NIPER JEE 2005

1. Andrographolid is the principal chemical constituent of _____.

A) Quassia

B) Kalmegh

C) Picrorrhiza

D) Visnaga

2. _____ is the principal chemical constituent of ashwagandha.

A) Withanine

B) Conessine

C) Germidine

D) Neopelline

3. _____ is the indication of flow property.

A) Bridging

B) Angel of repose

C) Rat holing

D) All of the above

4. Which of the following polymer is used as an ion exchanger?

A) Cross-linked polystyrene

B) CMC

C) Cross-linked polymethacrylate

D) All

5. Which of the following is a biodegradable polymer?

A) Chitosan

B) PGA

C) PCL

D) All of the above

6. Which of the following principle involves Karl Fischer titration?

A) Reduction of I by SO_2 in presence of water by removal of pyridine iodate

B) Reduction of SO_2 in presence of water by removal of pyridine sulphate trioxide.

C) Reduction of SO_2 by pyridine in presence of I and water by removal of pyridine iodate

D) Reduction of I by pyridine in presence of water and SO_2 by removal of pyridine sulphate trioxide

7. Which of the following is a protophilic solvent?

A) Benzene

B) Chloroform

C) Sulphuric acid

D) None of the above

8. Which of the following is hydrophobic?

A) DMSO

B) Ethanol

C) PEG

D) Stearic acid

9. Fingerprint region for IR is _____.

A) 1400 - 4000 cm^{-1}

B) 4000 - 8000 cm^{-1}

C) 400 - 1400 cm^{-1}

D) None of the above

10. When UV light falls on a molecule it causes _____

A) Excitation of bonds

B) Excitation of nucleases

C) Excitation of molecules

D) Excitation of electrons

11. Addition of a double bond to a chromophore causes _____ shift.

A) Hypsochromic

B) Hypochromic

C) Bathochromic

D) Hyperchromic

12. Dry solids are sterilized by _____

A) Dry heat

B) Gaseous

C) Radiation

D) Steam

13. Minimum number of members required to form a co-operative society firm is:

A) 2

B) 7

C) 10

D) No limit

14. Which of the following gums have antidiabetic activity?

A) Acacia

B) Guar

C) Xanthan

D) Locust bean

15. Artemisinin is _____

A) Anthelmintics

B) Anticancer

C) Antimalarial

D) All of these

16. Asparaginase shows _____ activity

A) Antitumor

B) Antimicrobial

C) Anti-inflammatory

D) Thrombolytic

17. Gingival hyperplasia is related to _____

A) Ethosuccimide

B) Gabapentin

C) Phenytoin

D) Valproic acid

18. What is the use of cyclodextrin?

A) Solubility enhancement

B) Stability enhancement

C) Taste masking

D) All of the above

19. Which of the following is not associated with hypokalemia?

A) Hydrochlorothiazide

B) Furosemide

C) Triamterene

D) Amphotericin B

20. GABA receptors are _____

A) Excitatory

B) Inhibitory

C) Excitatory followed by inhibition

D) Inhibition followed by excitation

21. What is the additional value of α-methyl group for α,β-unsaturated carbonyl compounds according to Woodward-Fieser rule?

A) 5

B) 10

C) 12

D) 18

22. Cycloserine acts by _____.

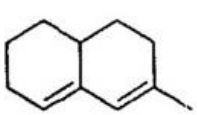
A) Competitive inhibition 2 terminal alanines to initial tripeptide side chain on N-AMA

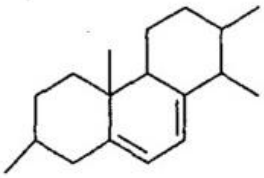
B) Prevent addition to the growing end of the peptidoglycan

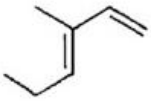
C) Interferes with regeneration of lipid carrier by blocking dephosphorylation.

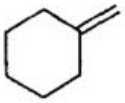
D) Inhibit transpeptidation cross-linking by blocking binding to PBPs.

23. Which of the following is not a hetroannular diene?

A) 

B) 

C) 

D) 

24. Site for phase-II reaction is _____ .

A) Cytosole

B) ER

C) Mitochondria

D) Golgi apparatus

25. Since when the product patent came into existence in India?

A) 2000

B) 2002

C) 2005

D) 2007

26. 1:9:17:33:49:73:?

A) 105

B) 8

C) 97

D) 16

E) 33

27. _____ is the anticholinergic agent used in peptic ulcer treatment.

A) Dicyclomine

B) Pirenzepine

C) Ranitidine

D) Rebeprazole

28. A, B, C, D represent 2,5,3,4 and I, N, O, X represent 1,6,9,0 than I, B, C, X represent what?

A) 1,2,3,4

B) 2,4,5,6

C) 1,5,3,0

D) 1,0,2,6

29. Which of the following formulation techniques is used for targeting drugs to the liver?

A) Liposome

B) Niosome

C) Microencapsulation

D) Resealed erythrocytes

30. Which of the following is the principal component of the cell membrane?

A) Phospholipid

B) Glycolipid

C) Lipoprotein

D) All of the above

31. Actin and myosin are _____.

A) Contractile protein

B) Motor protein

C) Transport protein

D) Structural protein

32. Nitric oxide is _____.

A) Vasodilator

B) Vasoconstrictor

C) Bronchodilator

D) Bronchoconstrictor

33. Which of the following is used in preanesthetic medication?

A) Atropine

B) Midazolam

C) Morphine

D) All of the above

34. Which of the following is centrally acting skeletal muscle relaxant?

A) Nitric oxide

B) Propranolol

C) Mivacurium

D) Mephenesin

35. Low solubility of general anesthetic in body fluid means _____

A) Prolonged action

B) Enhancement of potency

C) Decrease MAC

D) All of the above

36. Which of the following causes Hyperpyrexia?

A) Suxamethonium

B) Drug interaction of MAO inhibitor with pethidine

C) Halothane

D) All of the above

37. Ginseng is obtained from _____

A) P. ginseng

B) P. japonica

C) P. notoginseng

D) All of the above

38. Peripheral and central emesis is caused by _____

A) Apomorphine

B) $CuSO_4$

C) Digitalis

D) Ergot

39. _____ are cholesterol-reducing agents.

A) Statins

B) Dipins

C) Triptans

D) Sartans

40. _____ contains diacytic stomata.

A) Senna

B) Digitalis

C) Vasaca

D) Coca

41. Protein synthesis is started by _____.

A) Entronic DNA

B) Exonic DNA

C) m-RNA

D) None of the above

42. What is the function of RNA primer?

A) Initiation of new DNA synthesis replication

B) Separate the 2 strand (zip opener)

C) DNA synthesis from 5'-3' direction

D) It produces Okazaki fragments

43. Tryptophan is coded by _____.

A) GGU

B) GUG

C) UGG

D) GUU

44. Followings are stop codons except _____.

A) UAA

B) UGG

C) UAG

D) UGA

45. Chloroquine is used in _____ infection.

A) Resistance falciparum

B) Relapsing vivax

C) Resistance ovale

D) None of the above

46. Principal of nephelometry and turbidimetry is _____.

A) Absorption of light

B) Reflection of light

C) Scattering of light

D) Emission of light

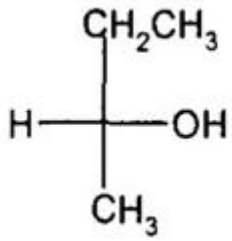
47. A+B > C+D, B+E = 2C, C+D > B+E than which of the following is correct?

A) B+E > A+B

B) C+D = 2C

C) A+B < C+D

D) A+B > 2C

48. 

This projection formula is called as _____-.

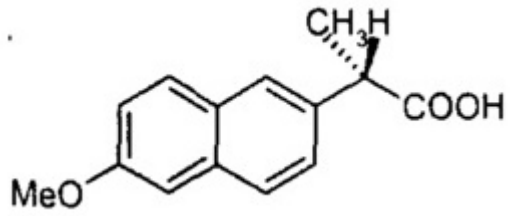
A) Newmann

B) Fisher

C) Sawhorse

D) Gauche

49. Give the conformation of asymmetric carbon in structure below.



A) R

B) S

C) E

D) Z

50. _____ is the dominant antibody produced in primary immune response.

A) IgM

B) IgE

C) IgG

D) IgA

51. Tyndalization is _____.

A) Heating the medium at 115 °C for 30 min.

B) Heating the medium at 72 °C for 15 s.

C) Heating the medium at 80 °C for 1 hr on 3 successive days

D) Heating the medium at 68.2 °C for 30 min.

52. Cardiac Ca^{++} channels are _____.

A) Ligand gated

B) Voltage gated

C) G coupled protein

D) Tyrosine kinase

53. Increased level of creatinine kinase is the indication for _____.

A) Acute hepatitis

B) Myasthenia gravis

C) Cirrhosis

D) Myocardial infarction

54. GC is 50% stronger base pair as compared to AT. Why?

A) Electro negativity difference between GC is more than AT

B) Stearic hindrance in AT is more than GC

C) GC forms 3 hydrogen bonds, but AT forms 2

D) None of the above

55. First pass metabolism is the problem associated with _____.

A) Vaginal

B) Nasal

C) I.V

D) Oral

56. Q is symbol for which amino acid?

A) Glutamic acid

B) Glutamine

C) Aspartic acid

D) Asparagine

57. Which of the following is directly compressible polymer?

A) PVP

B) Avicel

C) Di-Tab

D) HPMC

58. Which of the following is used for enteric coating?

A) PVP

B) HPMC

C) CAP

D) HPC

59. If the drug is susceptible to hydrolysis, then which of the following is suitable?

A) Direct compression

B) Film Coating by Organic solvent

C) Injectable emulsion

D) None of the above

60. Proteomics is study of _____.

A) DNA

B) RNA

C) Genomes

D) Proteins

61. _____ is the 15-carbon intermediate in Mavalonic acid pathway.

A) Geranyl pyrophosphate

B) Farnesyl pyrophosphate

C) 3,3-dimethyl allyl pyrophosphate

D) Squalene pyrophosphate

62. Tonifier is the important agent in _____.

A) Parenterals

B) Vaginal

C) Buccal

D) Transdermal

63. Which of the following is keto sugar?

A) Xylose

B) Talose

C) Ribulose

D) Allose

64. Cis and Trans stilbenes are called as _____.

A) Epimer

B) Enantiomers

C) Anomers

D) Diastereomers

65. Which of the following is not a primary packaging material in injectables except?

A) Glass

B) PVC

C) Elastomers

D) Al. foils

66. Which of the following is the chemical composition of Saliwanoff's reagent?

A) Copper sulphate pentahydrate

B) Copper acetate and copper oxide in 1% acetic acid

C) Resorcinol in HCl

D) Anhydrous sodium carbonate and sodium citrate

67. Which of the following is the correct equation for relative centrifugal force (RCF)?

A) $r(2\pi N)^2 / g$

B) $r(2\pi N) / g$

C) $r^2\pi N / g$

D) $(2\pi N)^2 / rg$

68. For the formation of one molecule of hexose sugar, how many turns of the Calvin cycle are needed?

A) One-sixth

B) One

C) Six

D) Thirty-six

69. Following are the air pollutants except _____.

A) VOC

B) Toxic metals

C) Ozone

D) UV radiation

70. Which of the following nutraceutical reduce the risk of coronary heart disease?

A) Psyllium seed husk

B) Broccoli

C) Fiddleheads

D) Berries

71. Isoabsorptive point means _____.

A) A point at which 2 bonds give the same peak

B) A point at which 2 compounds absorb UV light

C) A point at which 2 atoms have the same precissional frequency

D) None of the above

72. Q-fever is caused by _____.

A) Coxiella burnetii

B) Clostridium botulinum

C) Bacillus quilli

D) E. fisheloni

73. The first stereoactive compound observed and isolated was by _____.

A) Kekule

B) Lacobus henricus

C) Louis Pasteur

D) Robert Koch

74. Who is the inventor of agar as a solidifying medium?

A) Robert Koch

B) Walther Hesse

C) Fannie Hesse

D) Losephle Bel.

75. Antonym of ABSTRUSE

A) Enigmatic

B) Subtle

C) Concrete

D) Transcendental

76. DAEWOO of South Korea has collaboration with which Indian company?

A) Hindustan

B) DCM

C) Maruti

D) TATA

77. A drug with high affinity but no efficacy is also called _____.

A) Agonist

B) Partial agonist

C) Antagonist

D) Partial antagonist

78. Which of the following shows the highest first-pass metabolism?

A) Propranolol

B) Digoxin

C) Phenobarbital

D) Phenytoin

79. Which of the following is the mechanism of competitive inhibition?

A) Binding of the inhibitor to the active site of the enzyme.

B) Binding of the inhibitor to site other than the active binding site on the same enzyme.

C) Binding of the inhibitor to the enzyme substrate complex.

D) Binding of the inhibitor to the endogenous substrate.

80. α and β forms of cyclic glucose are known as _____.

A) Epimer

B) Anomer

C) Enantiomer

D) Diasterioisomer

81. In microbiology, the term COMPETENCE stands for?

A) Ability of microbes to generate resistance to antibiotics.

B) Ability of host cell destruction.

C) Genetically transformable.

D) None of the above.

82. Shortening the carbon chain of aldoses is known as _____.

A) Ruff degradation

B) Kiliani-Fisher synthesis

C) Oxidative degradation

D) Arndt-Eistert synthesis

83. During fermentation of penicillin, the pH is first adjusted to 2. Why?

A) For maximum growth of Penicillium chrysogenum.

B) For maximum yield.

C) Penicillin exists as an undissociated acid, so it is soluble in organic solvents.

D) To remove the impurity.

84. Dry cough is a major side effect of _____.

A) ACE inhibitors

B) β blockers

C) CCBs

D) Diuretics

85. Ethyl acetate gives _____ peaks in H-NMR.

A) 4

B) 2

C) 3

D) 5

86. Which of the following is not true about the law of thermodynamics?

A) The zeroth law of thermodynamics allows the assignment of a unique temperature to systems.

B) The st law expresses the existence of a quantity called the internal energy of a system.

C) The 2nd law expresses the existence of a quantity called the entropy of a system.

D) The 3rd law concerns the internal energy of a perfect crystal at elevated temperature.

87. C-peptide assay in hyperglycemic patients is done to determine _____.

A) Elevated blood sugar level

B) To determine type of diabetes

C) To check safety of insulin therapy

D) None of the above

88. P watch goes back to 1 minute/day and Q watch goes back to ½ minute/day. After how many days will P watch be 5 minutes back compared to Q watch?

A) 5 days

B) 10 days

C) 2.5 days

D) 2 days

89. Totipotency is _____.

A) Ability of a single cell to divide and produce all the differentiated cells in an organism.

B) Ability of a single cell to differentiate into any of the 3 germ layers: endoderm, mesoderm, ectoderm.

C) Potential to give rise to cells from multiple, but a limited number of lineages.

D) All of the above.

90. Which of the following peaks will be observed in the mass spectrum of a compound containing a Cl atom?

A) M and M+1

B) M and M+2 1/3 as large as M

C) M and M+2 as large as M

D) M, M+2, and M+4

91. Which of the following is false about the secondary structure of protein?

A) Twisting and folding of polypeptides produce secondary structure.

B) Extensive hydrogen bonding stabilizes the secondary structure.

C) All peptide bonds do not participate in hydrogen bonding.

D) α-helix is an unstable conformation because it formed spontaneously with the highest energy.

92. Which of the following is the correct NMR data for CH_3-COO-C_2H_5?

A) δ=1.56m (3H), δ=3.69s (2H), δ=1.02t (3H)

B) δ=2.66s (3H), δ=2.89m (5H)

C) δ=3.66s (3H), δ=2.32q (2H), δ=1.1t (3H)

D) None of the above.

93. Which of the following is not a penetration enhancer?

A) DMSO

B) Taurocholate

C) Sodium oleate

D) Chondroitin sulfate

94. Which of the following causes renal impairment?

A) Cisplatin

B) Levodopa

C) Piroxicam

D) Gabapentin

95. Isoprene is the basic unit of _____.

A) Tannins

B) Terpenes

C) Alkaloids

D) Glycosides

96. Electrophoresis is based upon _____.

A) Physical process

B) Physico-chemical process

C) Chemical process

D) None of the above.

97. Which of the following is false about glycolysis?

A) It occurs in both aerobic and anaerobic conditions.

B) It is the major pathway for ATP production in tissues lacking mitochondria.

C) Lactate is the end product of the aerobic condition.

D) It is essential for the brain.

98. Which of the following is a soft ionization source in a mass spectrometer?

A) Chemical ionization

B) Electrostatic spray ionization

C) MALDI

D) All of the above

99. Isocratic technique is the technique of elution that includes _____.

A) Changing adsorbent for different substances

B) Changing solvent composition

C) Keeping solvent system same throughout the process

D) Rising evaporating temperature

100. The size of droplet in emulsion is _____.

A) 0.5-50 μm

B) 5-50 μm

C) 0.1-1 μm

D) 1-100 μm

NIPER JEE 2005ANSWER KEY

Que.	Ans.	Que.	Ans.	Que.	Ans.	Que.	Ans.	Que.	Ans.
1	B	21	B	41	C	61	B	81	C
2	A	22	A	42	A	62	A	82	A
3	B	23	B	43	C	63	C	83	C
4	D	24	A	44	B	64	D	84	A
5	E	25	C	45	D	65	D	85	C
6	B	26	C	46	C	66	C	86	D
7	D	27	B	47	D	67	A	87	B
8	D	28	C	48	B	68	C	88	B
9	C	29	D	49	B	69	D	89	A
10	D	30	A	50	A	70	A	90	B
11	C	31	A	51	C	71	B	91	B
12	A	32	A	52	B	72	A	92	C
13	C	33	D	53	A	73	C	93	D
14	B	34	C	54	C	74	C	94	A
15	D	35	D	55	D	75	C	95	B
16	A	36	D	56	B	76	B	96	B
17	C	37	D	57	B	77	C	97	C
18	D	38	A	58	C	78	A	98	D
19	C	39	A	59	A	79	A	99	C
20	B	40	C	60	D	80	B	100	A