (2) Haloperidol |
| (3) Clozapine | (4) Bromocriptine |
99. Which of the following statements refers to Parkinson's disease ?
- (1) Age related dementia, distinct from vascular dementia, associated with brain infarction
 - (2) Progressive disorder of movement that occurs mainly in the elderly
 - (3) An inherited (autosomal dominant) disorder resulting in progressive brain degeneration, starting in adulthood and causing rapid deterioration and death
 - (4) Intracerebral thrombosis or haemorrhage resulting in rapid death of neurons in the centre of lesion
100. Which of the following is an ultra short acting (<6 hr) benzodiazepine ?
- | | |
|----------------|---------------|
| (1) Alprazolam | (2) Diazepam |
| (3) Clonazepam | (4) Midazolam |

Total No. of Printed Pages : 21

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ARE ASKED TO DO SO)

C

SET-Y

PG-EE-July, 2024

SUBJECT : Pharmaceutical Science 10151

Sr. No.

Time : 1¼ Hours

Max. Marks : 100

Total Questions : 100

Roll No. (in figures) _____ (in words) _____

Name _____ Date of Birth _____

Father's Name _____ Mother's Name _____

Date of Examination _____

(Signature of the Candidate)

(Signature of the Invigilator)

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- Keeping in view the transparency of the examination system, carbonless OMR Sheet is provided to the candidate so that a copy of OMR Sheet may be kept by the candidate.
- Question Booklet along with answer key of all the A, B, C & D code shall be got uploaded on the University Website immediately after the conduct of Entrance Examination. Candidates may raise valid objection/complaint if any, with regard to discrepancy in the question booklet/answer key within 24 hours of uploading the same on the University Website. The complaint be sent by the students to the Controller of Examinations by hand or through email. Thereafter, no complaint in any case, will be considered.
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- There will be no negative marking. Each correct answer will be awarded one full mark. Cutting, erasing, overwriting and more than one answer in OMR Answer-Sheet will be treated as incorrect answer.**
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- Before answering the questions, the candidates should ensure that they have been supplied correct and complete booklet. Complaints, if any, regarding misprinting etc. will not be entertained 30 minutes after starting of the examination.**

PG-EE-July-2024/(Pharmaceutical Science)(SET-Y)/(C)

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|-------------|------------|
| (1) Blister | (2) Comedo |
| (3) Corn | (4) Eczema |
14. A biaxial joint allowing movement in the sagittal and frontal planes (e.g., thumb, middle ear) is called :
- | | |
|------------------|-------------------------|
| (1) Hinge joint | (2) Saddle joint |
| (3) Planar joint | (4) Ball & socket joint |
15. Which of the following are "breathing muscles" ?
- (1) Trapezius, rhomboid
 - (2) Biceps, femoris
 - (3) Erector spinae
 - (4) Diaphragm, intercostals

16. Which law states : When two or more gases, which do not react chemically, are kept in a closed space, the total pressure exerted by the mixture is equal to the sum of individual gases ?
- (1) Graham's law
 - (2) Dalton's law
 - (3) Charles law
 - (4) Boyle's law
17. The unit of dipole moment is :
- (1) Dynes per cm
 - (2) Poise
 - (3) Dynes per square cm
 - (4) Debye
18. Which of the following is an example of anisotropic material ?
- | | |
|--------------|------------|
| (1) Graphite | (2) Glass |
| (3) Plastics | (4) Quartz |
19. The temperature at which a polymorphic substance changes from one form to another is called :
- (1) Equilibrium temperature
 - (2) Triple point
 - (3) Boyle's temperature
 - (4) Transition temperature
20. An apparatus used to measure heat changes during a chemical reaction is called :
- | | |
|-----------------|-------------------|
| (1) Polarimeter | (2) Calorimeter |
| (3) Colorimeter | (4) None of these |

21. Which of the following drugs is a H-2 blocker ?
- (1) Mepyramine
 - (2) Ranitidine
 - (3) Propranolol
 - (4) Chlorpromazine
22. Apoptosis is described by which of the following statements ?
- (1) A disorganised disintegration of damaged cells resulting in products that trigger the inflammatory response
 - (2) Formation of new capillaries from existing blood vessels, an important stimulus being vascular endothelial growth factor
 - (3) Cell suicide by a built-in self-destruct mechanism; it consists of a genetically programmed sequence of biochemical events.
 - (4) None of the above
23. Which of the following statements is TRUE ?
- (1) Parasympathetic effect on salivary glands is dilation
 - (2) Sympathetic effect on eye pupils is constriction
 - (3) Parasympathetic effect on heart atrial muscle is increased force
 - (4) Sympathetic effect on ciliary muscle is contraction
24. Which of the following drugs is a non-selective beta agonist (sympathomimetic) ?
- | | |
|--------------------|-------------------|
| (1) Norepinephrine | (2) Salbutamol |
| (3) Isoprenaline | (4) Phenylephrine |
25. Which of the following proteins is used as a drug for the treatment of anaemia ?
- | | |
|--------------------|-----------------|
| (1) Streptokinase | (2) Oxytocin |
| (3) Erythropoietin | (4) Interferons |

26. Which of the following is NOT a potassium sparing diuretic ?
- (1) Amiloride
 - (2) Triamterene
 - (3) Spironolactone
 - (4) Furosemide
27. Which of the following drugs stimulate insulin secretion and can cause hypoglycaemia ?
- (1) Tolbutamide
 - (2) Rosiglitazone
 - (3) Metformin
 - (4) Pioglitazone
28. Which of the following drugs is a Dopamine agonist ?
- | | |
|--------------------|-------------------|
| (1) Chlorpromazine | (2) Haloperidol |
| (3) Clopazine | (4) Bromocriptine |
29. Which of the following statements refers to Parkinson's disease ?
- (1) Age related dementia, distinct from vascular dementia, associated with brain infarction
 - (2) Progressive disorder of movement that occurs mainly in the elderly
 - (3) An inherited (autosomal dominant) disorder resulting in progressive brain degeneration, starting in adulthood and causing rapid deterioration and death
 - (4) Intracerebral thrombosis or haemorrhage resulting in rapid death of neurons in the centre of lesion
30. Which of the following is an ultra short acting (<6 hr) benzodiazepine ?
- | | |
|----------------|---------------|
| (1) Alprazolam | (2) Diazepam |
| (3) Clonazepam | (4) Midazolam |

31. Numerical designation of Aerosol propellant 11 corresponds to which of the following ?
- (1) Trichloromono-fluoro methane
 - (2) Dichloro-difluoro methane
 - (3) Dichloro-tetrafluoro methane
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34. A drug having low solubility and high permeability is classified as which of the following ?
- | | |
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35. A flow through cell type of dissolution apparatus is described in which of the following USP Apparatus ?
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- 36.** Post approval clinical trials are typically designated as :
- (1) Phase I
 - (2) Phase II
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- 37.** One fluid ounce contains approximately how many milliliters ?
- (1) 15
 - (2) 20
 - (3) 30
 - (4) 60
- 38.** A measure of the separation of the positive and negative electrical charges within a system; that is, a measure of the systems' overall polarity, is called :
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 - (2) Dipole moment
 - (3) Electric potential
 - (4) Potential energy
- 39.** How many parts of solvent are required for 1 part of solute, when the solubility is described as Freely soluble ?
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 - (3) From 1000 to 10000
 - (4) More than 10000
- 40.** Which of the following filter medias is suitable for filtering solutions of highly reactive chemicals, such as strong acids ?
- (1) Filter paper
 - (2) Membrane filters
 - (3) Glass wool filters
 - (4) Paper pulp filter

41. What is the source of Guar gum ?
- (1) Dried gum obtained from the stem & branches of *Acacia senegal* & other species of *Acacia* (Leguminosae)
 - (2) Ground endosperms of *Cyamopsis tetragonolobus*
 - (3) Artificially produced by the pure culture fermentation of *Xanthomonas campestris* on glucose.
 - (4) Dried ripe seeds of *Platago ovata* & other species (Plantaginaceae)
42. Dimeric compounds formed essentially by the union of two molecules of a phenyl propene derivative; optically active compounds, are commonly named as :
- (1) Lignans
 - (2) Lignin
 - (3) Xanthum
 - (4) Glycosides
43. Which of the following volatile oils contain a high percentage of phenols as primary components ?
- | | |
|---------------|----------------|
| (1) Coriander | (2) Lemon |
| (3) Clove | (4) Turpentine |
44. Which of the following is an oleo-gum-resin ?
- | | |
|----------------|----------------|
| (1) Chamomiles | (2) Asafoetida |
| (3) Cardamom | (4) Eucalyptus |
45. Which of the following is NOT an example of a steroidal saponin ?
- (1) Quillaic acid
 - (2) Sarsapogenin
 - (3) Dioscin
 - (4) Digitoxin

46. Stemwood of *Picrasma excelsa* (*Picroena excelsa* or *Aeschrion excelsa*) (Simaroubaceae) is commonly known as :
- (1) Clove
 - (2) Cinnamon
 - (3) Ginger
 - (4) Quassia
47. Test for stomatal index is employed to distinguish leaflets of which of the following drugs ?
- (1) Senna
 - (2) Belladonna
 - (3) Digitalis
 - (4) Cocoa
48. Which of the following drugs contains steroidal alkaloids ?
- (1) Colchicine
 - (2) Quinine
 - (3) Solanum
 - (4) Vinca
49. Which of the following is NOT an example of an essential oil ?
- | | |
|--------------------|--------------------|
| (1) Sunflower oil | (2) Peppermint oil |
| (3) Eucalyptus oil | (4) Lemon oil |
50. Which of the following polysaccharides is primarily of animal origin ?
- | | |
|-------------------|---------------|
| (1) Alpha amylose | (2) Cellulose |
| (3) Glycogen | (4) Inulins |

C

51. A 3-letter code Asn and t-letter code N refers to which of the following amino acids ?
- (1) Alanine
 - (2) Arginine
 - (3) Asparagine
 - (4) Aspartic acid
52. Which of the following enzymes acts in joining two substrates at the expense of ATP hydrolysis ?
- (1) Transferases
 - (2) Hydrolases
 - (3) Lyases
 - (4) Ligases
53. Which of the following indicators gives yellow colour in acidic solutions and red colour in alkaline solutions ?
- | | |
|---------------------|----------------|
| (1) Phenol red | (2) Methyl red |
| (3) Phenolphthalein | (4) Litmus |
54. Which of the following pairs of colours is NOT complementary ?
- | | |
|-----------------------|---------------------|
| (1) Violet and yellow | (2) Red and green |
| (3) Blue and yellow | (4) Blue and orange |
55. Number of milligrams of potassium hydroxide required to neutralize the free acid in 1 gram of the fat or oil is called :
- (1) Acetyl value
 - (2) Saponification value
 - (3) Acid value
 - (4) Iodine value

56. Which of the following is a tri-carboxylic acid ?
- (1) Oxalic acid
 - (2) Succinic acid
 - (3) Adipic acid
 - (4) Citric acid
57. Sucrose is an example of :
- (1) Monosaccharides
 - (2) Disaccharides
 - (3) Oligosaccharides
 - (4) Polysaccharides
58. Which of the following is a dihydric alcohol ?
- (1) Phenol
 - (2) Paracetamol
 - (3) Resorcinol
 - (4) Phloroglucinol
59. Which of the following is a polynuclear hydrocarbon, containing 3 or more fused rings ?
- (1) Naphthalene
 - (2) Propranolol
 - (3) Tolnaftate
 - (4) Amitriptyline
60. Which of the following is an example of a fused ring heterocyclic compound ?
- | | |
|----------------|-------------|
| (1) Indole | (2) Pyrrole |
| (3) Pyrimidine | (4) Furan |

61. Which of the following schedules gives the list of official books for Ayurveda, Sidda and Unani Systems of Medicine ?
- (1) Schedule I to the Drugs and Cosmetics Act, 1940
 - (2) Schedule II to the Drugs and Cosmetics Act, 1940
 - (3) Schedule A to the Drugs and Cosmetics Rules, 1945
 - (4) Schedule C to the Drugs and Cosmetics Rules, 1945
62. Which of the following persons is an NOT an ex-officio member of the Pharmacy Council of India ?
- (1) One teacher of any of the subjects (Pharmaceutical chemistry, pharmacy, pharmacology and pharmacognosy) from amongst persons on the teaching staff of an Indian University or a college affiliated thereto, which grants a degree or diploma in pharmacy
 - (2) Director General Health Services
 - (3) Drugs Controller India
 - (4) Director of the Central Drugs Laboratory
63. What is the term of a patent in India, as per the Patents Act, 1970 & rules thereunder ?
- (1) Twenty years from the date of grant of the patent
 - (2) Twenty years from the date of filing of the application for the patent
 - (3) Fourteen years from the date of grant of the patent
 - (4) Seven years from the date of grant of the patent
64. What the "proof strength" as per the Medicinal and Toilet Preparations Act, 1955 & rules thereunder ?
- (1) Straight up to two times alcohol by volume
 - (2) Absolute alcohol
 - (3) 57.1 % v/v of absolute alcohol
 - (4) 90 % v/v of absolute alcohol

65. As per the Narcotic Drugs and Psychotropic Substances Act, 1985 & rules thereunder, the definition of Opium derivative DOES NOT include which of the following:
- (1) Medicinal opium
 - (2) Prepared opium
 - (3) All preparations containing more than 0.2 percent of morphine or containing any diacetylmorphine
 - (4) Seeds of the opium poppy
66. Drug products in identical dosage forms that contain the same active ingredient(s), that is, the salt or ester, are of the same dosage form, use the same route of administration, identical in strength and concentration, and meet the same or compendial or other applicable standards (i.e., strength, quality, purity and identity) but may differ in characteristics such as shape, scoring configuration, release mechanisms, packaging, excipients, expiration time and within certain limits, labeling, are called :
- (1) Chemical equivalents
 - (2) Pharmaceutical equivalents
 - (3) Pharmaceutical alternatives
 - (4) Bioequivalent
67. Which of the following pharmacokinetic parameters cannot be determined exclusively using the urinary data ?
- (1) Biological Half life
 - (2) Bioequivalence
 - (3) Rate of elimination
 - (4) Apparent volume of distribution
68. When conducting any pharmacokinetic study, what should be maximum time for which blood or urine samples need to be collected ?
- (1) 4 biological half lives
 - (2) 8 biological half lives
 - (3) 10 biological half lives
 - (4) Any duration of time
69. Name the liquid preparations, intended for external use, containing highly volatile solvents [usually a base solution of pyroxyline (soluble gun-cotton) in a mixture of ether and alcohol] that evaporate to leave either a mechanical or therapeutic film :
- (1) Decoctions
 - (2) Elixirs
 - (3) Infusions
 - (4) Collodions

70. Name the dilute solutions containing water soluble extracts of vegetable drugs, prepared by macerating drugs in water for short periods of time :
- (1) Infusions (2) Decoctions
(3) Percolations (4) Glycerins
71. Semisolids that do not flow at low shear stress (exhibiting reversible deformation like elastic solids) but flow like liquids above their yield value (i.e., yield stress) are termed :
- (1) Newtonian (2) Pseudoplastic
(3) Dilatant (4) Plastic bodies
72. Which of the following liquids has the highest surface tension ?
- (1) Mercury (2) Water
(3) Oleic acid (4) Hexane
73. When there is little attraction between the dispersed phase and the dispersion medium, the system is called :
- (1) Lyophilic dispersions
(2) Lyophobic dispersions
(3) Suspensions
(4) Emulsions
74. Diameter of a sphere having the same gravitational settling velocity as the particle, is known as :
- (1) Martin's diameter (2) Sieve diameter
(3) Stokes diameter (4) Feret's diameter
75. Which of the following preservatives has antifungal action ?
- (1) Methyl paraben (2) Benzyl alcohol
(3) Cresol (4) Ethyl alcohol

76. Time taken to reduce a microbial population by 1 logarithm, or 90% of its initial value, under specified conditions, is known as :
- (1) Half life (2) Incubation value
(3) Z-value (4) D-value
77. Which of the following biological indicators is suitable for evaluation of steam sterilization ?
- (1) *Bacillus pumulis*
(2) *Bacillus subtilis*
(3) *Bacillus atrophaeus*
(4) *Bacillus anthracis*
78. Which of the following preparations is free of preservatives ?
- (1) Multi dose eye drops
(2) Small volume parenterals
(3) Large volume parenterals
(4) Parenterals prepared by sterile filtration
79. Excipients that prevent adhesion of the tablet material to the surface of the dies and punches, reduce interparticle friction, facilitate the ejection of tablets from the die cavity and may improve the rate of flow of the tablet granulation, are called :
- (1) Binders (2) Disintegrants
(3) Lubricants (4) Glidants
80. A capsule fill weight of 1425 mg, corresponding to powder density of 1.5 gm/ml, corresponds to which of the following capsule sizes ?
- (1) Size 4
(2) Size 1
(3) Size 0
(4) Size 00

81. Which of the following anti-epileptic drugs is used in Tonic-clonic (grand mal) seizures ?
- (1) Carbamazepine
 - (2) Ethosuximide
 - (3) Valporate
 - (4) Diazepam
82. Which of the following drugs is an Opioid antagonist ?
- (1) Morphine
 - (2) Codeine
 - (3) Meperidine
 - (4) Naltrexone
83. Which of the following drugs has a VERY STRONG dependence liability ?
- (1) Caffeine
 - (2) Cannabis
 - (3) Cocaine
 - (4) LSD
84. Which of the following drugs is a short acting anaesthetic ?
- | | |
|----------------|-----------------|
| (1) Procaine | (2) Lignocaine |
| (3) Tetracaine | (4) Bupivacaine |
85. Which of the following antibiotics is a drug of first choice for gram negative cocci (e.g., *Neisseria gonorrhoea*) ?
- | | |
|--------------------|------------------|
| (1) Penicillin G | (2) Penicillin V |
| (3) Flucloxacillin | (4) Amoxicillin |

86. Which of the following diseases is caused by a RNA Virus ?
- (1) Smallpox
 - (2) Herpes
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87. Which of the following drugs is used in Tapeworm infections ?
- (1) Praziquantel
 - (2) Mebendazole
 - (3) Levamisole
 - (4) Albendazole
88. Which of the following is NOT a characteristic of cancer cells ?
- (1) Uncontrolled proliferation
 - (2) Ability to metastasise
 - (3) Lack of capacity to differentiate
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- (1) Phenobarbital
 - (2) Chloramphenicol
 - (3) Cimetidine
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90. Which of the following drugs is an intravenous general anaesthetic ?
- | | |
|-------------------|----------------|
| (1) Halothane | (2) Isoflurane |
| (3) Nitrous oxide | (4) Propofol |

91. What is the range of visible spectrum ?
- (1) 1 to 180 nm (2) 180 to 400 nm
(3) 400 to 750 nm (4) More than 750 nm
92. Emission of light by certain materials, when they are relatively cool, is called :
- (1) Fluorescence (2) Phosphorescence
(3) Incandescence (4) Luminiscence
93. The technique in which radiation is absorbed by ground state atoms, atoms get excited, not dependent upon temperature, and absorb specific wavelength of light that are characteristic of the element, is called :
- (1) Flame photometry
(2) Atomic absorption spectroscopy
(3) Infrared spectroscopy
(4) Fluorimetry
94. In FTIR, which of the following regions represent vibrations of the free -OH group ?
- (1) 2960 - 2850 per cm
(2) 1500 - 1350 per cm
(3) 3700 to 3500 per cm
(4) 1410 - 1300 per cm
95. A spectroscopic technique, typically used to determine vibration modes of molecules (also rotational & other low frequency modes) is called :
- (1) Atomic absorption spectroscopy
(2) Visible spectroscopy
(3) FTIR spectroscopy
(4) Raman Spectroscopy

96. Typical effects such as cell elongation, giving an increase in stem length, inhibition of root growth, adventitious root production and fruit - setting in the absence of pollination, can be attributed to :
- (1) Gibberlins (2) Auxins (3) Cytokinins (4) Absciscic acid
97. What is the source of Anhydrous Lanolin ?
- (1) By melting & purifying the honeycomb of *Apis mellifica* & other bees
(2) From the ground kernels of the *obroma cocoa* by hot expression
(3) Purified fat like substance prepared from the wool of the sheep *Ovis aries* (*Bovidae*)
(4) Dried ripe seeds of *Linum usitatissimum*
98. Give the common name of polysaccharide complexes containing uronic acids, which occur in the middle lamellae of cell walls and are abundant in fruits (e.g., apples, oranges) and roots (e.g., beets and gentian) :
- (1) Pectins (2) Algin (3) Chitins (4) Mucilages
99. What is the source of Jute ?
- (1) Pericyclic fibres of the stem of *Linum usitatissimum* (*Lineaceae*)
(2) Pericyclic fibres of the stem of *Cannibis sativa* (*Cannabinaceae*)
(3) Strands of phloem fibres from the stem bark of *Corchorus capsularis* & other species of *Corchorus* (*Tiliaceae*)
(4) Epidermal trichomes of the seeds of *Gossypium herbaceae* & other cultivated species of *Gossypium* (*Malvaceae*)
100. Which of the following types of Starch possess ?
- Hilum in the form of a point; eccentric about 1/3 to 1/4. Concentric striations well marked; some rings, however more distinct than others. Mostly simple granules, hatchet-, wedge or musel-shaped. A few compound grannules of 2 or 3 components firmly fixed together.
- (1) Maize starch (2) Wheat starch
(3) Rice starch (4) Potato starch

(DO NOT OPEN THIS QUESTION BOOKLET BEFORE TIME OR UNTIL YOU ARE ASKED TO DO SO)

D

PG-EE-July, 2024

SET-Y

SUBJECT : Pharmaceutical Science

10180

Sr. No.

Time : 1¼ Hours

Max. Marks : 100

Total Questions : 100

Roll No. (in figures) _____ (in words) _____

Name _____ Date of Birth _____

Father's Name _____ Mother's Name _____

Date of Examination _____

(Signature of the Candidate)

(Signature of the Invigilator)

CANDIDATES MUST READ THE FOLLOWING INFORMATION/INSTRUCTIONS BEFORE STARTING THE QUESTION PAPER.

- 1. All questions are compulsory.**
- The candidates **must return** the question booklet as well as OMR Answer-Sheet to the Invigilator concerned before leaving the Examination Hall, failing which a case of use of unfair-means / mis-behaviour will be registered against him / her, in addition to lodging of an FIR with the police. Further the answer-sheet of such a candidate will not be evaluated.
- Keeping in view the transparency of the examination system, carbonless OMR Sheet is provided to the candidate so that a copy of OMR Sheet may be kept by the candidate.
- Question Booklet along with answer key of all the A, B, C & D code shall be got uploaded on the University Website immediately after the conduct of Entrance Examination. Candidates may raise valid objection/complaint if any, with regard to discrepancy in the question booklet/answer key within 24 hours of uploading the same on the University Website. The complaint be sent by the students to the Controller of Examinations by hand or through email. Thereafter, no complaint in any case, will be considered.
- The candidate **must not** do any rough work or writing in the OMR Answer-Sheet. Rough work, if any, may be done in the question booklet itself. Answers **must not** be ticked in the question booklet.
- There will be no negative marking. Each correct answer will be awarded one full mark. Cutting, erasing, overwriting and more than one answer in OMR Answer-Sheet will be treated as incorrect answer.**
- Use only **Black or Blue Ball Point Pen** of good quality in the OMR Answer-Sheet.
- Before answering the questions, the candidates should ensure that they have been supplied correct and complete booklet. Complaints, if any, regarding misprinting etc. will not be entertained 30 minutes after starting of the examination.**

PG-EE-July-2024/(Pharmaceutical Science)(SET-Y)/(D)

SEAL

D

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 - (2) Twenty years from the date of filing of the application for the patent
 - (3) Fourteen years from the date of grant of the patent
 - (4) Seven years from the date of grant of the patent
24. What the "proof strength" as per the Medicinal and Toilet Preparations Act, 1955 & rules thereunder ?
- (1) Straight up to two times alcohol by volume
 - (2) Absolute alcohol
 - (3) 57.1 % v/v of absolute alcohol
 - (4) 90 % v/v of absolute alcohol

25. As per the Narcotic Drugs and Psychotropic Substances Act, 1985 & rules thereunder, the definition of Opium derivative DOES NOT include which of the following:
- (1) Medicinal opium
 - (2) Prepared opium
 - (3) All preparations containing more than 0.2 percent of morphine or containing any diacetylmorphine
 - (4) Seeds of the opium poppy
26. Drug products in identical dosage forms that contain the same active ingredient(s), that is, the salt or ester, are of the same dosage form, use the same route of administration, identical in strength and concentration, and meet the same or compendial or other applicable standards (i.e., strength, quality, purity and identity) but may differ in characteristics such as shape, scoring configuration, release mechanisms, packaging, excipients, expiration time and within certain limits, labeling, are called :
- (1) Chemical equivalents
 - (2) Pharmaceutical equivalents
 - (3) Pharmaceutical alternatives
 - (4) Bioequivalent
27. Which of the following pharmacokinetic parameters cannot be determined exclusively using the urinary data ?
- (1) Biological Half life
 - (2) Bioequivalence
 - (3) Rate of elimination
 - (4) Apparent volume of distribution
28. When conducting any pharmacokinetic study, what should be maximum time for which blood or urine samples need to be collected ?
- (1) 4 biological half lives
 - (2) 8 biological half lives
 - (3) 10 biological half lives
 - (4) Any duration of time
29. Name the liquid preparations, intended for external use, containing highly volatile solvents [usually a base solution of pyroxyline (soluble gun-cotton) in a mixture of ether and alcohol] that evaporate to leave either a mechanical or therapeutic film :
- (1) Decoctions
 - (2) Elixirs
 - (3) Infusions
 - (4) Collodions

30. Name the dilute solutions containing water soluble extracts of vegetable drugs, prepared by macerating drugs in water for short periods of time :
- (1) Infusions (2) Decoctions
(3) Percolations (4) Glycerins
31. What is the range of visible spectrum ?
- (1) 1 to 180 nm (2) 180 to 400 nm
(3) 400 to 750 nm (4) More than 750 nm
32. Emission of light by certain materials, when they are relatively cool, is called :
- (1) Fluorescence (2) Phosphorescence
(3) Incandescence (4) Luminiscence
33. The technique in which radiation is absorbed by ground state atoms, atoms get excited, not dependent upon temperature, and absorb specific wavelength of light that are characteristic of the element, is called :
- (1) Flame photometry
(2) Atomic absorption spectroscopy
(3) Infrared spectroscopy
(4) Fluorimetry
34. In FTIR, which of the following regions represent vibrations of the free -OH group ?
- (1) 2960 - 2850 per cm (2) 1500 - 1350 per cm
(3) 3700 to 3500 per cm (4) 1410 - 1300 per cm
35. A spectroscopic technique, typically used to determine vibration modes of molecules (also rotational & other low frequency modes) is called :
- (1) Atomic absorption spectroscopy (2) Visible spectroscopy
(3) FTIR spectroscopy (4) Raman Spectroscopy

36. Typical effects such as cell elongation, giving an increase in stem length, inhibition of root growth, adventitious root production and fruit - setting in the absence of pollination, can be attributed to :
- (1) Gibberlins (2) Auxins (3) Cytokinins (4) Abscisic acid
37. What is the source of Anhydrous Lanolin ?
- (1) By melting & purifying the honeycomb of *Apis mellifica* & other bees
(2) From the ground kernels of the *obroma cocoa* by hot expression
(3) Purified fat like substance prepared from the wool of the sheep *Ovis aries* (Bovidae)
(4) Dried ripe seeds of *Linum usitatissium*
38. Give the common name of polysaccharide complexes containing uronic acids, which occur in the middle lamellae of cell walls and are abundant in fruits (e.g., apples, oranges) and roots (e.g., beets and gentian) :
- (1) Pectins (2) Algin (3) Chitins (4) Mucilages
39. What is the source of Jute ?
- (1) Pericyclic fibres of the stem of *Linum usitatissimum* (Lineaceae)
(2) Pericyclic fibres of the stem of *Cannibis sativa* (Cannabinaceae)
(3) Strands of phloem fibres from the stem bark of *Corchorus capsularis* & other species of *Corchorus* (Tiliaceae)
(4) Epidermal trichomes of the seeds of *Gossypium herbaceae* & other cultivated species of *Gossypium* (Malvaceae)
40. Which of the following types of Starch possess ?
- Hilum in the form of a point; eccentric about 1/3 to 14. Concentric striations well marked; some rings, however more distinct than others. Mostly simple granules, hatchet-, wedge or musel-shaped. A few compound grannules of 2 or 3 components firmly fixed together.
- (1) Maize starch (2) Wheat starch
(3) Rice starch (4) Potato starch

46. Which of the following is a tri-carboxylic acid ?
- (1) Oxalic acid
 - (2) Succinic acid
 - (3) Adipic acid
 - (4) Citric acid
47. Sucrose is an example of :
- (1) Monosaccharides
 - (2) Disaccharides
 - (3) Oligosaccharides
 - (4) Polysaccharides
48. Which of the following is a dihydric alcohol ?
- (1) Phenol
 - (2) Paracetamol
 - (3) Resorcinol
 - (4) Phloroglucinol
49. Which of the following is a polynuclear hydrocarbon, containing 3 or more fused rings ?
- (1) Naphthalene
 - (2) Propranolol
 - (3) Tolnaftate
 - (4) Amitriptyline
50. Which of the following is an example of a fused ring heterocyclic compound ?
- | | |
|----------------|-------------|
| (1) Indole | (2) Pyrrole |
| (3) Pyrimidine | (4) Furan |

51. The value of Blood Urea Nitrogen (serum) will show a decrease in which of the following conditions ?
- (1) Liver failure
 - (2) Kidney disease
 - (3) Diabetes
 - (4) Myocardial infarction
52. An increase in the number of cells in a tissue due to an increase in the frequency of cell division is called :
- (1) Metaplasia
 - (2) Anaplasia
 - (3) Atrophy
 - (4) Hyperplasia
53. A painful conical thickening of the stratum corneum of the epidermis found principally over toe joints and between the toes, often caused by friction or pressure, is called :
- | | |
|-------------|------------|
| (1) Blister | (2) Comedo |
| (3) Corn | (4) Eczema |
54. A biaxial joint allowing movement in the sagittal and frontal planes (e.g., thumb, middle ear) is called :
- | | |
|------------------|-------------------------|
| (1) Hinge joint | (2) Saddle joint |
| (3) Planar joint | (4) Ball & socket joint |
55. Which of the following are "breathing muscles" ?
- (1) Trapezius, rhomboid
 - (2) Biceps, femoris
 - (3) Erector spinae
 - (4) Diaphragm, intercostals

56. Which law states : When two or more gases, which do not react chemically, are kept in a closed space, the total pressure exerted by the mixture is equal to the sum of individual gases ?
- (1) Graham's law
 - (2) Dalton's law
 - (3) Charles law
 - (4) Boyle's law
57. The unit of dipole moment is :
- (1) Dynes per cm
 - (2) Poise
 - (3) Dynes per square cm
 - (4) Debye
58. Which of the following is an example of anisotropic material ?
- | | |
|--------------|------------|
| (1) Graphite | (2) Glass |
| (3) Plastics | (4) Quartz |
59. The temperature at which a polymorphic substance changes from one form to another is called :
- (1) Equilibrium temperature
 - (2) Triple point
 - (3) Boyle's temperature
 - (4) Transition temperature
60. An apparatus used to measure heat changes during a chemical reaction is called :
- | | |
|-----------------|-------------------|
| (1) Polarimeter | (2) Calorimeter |
| (3) Colorimeter | (4) None of these |

D

61. What is the common name of a drug represented by :
5-ethyl-5-phenylbarbituric acid ?
- (1) Cyclobarbitone
 - (2) Phenobarbitone
 - (3) Thiopentone
 - (4) Hexobarbital
62. What is the common name of the drug represented by :
N-diethylaminoacetyl-2,6-xylidine ?
- (1) Benzocaine
 - (2) Procaine
 - (3) Lignocaine
 - (4) Dibucaine
63. What is the common name of the drug represented by ?
4-Amino-N-(4,6-dimethyl-2-pyrimidinyl)benzene sulfonamide ?
- | | |
|--------------------|--------------------|
| (1) Sulfamethizole | (2) Sulfamethazine |
| (3) Sulfacetamide | (4) Sulfapyridine |
64. Which of the following metabolic pathways is not a Phase-I reaction ?
- | | |
|----------------|-----------------|
| (1) Oxidation | (2) Reduction |
| (3) Hydrolysis | (4) Acetylation |
65. 6-Mercaptopurine is a pharmacologically active metabolite of which of the following parent drug ?
- | | |
|------------------|-------------------|
| (1) Azathioprine | (2) Carbamazepine |
| (3) Diazepam | (4) Quinidine |

66. What is the IUPAC name of Eugenol ?
- (1) 4-chloro-3-methyl phenol
 - (2) Isopropyl-m-cresol
 - (3) 4-Allyl-2-methoxyphenol
 - (4) m-Dihydroxybenzen
67. What is the IUPAC name of Furosemide ?
- (1) 6-chloro-2H-1,2,4-benzothiadiazine-7-sulfonamide
 - (2) 2-chloro-5-(1-hydroxy-3-oxo-1-isoindolinyl)benzene sulfonamide
 - (3) 4-chloro-2-(furan-2-ylmethylamino)I-5-sulfamoylanthranilic acid
 - (4) 2,4,7-Triamino-6-phenylpteridine
68. A solvent used to separate mixture of components (mobile phase) is called :
- (1) Eluent
 - (2) Elute
 - (3) Adsorbent
 - (4) Stationary phase
69. Which of the following spray reagents can be used for detecting phenolic compounds and tannins ?
- (1) Dragendroff's reagent
 - (2) Ninhydrin in acetone
 - (3) 3,5-Dinitrobenzoic acid
 - (4) Ferric chloride
70. Which of the following is an example of a strong cation resin ?
- (1) Sulfonated polystyrene
 - (2) Quaternary ammonium
 - (3) Cholestyramine
 - (4) Colistipol

71. What is the source of Guar gum ?
- (1) Dried gum obtained from the stem & branches of *Acacia senegal* & other species of *Acacia* (Leguminosae)
 - (2) Ground endosperms of *Cyamopsis tetragonolobus*
 - (3) Artificially produced by the pure culture fermentation of *Xanthomonas campestris* on glucose.
 - (4) Dried ripe seeds of *Platago ovata* & other species (Plantaginaceae)
72. Dimeric compounds formed essentially by the union of two molecules of a phenyl propene derivative; optically active compounds, are commonly named as :
- (1) Lignans
 - (2) Lignin
 - (3) Xanthum
 - (4) Glycosides
73. Which of the following volatile oils contain a high percentage of phenols as primary components ?
- | | |
|---------------|----------------|
| (1) Coriander | (2) Lemon |
| (3) Clove | (4) Turpentine |
74. Which of the following is an oleo-gum-resin ?
- | | |
|----------------|----------------|
| (1) Chamomiles | (2) Asafoetida |
| (3) Cardamom | (4) Eucalyptus |
75. Which of the following is NOT an example of a steroidal saponin ?
- (1) Quillaic acid
 - (2) Sarsapogenin
 - (3) Dioscin
 - (4) Digitoxin

76. Stemwood of *Picrasma excelsa* (*Picroena excelsa* or *Aeschron excelsa*) (Simaroubaceae) is commonly known as :
- (1) Clove
 - (2) Cinnamon
 - (3) Ginger
 - (4) Quassia
77. Test for stomatal index is employed to distinguish leaflets of which of the following drugs ?
- (1) Senna
 - (2) Belladonna
 - (3) Digitalis
 - (4) Cocoa
78. Which of the following drugs contains steriodal alkaloids ?
- | | |
|----------------|-------------|
| (1) Colchicine | (2) Quinine |
| (3) Solanum | (4) Vinca |
79. Which of the following is NOT an example of an essential oil ?
- (1) Sunflower oil
 - (2) Peppermint oil
 - (3) Eucalyptus oil
 - (4) Lemon oil
80. Which of the following polysaccharides is primarily of animal origin ?
- | | |
|-------------------|---------------|
| (1) Alpha amylose | (2) Cellulose |
| (3) Glycogen | (4) Inulins |

81. Which of the following drugs is a H-2 blocker ?
- (1) Mepyramine
 - (2) Ranitidine
 - (3) Propranolol
 - (4) Chlorpromazine
82. Apoptosis is described by which of the following statements ?
- (1) A disorganised disintegration of damaged cells resulting in products that trigger the inflammatory response
 - (2) Formation of new capillaries from existing blood vessels, an important stimulus being vascular endothelial growth factor
 - (3) Cell suicide by a built-in self-destruct mechanism; it consists of a genetically programmed sequence of biochemical events.
 - (4) None of the above
83. Which of the following statements is TRUE ?
- (1) Parasympathetic effect on salivary glands is dilation
 - (2) Sympathetic effect on eye pupils is constriction
 - (3) Parasympathetic effect on heart atrial muscle is increased force
 - (4) Sympathetic effect on ciliary muscle is contraction
84. Which of the following drugs is a non-selective beta agonist (sympathomimetic) ?
- | | |
|--------------------|-------------------|
| (1) Norepinephrine | (2) Salbutamol |
| (3) Isoprenaline | (4) Phenylephrine |
85. Which of the following proteins is used as a drug for the treatment of anaemia ?
- | | |
|--------------------|-----------------|
| (1) Streptokinase | (2) Oxytocin |
| (3) Erythropoietin | (4) Interferons |

86. Which of the following is NOT a potassium sparing diuretic ?
- (1) Amiloride
 - (2) Triamterene
 - (3) Spironolactone
 - (4) Furosemide
87. Which of the following drugs stimulate insulin secretion and can cause hypoglycaemia ?
- (1) Tolbutamide
 - (2) Rosiglitazone
 - (3) Metformin
 - (4) Pioglitazone
88. Which of the following drugs is a Dopamine agonist ?
- | | |
|--------------------|-------------------|
| (1) Chlorpromazine | (2) Haloperidol |
| (3) Clopazine | (4) Bromocriptine |
89. Which of the following statements refers to Parkinson's disease ?
- (1) Age related dementia, distinct from vascular dementia, associated with brain infarction
 - (2) Progressive disorder of movement that occurs mainly in the elderly
 - (3) An inherited (autosomal dominant) disorder resulting in progressive brain degeneration, starting in adulthood and causing rapid deterioration and death
 - (4) Intracerebral thrombosis or haemorrhage resulting in rapid death of neurons in the centre of lesion
90. Which of the following is an ultra short acting (< 6 hr) benzodiazepine ?
- | | |
|----------------|---------------|
| (1) Alprazolam | (2) Diazepam |
| (3) Clonazepam | (4) Midazolam |

91. Semisolids that do not flow at low shear stress (exhibiting reversible deformation like elastic solids) but flow like liquids above their yield value (i.e., yield stress) are termed :
- (1) Newtonian
 - (2) Pseudoplastic
 - (3) Dilatant
 - (4) Plastic bodies
92. Which of the following liquids has the highest surface tension ?
- (1) Mercury
 - (2) Water
 - (3) Oleic acid
 - (4) Hexane
93. When there is little attraction between the dispersed phase and the dispersion medium, the system is called :
- (1) Lyophilic dispersions
 - (2) Lyophobic dispersions
 - (3) Suspensions
 - (4) Emulsions
94. Diameter of a sphere having the same gravitational settling velocity as the particle, is known as :
- (1) Martin's diameter
 - (2) Sieve diameter
 - (3) Stokes diameter
 - (4) Feret's diameter
95. Which of the following preservatives has antifungal action ?
- (1) Methyl paraben
 - (2) Benzyl alcohol
 - (3) Cresol
 - (4) Ethyl alcohol

96. Time taken to reduce a microbial population by 1 logarithm, or 90% of its initial value, under specified conditions, is known as :
- (1) Half life (2) Incubation value
(3) Z-value (4) D-value
97. Which of the following biological indicators is suitable for evaluation of steam sterilization ?
- (1) Bacillus pumulis
(2) Bacillus subtilis
(3) Bacillus atrophaeus
(4) Bacillus anthracis
98. Which of the following preparations is free of preservatives ?
- (1) Multi dose eye drops
(2) Small volume parenterals
(3) Large volume parenterals
(4) Parenterals prepared by sterile filtration
99. Excipients that prevent adhesion of the tablet material to the surface of the dies and punches, reduce interparticle friction, facilitate the ejection of tablets from the die cavity and may improve the rate of flow of the tablet granulation, are called :
- (1) Binders (2) Disintegrants
(3) Lubricants (4) Glidants
100. A capsule fill weight of 1425 mg, corresponding to powder density of 1.5 gm/ml, corresponds to which of the following capsule sizes ?
- (1) Size 4
(2) Size 1
(3) Size 0
(4) Size 00

Answer keys of M.Pharm. under Department of Pharmaceutical Sciences entrance exam dated 18.07.2024

| Q. NO. | A | B | C | D |
|--------|---|---|---|---|
| 1 | 2 | 1 | 2 | 1 |
| 2 | 3 | 1 | 3 | 4 |
| 3 | 1 | 2 | 2 | 3 |
| 4 | 3 | 3 | 4 | 1 |
| 5 | 3 | 4 | 1 | 4 |
| 6 | 4 | 2 | 3 | 3 |
| 7 | 1 | 4 | 3 | 1 |
| 8 | 4 | 3 | 1 | 4 |
| 9 | 2 | 4 | 4 | 1 |
| 10 | 4 | 1 | 1 | 4 |
| 11 | 1 | 3 | 1 | 1 |
| 12 | 4 | 4 | 4 | 4 |
| 13 | 3 | 2 | 3 | 3 |
| 14 | 1 | 3 | 2 | 2 |
| 15 | 4 | 4 | 4 | 4 |
| 16 | 3 | 2 | 2 | 4 |
| 17 | 1 | 3 | 4 | 3 |
| 18 | 4 | 1 | 1 | 2 |
| 19 | 1 | 3 | 4 | 1 |
| 20 | 4 | 4 | 2 | 3 |
| 21 | 1 | 3 | 2 | 1 |
| 22 | 4 | 4 | 3 | 1 |
| 23 | 3 | 1 | 1 | 2 |
| 24 | 2 | 3 | 3 | 3 |
| 25 | 4 | 3 | 3 | 4 |
| 26 | 2 | 4 | 4 | 2 |
| 27 | 4 | 2 | 1 | 4 |
| 28 | 1 | 3 | 4 | 3 |
| 29 | 4 | 4 | 2 | 4 |
| 30 | 2 | 1 | 4 | 1 |
| 31 | 3 | 1 | 1 | 3 |
| 32 | 4 | 4 | 4 | 4 |
| 33 | 1 | 3 | 3 | 2 |
| 34 | 3 | 1 | 2 | 3 |
| 35 | 3 | 4 | 4 | 4 |
| 36 | 4 | 3 | 4 | 2 |
| 37 | 2 | 1 | 3 | 3 |
| 38 | 3 | 4 | 2 | 1 |
| 39 | 4 | 1 | 1 | 3 |
| 40 | 1 | 4 | 3 | 4 |
| 41 | 2 | 1 | 2 | 3 |
| 42 | 3 | 4 | 1 | 4 |
| 43 | 2 | 3 | 3 | 1 |
| 44 | 4 | 2 | 2 | 3 |
| 45 | 1 | 4 | 1 | 3 |
| 46 | 3 | 4 | 4 | 4 |
| 47 | 3 | 3 | 1 | 2 |
| 48 | 1 | 2 | 3 | 3 |
| 49 | 4 | 1 | 1 | 4 |
| 50 | 1 | 3 | 2 | 1 |

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Answer keys of M.Pharm. under Department of Pharmaceutical Sciences entrance exam dated 18.07.2024

| Q. NO. | A | B | C | D |
|--------|---|---|---|---|
| 51 | 3 | 2 | 3 | 1 |
| 52 | 4 | 1 | 4 | 4 |
| 53 | 2 | 3 | 1 | 3 |
| 54 | 3 | 2 | 3 | 2 |
| 55 | 4 | 1 | 3 | 4 |
| 56 | 2 | 4 | 4 | 2 |
| 57 | 3 | 1 | 2 | 4 |
| 58 | 1 | 3 | 3 | 1 |
| 59 | 3 | 1 | 4 | 4 |
| 60 | 4 | 2 | 1 | 2 |
| 61 | 2 | 4 | 1 | 2 |
| 62 | 1 | 1 | 1 | 3 |
| 63 | 3 | 2 | 2 | 2 |
| 64 | 2 | 3 | 3 | 4 |
| 65 | 1 | 1 | 4 | 1 |
| 66 | 4 | 4 | 2 | 3 |
| 67 | 1 | 2 | 4 | 3 |
| 68 | 3 | 3 | 3 | 1 |
| 69 | 1 | 3 | 4 | 4 |
| 70 | 2 | 4 | 1 | 1 |
| 71 | 1 | 2 | 4 | 2 |
| 72 | 1 | 3 | 1 | 1 |
| 73 | 2 | 2 | 2 | 3 |
| 74 | 3 | 4 | 3 | 2 |
| 75 | 4 | 1 | 1 | 1 |
| 76 | 2 | 3 | 4 | 4 |
| 77 | 4 | 3 | 2 | 1 |
| 78 | 3 | 1 | 3 | 3 |
| 79 | 4 | 4 | 3 | 1 |
| 80 | 1 | 1 | 4 | 2 |
| 81 | 4 | 1 | 1 | 2 |
| 82 | 1 | 4 | 4 | 3 |
| 83 | 2 | 3 | 3 | 1 |
| 84 | 3 | 2 | 1 | 3 |
| 85 | 1 | 4 | 4 | 3 |
| 86 | 4 | 2 | 3 | 4 |
| 87 | 2 | 4 | 1 | 1 |
| 88 | 3 | 1 | 4 | 4 |
| 89 | 3 | 4 | 1 | 2 |
| 90 | 4 | 2 | 4 | 4 |
| 91 | 1 | 2 | 3 | 4 |
| 92 | 4 | 3 | 4 | 1 |
| 93 | 3 | 1 | 2 | 2 |
| 94 | 2 | 3 | 3 | 3 |
| 95 | 4 | 3 | 4 | 1 |
| 96 | 4 | 4 | 2 | 4 |
| 97 | 3 | 1 | 3 | 2 |
| 98 | 2 | 4 | 1 | 3 |
| 99 | 1 | 2 | 3 | 3 |
| 100 | 3 | 4 | 4 | 4 |

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