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Deemed to be University u/s 3 of the UGC Act, 1956
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Crescent School of Pharmacy

Ph.D Entrance Examination

Time **: 2 hours** Date &Session **:** Max. Marks **: 100**

INSTRUCTIONS:

- This question paper consists of 100 questions.
- All questions are compulsory.
- Each question carries one mark each.
- There is no negative marking.
- Answers are to be marked on the answer sheet provided.
- Hand over both question booklet and the answer sheet at the end of the Examination.

1. Oil of mirbane is _____
   a. Nitrobenzene
   b. Methyl salicylate
   c. Coal tar
   d. Cod liver oil

2. The shape of sp^2 hybridised molecule is _____
   a. Octahedral
   b. Tetrahedral
   c. Trigonal
   d. Linear

3. Which of the following describes cinnamic acid best_____
   a. Aliphatic acid
   b. Aromatic acid
   c. Unsaturated aromatic acid
   d. Aromatic hydroxyl acid

4. Saccharin is _____
   a. o-Sulphobenzoic acid imide
   b. o-Sulphobenzoic acid
   c. o-Toluene sulphonyl chloride
   d. o- Aminobenzene sulphonic acid

5. Delocalization or conjugation involves_____
   a. σ electrons
   b. Only lone pair of electrons
   c. Only π electrons
   d. π electrons and lone pair of electrons

6. Fats are glycerides which are solids or semisolids above
   a. 21 ^{o}C
   b. 15 ^{o}C
   c. 175 ^{o}C
   d. 22 ^{o}C

7. Reaction of chlorine with Benzene to give Benzene Hexachloride is achieved by the use of
    a. $FeCI_3$
    b. Nickel
    c. Bright sunlight
    d. Darkness

8. Sigma bonds are formed by _____while Pi bonds are formed by _____
    a. Direct overlap, lateral overlap
    b. Lateral overlap, direct overlap
    c. Minimum overlap, maximum overlap
    d. Minimum overlap, lateral overlap, maximum direct

9. Dipole moment is _____
    a. Electronic charge (in esu)x distance (Angstroms)
    b. Electronic charge (in esu)x mass (Amu)
    c. Electronic charge/distance (Angstroms)
    d. Electronic charge/mass (amu)

10. Friedal craft's reaction involves conversion of an aromatic nucleus into
    a. Alkyl derivative
    b. An ester
    c. An acid
    d. Alkyl or acyl derivative

11. Hydrogen bonding is_____
    a. Stronger than covalent bond
    b. Weaker than covalent bond
    c. Weaker than covalent bond but stronger than dipole-dipole interaction
    d. Stronger than dipole-dipole interaction

12. Arrange the following in order of increasing acidity:
    1. Phenol 2. Ethyl alcohol 3. Acetic acid
    a. 1>3>2
    b. 2>1>3
    c. 3>1>2
    d. 3>2>1

13. Diazotisation reaction is generally characteristic of
    a. Aliphatic 1° amines
    b. Aromatic 1° amines
    c. Aliphatic or aromatic 2° amines
    b. Aliphatic 2° amines

14. Alkaline hydrolysis of fixed oils is _____
    a. Rancidity
    b. Decomposition
    c. Saponification
    d. Catenation

15. The free acids and glycerides in 'Drying Oils' become a hard glossy amorphours solid on _____
    a. Addition of a polymerizing agent
    b. Exposure to O_2
    c. Exposure to U-V radiation
    d. Exposure to atmospheric CO_2

16. Which of the following is a proton pump inhibitor
    a. Rabeprazole
    b. Ranitidine
    c. Sucrafalate
    d. Aniline and benzyl chloride

17. Flucytocine contains which of the following nucleus
    a. Pyrimidine
    b. Imidazole
    c. Lactone,
    d. Piperazine

18. Which one is the sulphydryl containing ACE nhibitor?
    a. Captopril
    b. Linsopril
    c. Enalpril
    d. Furosemide

19. Which one the following is indicated in the treatment of Alopecia
    a. Minoxidil
    b. Guanabenz
    c. Diazoxide
    d. Clonidine

20. Fluoro derivative glucocorticoid is
    a. Betamethasone
    b. Dexamethasone
    c. Triamcinolone
    d. All the above

21. Drugs in suspensions and semi-solid formulations always degrade by
    a. First order kinetics
    b. Second order kineticsq
    c. Zero order kinetics
    d. Non-linear kinetics

22. Andreason pipette utilises principle of
    a. Sedimentation
    b. Centrifugation
    c. Compaction
    d. Filtration

23. Floculated suspension follows
    a. Plastic flow
    b. Pseudoplastic flow
    c. Dialetent flow
    d. Newtonian flow

24. One of following is structured vehicle added in suspension
    a. Tragacenth
    b. Pectin
    c. Hectorite
    d. Casein

25. Scattering of light is shown by
    a. Emulsion
    b. Colloidal particles
    c. Suspension
    d. Homogenous solutions

26. Half life of first order reaction is represented by
    a. 1/K
    b. Log K
    b. c.0.693/K
    c. d.2.303/K

27. The loading dose of a drug is usually based on
    a. Total body clearance of the drug
    b. Percentage of drug bound to plasma proteins
    c. Fraction of drug excreted unchanged in urine
    d. Apparent volume of distribution and desired drug concentration in plasma

28. In which of the following techniques the sample is kept below triple point?
    a. Lyophilization
    b. Spray drying
    c. Spray congealing
    d. Centrifugation

29. Suppositories are prepared by following methods except
    a. Rolling method
    b. Fusion method
    c. Cold compression method
    d. Trituration method

30. ---- are usually applied o the skin with friction and rubbing .
    a. Lotions
    b. Liniments
    c. Ointments
    d. Emulsion

31. ------- is pleasing in appearance
    a. Flocculated
    b. Non --flocculate
    c. Both a and b
    d. None of these

32. -----is the condition when a patient continues to be under psychic and physical dependence on drug.
    a. Antagonism
    b. Synergism
    c. Addiction
    d. Habituation

33. Lubricant used in tablet formulation for
    a. To lubricate all ingredient in the tablet
    b. Prevent adhesion of tablet material to surface area of dies
    c. Reduce interparticle friction,improve rate of flow
    d. Both A&B

34. Which of the superdisintegrants are used in tablet formulation
    a. Croscarmelose
    b. crospovidone
    c. Starch
    d. Both A&B

35. Carr's index is used to predict
    a. Viscosity
    b. Porosity
    c. Flow property
    d. Rugocity

36. Which of the following material used in enteric coated tablet
    a. CAP
    b. HPMC
    c. MCC
    d. HPC

37. SLS has an HLB of
    a. 10
    b. 14
    c. 40
    d. 18

38. Which of the following disinfectant has ability to kill spores?
    a. chlorine
    b. phenol
    c. iodine
    d. silver

39. The characteristics of a good NDDS carrier are:
    a. Optimum drug quantity can be loaded into it.
    b. The release of the drug inside the body is pulsatile in nature.
    b. It should not be immunogenic in nature.
    c. All of the above

40. The loading dose of a drug is usually based on
    a. Total body clearance of the drug
    b. Percentage of drug bound to plasma proteins
    c. Fraction of drug excreted unchanged in urine
    d. Apparent volume of distribution and desired drug concentration in plasma

41. Drug is not used as antirheumatic:
    a. Quassia
    b. Rauwolfia
    c. Colchicum
    d. Guggul

42. Drug is used as emetic:
    a. Agar
    b. Isapghul
    c. Ipecac
    d. cardamom

43. Drug is used as bronchodilator :
    a. Tea
    b. Liquorice
    c. Ipecacuanha
    d. Vasaka

44. Drug is used as antimalarial :
    a. Ashwagandha
    b. Tulsi
    c. Ginseng
    d. Cinchona

45. Alkaloids are _____ type of substances.
    a. Acid
    b. Neutral
    c. Chemical
    d. Basic nitrogenous

46. Glycosides are condensation products of :
    a. Sugar + aglycone
    b. Sugar + Protein
    c. Protein + aglycone
    d. Fats + aglycone

47. Tannins give colour with iron compound :
    a. Pale yellow
    b. Blue black
    c. Light pink
    d. Orange

48. The example of capsule fruit is :
    a. Radish
    b. Mustard
    c. Cabbage
    d. Datura

49. . Flower bud of drug showing medicinal importance:
    a. Saffron
    b. Clove
    c. Fig
    d. Caraway

50. The term Aril means :
    a. Outgrowth originating from micropyle
    b. Succulent growth from hileum
    c. Enlarged funicle
    d. Stiff bristle like appendages

51. Drug is not an example of organized crude drug :
    a. Digitalis
    b. Cinchona
    c. Aloe
    d. Clove

52. The following properties are characteristic for saponins:
    a. They give precipitate by shaking with water.
    b. They are diterpenes.
    c. They cause haemolysis on erythrocytes.
    d. They give negative Keller-Kiliani test.

53. Galenicals prepared from Cinchona bark are used as ..... .
    a. Abortive
    b. Bitter tonic
    c. Stomachic
    d. Cough reliever

54. Which of the following compounds are C-glycosides:
    a. arbutin.
    b. vitexin.
    c. gentiopicrine.
    d. aloin.

55. Choose the alkaloids derived from tryptophan.
    a. ephedrine
    b. chinin
    c. vinchrystin
    d. tomatidenol

56. Opium is used in the medicine as..... .
    a. tranquillant
    b. starting material for morphine production
    c. pain killer
    d. laxative

57. Choose the plant species which are steroid sources for Industry.
    a. Licorice species
    b. Dioscorea composite
    c. Smilax regelii
    d. Ipomea purge

58. Which are the most frequently occurring special sugars present in the cardioactive glycosides?
    a. cymarose
    b. apiose
    c. xylose
    d. fucose

59. Choose the drugs which contain no cardioactive compounds.
    a. Thornapple leaf
    b. Allii bulb
    c. *Oleandri folium*
    d. Foxglove leaf

60. The presence of alkaloid in plant material can be tested by the following reagents:
    a. 3,-dinitrobenzoic acid in NaOH (Kedde reagent).
    b. Potassium-mercury iodide solution (Mayer reagent).
    c. 2,4-dinitrophenylhydrazin solution.
    d. potassium bismuth iodine solution (Dragendorff reagent).

61. Which of the following sequence for the conduction pathway of the heart?
    a. AV <arrow pointing left to right> SA <arrow pointing left to right> bundle of His <arrow pointing left to right> bundle branches <arrow pointing left to right> Purkinje fibres.
    b. SA <arrow pointing left to right> AV <arrow pointing left to right> bundle of His <arrow pointing left to right> bundle branches <arrow pointing left to right> Purkinje fibres
    c. SA <arrow pointing left to right> AV <arrow pointing left to right> bundle branches <arrow pointing left to right> bundle of His <arrow pointing left to right> Purkinje fibres.
    d. SA <arrow pointing left to right> AV <arrow pointing left to right> bundle of His <arrow pointing left to right> bundle branches <arrow pointing left to right> Purkinje fibres

62. The plasma membrane does not contain
    a. Protein
    b. Nucleic acid.
    c. Cholesterol
    d. Glycolipid

63. The respiratory centre is situated in the:
    a. Cerebrum
    b. Cerebellum
    c. Motor cortex
    d. Brain stem

64. Gas exchange takes place in the:
    a. Trachea
    b. Bronchi
    c. Bronchioles
    d. Alveoli.

65. The sympathetic nervous system:
    a. Increase heart rate
    b. Decrease heart rate
    c. A and B
    d. None.

66. CNS stimulant agents belong to
    a. Respiratory stimulants
    b. Psychomotor stimulants
    c. Psychomimetic agents
    d. All of the above.

67. Morphine administration leads to
    a. Physical dependence
    b. Psychological dependence
    c. Physical as well as Psychological dependence
    d. None of the above.

68. Lithium toxicity may manifest as
    a. Polyuria
    b. Nephrotic syndrome
    c. Renal calculi
    d. Acute renal failure

69. Petit mal epilepsy is treated by
    a. Phenobarbitone
    b. Ethosuximide
    c. Diazepam
    d. Phenytoin

70. The site of action of loop diuretics is
    a. Proximal convoluted tubule
    b. Proximal straight tubule
    c. Thick ascending limb
    d. Distal convoluted tubule

71. EDTA is useful in poisoning due to all except
    a. Lead
    b. Zinc
    c. Iron
    d. Mercury

72. Which of the following is 5HT antagonists except
    a. Sumatriptan
    b. Ondansetron
    c. Ketanserin
    d. None of the above

73. Tryptophan is essential for synthesis of
    a. Niacin
    b. Serotonin
    c. Melatonin
    d. All of the above

74. Which of the following is a function of melatonin
    a. Darkening of skin colour
    b. Suppression of ovarian function
    c. Regulation of biorhythm
    d. All of the above

75. Ketamine injection produces
    a. Amnesia
    b. Analgesia
    c. Sedation
    d. All of the above

76. Ketamine injection produces
    a. Amnesia
    b. Analgesia
    c. Sedation
    d. Immobility

77. The drug of choice in the treatment of hypertensive emergency is
    a. Guanethidine
    b. Reserpine
    c. Diazoxide
    d. Furosemide

78. Action of acetylcholine is terminated by
    a. Diffusion away from the site of action
    b. Deamination
    c. Hydrolysis
    d. Temporary adsorption on plasma proteins

79. Tocilizumab, monoclonal antibody acts as
    a. IL-1
    b. IL-2
    c. IL-6
    d. IL-10.

80. The drug of choice in the treatment of organophosphorus poisoning is
    a. Neostigmine
    b. Atropine
    c. Pralidoxime
    d. Acetylcholine

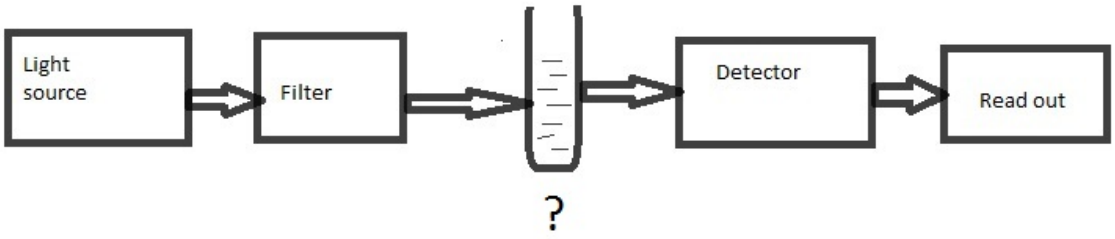
81. Spectroscopy deals with interaction of electromagnetic radiation with matter. What is the speed of this radiation in vacuum in m/s?
    a. 6×10^8
    b. 5×10^8
    c. 7×10^8
    d. 3×10^8

82. Which of the following is not a property or parameter of electromagnetic radiation?
    a. Wavelength
    b. Voltage
    c. Wave number
    d. Amplitude

83. How is the wave number of electromagnetic radiation related to wavelength?
    a. It is the reciprocal of wavelength
    b. It is directly proportional to wavelength
    c. It is not related to wavelength
    d. It is equal to wavelength

84. Which of the following statements is false about single beam absorption instruments?
    a. Tungsten bulb is used as a source
    b. Beam splitter is used to get parallel beam
    c. Test tube is used as sample holder
    d. Photovoltaic cell as detector

85. In the diagram of single beam photometer given below, identify the component that is not marked.



    a. Monochromator
    b. Absorption filter
    c. Sample holder
    d. Interference filter

86. Which of the following is a source used in UV-Visible spectroscopy?
    a. LASER
    b. Tube light
    c. Sodium vapour lamp
    d. Tungsten lamp

87. Which of the following is not an ideal characteristic of a detector used in gas chromatography?
    a. Linear response to the solutes
    b. Short response time
    c. High reliability
    d. Sensitive to the changes in the flow rate of a carrier gas

88. Which of the following is not the advantage of thermal conductivity detector used in gas chromatography?
    a. Simple in construction
    b. High sensitivity
    c. Large linear dynamic range
    d. Non-destructive character

89. Which of the following detectors is widely used to detect environmental samples like chlorinated pesticides and polychlorinated biphenyls?
    a. Flame ionization detector
    b. Thermal conductivity detector
    c. Argon ionisation detector
    d. Electron capture detector

90. Which of the following is not a property of a good detector used in liquid chromatography?
    a. Good sensitivity
    b. Ability to function in the presence of a large background signal
    c. Short response time
    d. Volume of detector must be large

91. Electron spin resonance involves detecting the detection of a physical phenomenon of _____ of electromagnetic radiation.
    a. Adsorption
    b. Absorption
    c. Radiation
    d. Reflection

92. ESR sensitivity increases with _____ temperature and with _____ magnetic field strength.
    a. Increasing, increasing
    b. Increasing, decreasing
    c. Decreasing, increasing
    d. Decreasing, decreasing

93. Which of the following is not a component of mass spectrometer?
    a. Inlet system
    b. Sweep generator
    c. Ion transducer
    d. Mass analyser

94. Which of the following is normally done to convert the sample into the gaseous state?
    a. Sample is pressurized
    b. Chemical reactions are made to occur
    c. Sample is heated
    d. Sample is cooled

95. NMR is the study of the absorption of _____ by nuclei in a magnetic field.
    a. Radioactive radiation
    b. IR radiation
    c. Radio frequency radiation
    d. Microwaves

96. Interaction between matter and electromagnetic radiation can be observed by subjecting a substance to magnetic fields in which of the following manner?
    a. Both fields should be stationary
    b. Both fields should be varying
    c. One field should be stationary and the other should be varying
    d. It must be subjected to only one field

97. Nuclei having either the number of protons or neutrons as odd have _____ spin.
    a. Integral spin
    b. Half integral spin
    c. Zero spin
    d. Positive spin

98. In liquid scintillation counter, which of the following is a fluorescent substance?
    a. Solvent
    b. Solute
    c. Crystal
    d. Reagent

99. In liquid scintillation counter, which of the following is used to convert light into electrical signals?
    a. Photo multiplier tube
    b. Photo emissive tube
    c. Photo voltaic cell
    d. Photo reflector

100. Which of the following is not a type of quenching?
    a. Chemical quenching
    b. Interference quenching
    c. Colour quenching
    d. Self-absorption

Answer Key

Q.NO	Answer	Q.NO	Answer	Q.NO	Answer
1	a	41	d	81	d
2	c	42	c	82	b
3	c	43	c	83	a
4	a	44	d	84	b
5	d	45	d	85	c
6	d	46	a	86	d
7	c	47	c	87	d
8	a	48	a	88	b
9	a	49	b	89	d
10	d	50	b	90	d
11	c	51	a	91	a
12	c	52	c	92	c
13	b	53	a	93	b
14	c	54	d	94	c
15	b	55	c	95	c
16	a	56	a	96	c
17	a	57	c	97	b
18	a	58	c	98	b
19	a	59	b	99	a
20	d	60	a	100	b
21	c	61	b		
22	a	62	b		
23	a	63	d		
24	a	64	d		
25	b	65	a		
26	c	66	a		
27	d	67	c		
28	a	68	a		
29	d	69	a		
30	b	70	c		
31	b	71	d		
32	c	72	b		
33	d	73	d		
34	d	74	d		
35	c	75	d		
36	a	76	a		
37	c	77	c		
38	c	78	c		
39	d	79	c		
40	d	80	b		