PG – TRB – CHEMISTRY
MODEL EXAM – 4 - (19CHME04)

Time : 3hrs **Marks: 150**

1. Synthesis of alkenes from aldehydes or ketones is known as
   a. Wurtz reaction b. Wohl-Ziegler reaction c. Wittig reaction d. Mannich reaction
2. Organolithium reagents behaves as
   a. Electrophile and acid b. Free radical c. Nucleophile and base d. None of these
3. I. C-Mg bond in Grignard reagent is polar and generates nucleophilic carbon.
   II. Stronger Lewis base is required for the formation of aryl Grignard reagents.
   a. Both I and II are incorrect b. Both I and II are correct
   c. I is correct and II is incorrect d. I is incorrect and II is correct
4. The product obtained by knoevenagal condensation of acetone with ethyl ester of cyanoacetic acid is
   a. Ethyl-2-hexenoate b.Cinnamic acid
   c. Isopropylidene cyanoacetic ester d. Acetyl acetone
5. Swern oxidation is
   a. Oxidation of phenols by potassium persulphate
   b. Oxidation of 1,2 diols to ketones by periodic acid
   c. Oxidation of aldehydes to carboxylic acid by Ag_2O
   d. Oxidation of alcohols to aldehydes by oxalyl chloride and DMSO in presence of base
6. The addition of $LiClO_4$ in the acetolysis of certain tosylates produced
   a. Initial steep rate acceleration which then decreased to normal linear acceleration
   b. Initial steep rate decrease which then increased
   c. Steady uniform linear acceleration in rate
   d. Does not influence rate
7. I. The rates of SN_1 reactions are independent of the identity of the nucleophile, since it does not appear in the rate determining step
   II. A change in nucleophile may change the product of an Sn1 reaction
   a. Both I and II are incorrect b. Both I and II are correct
   c. I is correct and II is incorrect d. I is incorrect and II is correct
8. Triplet CH_2 is
   a. Linear with angle of about 180° b. Bent with an angle of about 136°
   c. Bent with an angle of about 100° d. Bent with an angle of about 114°
9. The rearrangement of acylcarbenes to ketenes is called
   a. Beckmann rearrangement b. Hofmann rearrangement
   c. Wolff rearrangement d. Claisen's rearrangement
10. The rearrangement of cis1,2 divinylcyclobutaane to 1,5 cyclooctadiene is
    a. Benzidine rearrangement b. Benzil-benzilic acid rearrangement
    c. Cope rearrangement d. Pinacol-pinacolone rearrangement
11. The mechanism involved in Sommelet-Hauser rearrangement is an example of
    a. [5,5] sigmatropic rearrangement b. [2,3] sigmatropic rearrangement
    c. [3,3] sigmatropic rearrangement d. [1,3] sigmatropic rearrangement
12. Carbenes react with benzene to give
    a. Cycloheptatriene b. Cycloheptane c. Cyclohexane d. Toluene
13. Ordinary aldehydes and ketones can add to olefins, under theinfluence of UV light to give oxetanes. This reaction is called
    a. Barton reaction b. Dakin reaction c. Patterno-Buchi reaction d. Wittig reaction

14. The msin products of photolysis of hexan-2-one are
    a. Propane and acetone b. Propene and acetone
    c. Ethane and acetone d. Butene and acetone
15. In Wagner-Meerwin rearrangement the intermediate is
    a. Carbanion b. Carbocation c. Free radical d. No intermediate
16. Cis 3,4 dimethylcyclobutene on heating gives
    a. Trans, trans 2,4 hexadine b. Cis,cis 2,4-hexadiene
    c. Cis,trans 2,4 hexadiene d. Both a and b
17. Claisen rearrangement is
    a. Rearrangement of allyl aryl ethers to o- or p- allyl phenols
    b. Rearrangement of keto-azide to isocyanate
    c. Rearrangement of phenol esters to o- or p- acyl phenols
    d. Rearrangement of acetyl derivative of hydroxamic acid to isocyanate
18. The addition of benzene diazonium chloride to vinylcyanide in the presence of cupric sale and acetone is
    a. Schiemann reaction b. Bart reaction c. Gattermann reaction d. Meerwin reaction
19. When carbonyl compounds absorbs light in the region 230-330nm n-π^* excitation occurs resulting in the cleavage of -------bond to the carbonyl group.
    a. β b. α c. ν d. δ
20. Interconversion of butadiene to cyclobutene
    a. Thermally proceeds in conrotatory way while photochemically proceeds in disrotatory way
    b. Thermally proceeds in disrotatory way while photochemically proceeds in conrotatory way
    c. Both a and b are possible
    d. Both a and b are not possible
21. A photon of wavelength 3000 A° strikes a metal surface whose work function is 2.14 eV. The kinetic energy of emitted photoelectron (in eV) is:
    [1eV=1.6×10^{-19} J, h=6.63×10^{-34} Js]
    a. 2 b. 4 c. 3 d. 6
22. Two groups have same order and structure, one to one correspondence between the members and same relationship between the members are called as
    a. Abelian groups b. Sub groups c. Isomorphic groups d. Point groups
23. The vibrational modes of representation for C_{2v} point group is
    a. $2A_1+B_2$ b. A_1+B_2 c. A_1+E d. A_1+B_2+E
24. The sum of squares of the characters of any irreducible representation of the group is equal to
    a. Class b. Order c. Reducible representation d. Symmetry elements
25. Bone imaging is aided by
    a. ^{111}In(as chloride) b. ^{131}I(as albumin) c. ^{85}Sr(as Chloride) d. ^{67}Ga(as citrate)
26. The value of heat of formation of BeCl2 molecule using pauling equation is
    [χ_{Be}=1.6 χ_{Cl}=3..2]
    a. 117.6 K Cal/mol b. 117.6kJ/mol c. 58.8 K cal/mol d. 58.8 kJ/mol
27. Find out the value of electronegativity of an element whose ionization energy and electron affinity are 17.41 eV and 3.45 eV
    a. 3.98 b.4.07 c. 3.24 d. 3.74
28. A sample was excited by mercury line (4358 A°). Raman line was observed at 4447 A°. Calculate the Raman shift (in cm^{-1})
    a. 459 b. 89 c. 112.3 d. 45.9

29. In column chromatography, the decreasing order of substances to get adsorbed:
    a. Acid>Alcohol>Aldehyde>Hydrocarbon
    b. Hydrocarbon>Aldehyde>Alcohol>Acid
    c. Aldehyde>Alcohol>Acid>Hydrocarbon
    d. Alcohol>Acid>Hydrocarbon>Aldehyde
30. Which of the following does not have the ground state term symbol as $^1S_0$?
    a. Mg b. Ne c. Na d. He
31. Pick out the correct decreasing order of complex stability in terms of metal ions:
    a. $K^+ > Sr^{2+} > La^{3+}$ b. $Co^{2+} > Co^{3+}$ c. $Fe^{2+} > Fe^{3+}$ d. $Th^{4+} > Y^{3+} > Ca^2$
32. Sulphur ylides convert aldehydes and ketones to
    a. Acids b. alcohols c. epoxides d. Sulphonium salts
33. In Corey Synthesis of Longifolene based on Michael addition strategy, the starting material is
    a. Methyl cyclohexanedione b. 1,5 dione c. Cyclohexanone d. None of these
34. $C_6H_5COOC_2H_5 \xrightarrow[-78°C]{\text{DIBAL-H}}$
    a. $C_6H_5CH_2OH$ b. C_6H_5CHO c.C_6H_5COOH d. $C_6H_5COC_2H_5$
35. α-haloketones reacts with nucleophilic base to form rearranged ester. This is called
    a. Clasien rearrantement b. Favorskii rearrangement
    c. Cope rearrangement d. Demyanov rearrangement
36. Which is not TRUE about Ionic liquids?
    a. Ionic liquids are made of single component
    b. They can be stored without decomposition for long period of time
    c. They are liquid at ambient temperature
    d. They have essentially no vapour pressure
37. Match the following

    I. CsC - i. low coordination number and radius ratio

    II. ZnS - ii. Metal deficiency

    III. FeS -iii. high coordination number and radius ratio

    IV. ZnO -iv. metal excess

	I	II	III	IV
a.	iii	i	ii	iv
b.	ii	I	iii	iv
c.	iv	iii	ii	i
d.	i	ii	iii	iv

38. The equivalent weight of MnSO4 is half of its molecular weight, when it is converted to :
    a. Mn_2O_3 b.MnO_2 c.MnO_4^- d.MnO_4^{2-}
39. I. Reaction of maleic acid witih OsO4 and H2O2 gives optically active tartaric acid

    II. Trans 2-pentene on reaction with OsO4 and H2O2 yields four stereo isomers.

    a. Both I and II are incorrect b. Both I and II are correct

    c. I is correct and II is incorrect d. I is incorrect and II is correct

40. Oxidation states of A,B, and C are +2, +5, and -2 respectively. Possible formula of the compound is
    a. $A_2(BC_3)_2$ b. $A_2(BC_2)_2$ c. $A_3(B_2C)_2$ d. $A_3(BC_4)_2$

41. Pick out the correct statement(s).
    I. Desilverisation of lead is done by Parke's process
    II. Impurities of metals like Zn, Au etc can be removed from desilverised lead is carried out by Van Arkel method
    III. Lead impurity present in silver obtained from Zn-Ag alloy is removed by cupellation process.
    a. I and III b. II only c. III only d. II and III
42. Find out the incorrect statement
    I. e_{aq}^- readily reduces O to O^- and Cu^{2+} to Cu^+
    II. $F_{centre} \xrightarrow{Water} (e_{aq}^-)^2$
    a. Both I and II are incorrect b. I is correct and II is incorrect
    c. I is incorrect and II is correct d. I and II is correct
43. Pick out the incorrect statement(s)
    I. $RN(CH_3)_3^+OH^-$ is a cationic resin
    II. Anionic exchangers contain both $SO_3^-H^+$ and COO^-H^+ groups
    III. Ion exchange chromatography is used in separation of rare earths
    IV. Electron capture detector in GLC use Ni^{63} as β emitter
    a. III and IV b. II only c. III only d. I and II
44. I. Trimethyl borane has three $sp^2\sigma$ bonds
    II Each ion of ammonium tetrafluoroborate has four $sp^3\sigma$ bonds
    a. Both I and II are incorrect b. Both I and II are correct
    c. I is correct and II is incorrect d. I is incorrect and II is correct
45. I. NO is linear and diamagnetic
    II Nitrogen atom in NO2 has angular shape
    a. Both I and II are incorrect b. Both I and II are correct
    c. I is correct and II is incorrect d. I is incorrect and II is correct
46. 1-Napthol on reduction with Na/liq.NH_3 gives
    a. 5,8 dihydro 1-napthol b. 5,6 dihydro1 napthol
    c. 7,8 dihydro 1 napthol d. 5,6,7,8 tetrahydro 1 napthol
47. Pick the wrong statement
    A wave function is acceptable only if it
    a. Is continuous b. Is finite c. Is multiple valued d. Has a continuous slope
48. Match the following

I.	ICl	i. Yellow liquid			
II.	BrF_3	ii Red solid			
III.	BrF_5	iii Colourless gas			
IV.	IF_7	iv Colourless liquid			
		I	II	III	IV
	a.	i	ii	iii	iv
	b.	iv	iii	ii	i
	c.	iii	I	iv	ii
	d.	ii	iii	I	iv

49. The conversion of isoborneol to camphene involves
    a. 1,2 alkyl shift of intermediate carbanion b.
    b. 1,2 alkyl shift of intermediate carbocation
    c. Formation of intermediate carbine
    d. Formation of intermediate enolate ion

50. In Compton effect, the Compton wavelength of the electron is 2.43 pm. The maximum Compton wavelength shift occurs at (cos 180°=-1)
    a. 1.22pm b.3.65 pm c, 7.29pm d. 4.86pm
51. Which of following exhibit geometric isomerism
    a. $H_2C=C(Br)CH_3$ b. CH_3-CH=CH-CH_2Br c. $C_2H_5CH=C(C_2H_5)_2$ d. $CH_3CH=CH_2$
52. Treatment of cis-2 aminocyclohexanol with nitrous acid gives
    a. Mixture of ring conracted aldehyde and cylcohexanone
    b. Mixture of ring expanded aldehyde and cylcohexanone
    c. Only cyclohexanone
    d. Only cyclohexanol
53. Cis-decalin has -------- more gauche butane like interaction than trans-decalin.
    a. Two b. Four c. One d. Three
54. Which is not characteristic of SN1 mechanism?
    a. Solvents of high polarity favours it b. Follows first order kinetics
    c. Complete stereochemical inversion occurs d. Frequent rearrangement occurs
55. Decreasing order of reactivity of alkyl halides in SN2 reactions is
    a. Methyl halide>Primary halide>Secondary halide>Tertiary halide
    b. Primary halide>Secondary halide>tertiary halide>methyl halide
    c. Primary halide>Secondary halide=tertiary halide>methyl halide
    d. Tertiary halide>Secondary halide>Primary halide>Methyl halide
56. Predict the product

    $(CH_3)_3C$-Cl $\xrightarrow{EtOH}$?

    a. $(CH_3)_3C$-OH b. $(CH_3)_2=CH_2$ c. $CH_3CH_2CH_2OH$ d. None of these
57. Predict the product

    $CH_3CH_2(Br)CH_2CH_3$ $\xrightarrow[t\text{-}BuOH]{(CH3)3CO^-}$?

    a. $CH_3CH=CHCH_3$ b. $CH_3CH(OH)CH_2CH_3$
    c. $CH_3CH_2CH_2CH_3$ d. $CH_2=CHCH_2CH_3$
58. The following nuclear decay involves

    $_{11}Na^{22} \longrightarrow {}_{10}Ne^{22}$

    a. α decay b. β^- decay c. β^+ decay d. Electron capture
59. One of the conditions for a nuclear reactor to explode is when
    a. k=1 b. k=0 c. k>1 d. k<1
60. The colour of Vanadocene is
    a. Orange b. Brown c.Green d. Violet
61. When acetylene reacts with dicobaltoctacarbonyl----moles of CO is/are eliminated
    a. 3 b. 1 c. 2 d. 0
62. The reduced mass and mean internuclear distance of HCl molecule is 1.627×10^{-27}kg and 0.1275nm respectively. The value of moment of interia of HCl is
    a. 2.645×10^{-47} kg m^2 b. 3.375×10^{-47} kg m^2 c. 2.074×10^{-38} kg m^2 d. 3.015×10^{-38} kg m^2
63. The vapour pressure of water at 95°C is found to be 634mm. Heat of vapourisation is 40593 J/mol. The vapour pressure at 100°C is
    a. 550 mm b. 700 mm c. 760mm d. 800mm

64. What will be the hydrogen ion concentration of a solution obtained by mixing 500ml of 0.20M acetic acid and 500ml of 0.30M Sodium acetate?, $K_a=1.75\times10^{-5}$
    a. 1.58×10^{-5} mol dm^{-3} b. 1.17×10^{-5} mol dm^{-3}
    c. 1.32×10^{-5} mol dm^{-3} d. 1.85×10^{-5} mol dm^{-3}
65. The mean ionic activity ($a_{\pm}$)of the electrolyte is defined by the expression
    a. (a_+a_-) b. $(a_+a_-)^{1/2}$ c. (a_+ / a_-) d. $(a_+a_-)^2$
66. The value of limiting current (id) is given by
    a. (DnF/δ) c° b. (DnF/δ) c. (DnF)c° d. (DnF/c°)
67. The rate constant for a first order reaction is 1.54×10^{-3} s^{-1}. Its half-life time is
    a. 250s b.350s c. 450s d. 550s
68. The $t_{1/2}$ of a reaction is doubled as the initial concentration of the reactant is doubled. What is the order of the reaction?
    a. 0 b. 1 c. 2 d. 1.5
69. I. Acetylene is linear in the ground state S_0 and has a bent geometry in the first singlet excited state S_1
    II Formaldehye is planar in its ground state S_0, and distorts to pyramidal structure in the first singlet excited state S_1
    a. Both I and II are incorrect b. Both I and II are correct
    c. I is correct and II is incorrect d. I is incorrect and II is correct
70. The life time of excited states are
    a. 10^{-12}s to 10^{-6} s b. 10^{+12}s to 10^{+6} s c. 10^{-5}s to 10^{+5} s d. 10^{-12}s to 10^{-10} s
71. Freundlich adsorption isotherm is
    a. $\chi/m=kc^n$ b. $\chi/m=kc^n+1$ c. $\chi/m=kc^n-1$ d. $\chi/m=kc^n/V$
72. Match the IR absorption frequencies

I	II
A. OH group of alcohols	1. $1450cm^{-1}$
B. –CN group of cyanides	2. $1710cm^{-1}$
C. $-CH_3$group	3. $3200\text{-}3600cm^{-1}$
D-CO group of ketones	4. $2250cm^{-1}$

	A	B	C	D
a.	3	1	4	2
b.	1	3	4	2
c.	3	4	1	2
d.	1	2	3	4

73. In Silicon resin, when the R/Si ratio is lowered from 2.0 to 1.0 they become
    a. Highly soluble b. Less soluble c. Liquid d. highly crystalline
74. Which of the following statements is not correct?
    a. All linear diatomic molecules are rotationally Raman active
    b. Spherical top molecules like CH_4 and SF_6 are not Raman active
    c. All Raman lines have corresponding IR bands and vice versa
    d. Raman spectrum is not interfered by the presence of mixture or water in the sample
75. The C-H frequency of a compound is observed at $2910cm^{-1}$. The corresponding C-D stretching frequency whose hydrogen is replaced by deuterium is
    a. $2058cm^{-1}$ b. $2580cm^{-1}$ c. $1029cm^{-1}$ d. $5820cm^{-1}$

76. I. The effect of auxochrome is due to its ability to extend conjugation of a chromophore by the sharing of non bonding electrons
II Auxochromic groups do not show characteristic absorption above 200mμ.
a. Both I and II are incorrect b. Both I and II are correct
c. I is correct and II is incorrect d. I is incorrect and II is correct

77. The solubility product of $CaSO_4$ in water at 25°C is 2.4×10^{-5}. A sample of hard water contains 0.01mole of $CaCl_2$ per litre. $CaSO_4$ will be precipitated from the hard water by the addition of
a. 0.001M dil. H_2SO_4 b. 0.02M dil. H_2SO_4
c. Can not be precipitated d. Can be precipitated both by 0.001M and 0.02 M H_2SO_4

78. [2+2] cycloaddition reaction is
a. Both thermally and photochemically allowed
b. Both thermally an photochemically forbidden
c. Thermally allowed and photochemically forbidden
d. Thermally forbidden and photochemically allowed

79. The NMR signals given by mesitylene is
a. 3 b. 4 c. 2 d. 1

80. IR Spectrum is used for
a. Structure determination b. Study of chemical reaction
c. study of complex molecules d. All of the above

81. Pick out the wrong statement
a. Solubility of ionic compounds in polar solvents decreases with increase in degree of polarization
b. Hardness of ionic compounds decreases with increase in degree of polarization
c. Cations with pseudo inert gas configuration have high polarizing power.
d. Anions with small size have high polarizability

82. Arrange the following in terms of decreasing Bond Order

O_2,	O_2^+,	O_2^-,	O_2^{2-}
i	ii	iii	iv

a. ii>i>iii>iv b. i>ii>iii>iv c. iv>iii>ii>I d. iii>ii>i>iv

83. NO molecule is
a. Paramagnetic with bond order 2 b. Paramagnetic with bond order 2.5
c. Diamagnetic with bond order 2.5 d. Diamagnetic with bond order 2

84. Pick out the wrong pair
a. SF_6, sp^3d^2 - Octahedral 90°
b. BF_3, sp^2 - Trigonal planar 120°
c. SiF_4, sp^2 - Trigonal, 120°
d. BeF_2, sp - Linear 180°

85. Pyrene has 16π electrons yet it is considered to be an aromatic compound due to
a. 10 peripheral π electrons b. 14 peripheral π electrons
c. 2 internal π electrons d. None of these

86. The major product of nitration of tertiary butyl benzene is
a. p-nitro tert. butyl benzene b. o-nitro tert. butyl benzene
c. m-nitro tert. butyl benzene d. none of these

87. Cyclopropenyl cation is
a. Benzenoid aromatic b. Non-benzenoid aromatic
c. Antiaromatic d. Non aromatic

88. What will be the product when m-hydroxy benzoic acid is chlorinated?

a. 2-chloro 5 hydroxy benzoic acid b. 2-chloro 3 hydroxy benzoic acid

c. 4-chloro 3 hydroxy benzoic acid d. 5-chloro 3 hydroxy benzoic acid

89. Addition of bromine (1 mole) ti 1,3 butadiene at 60°C gives

a. Cis-1,4-dibromo2 butene b. trans-1,4-dibromo2 butene

c. Cis-3,4-dibromo2 butene d. trans-3,4-dibromo2 butene

90. Trypsin is an enzyme which

a. Hydrolyses proteins b. Hydrolyses fats

c. Oxidizes proteins d. Oxidizes carbohydrates

91. Mossbauer spectra of complex Na4[Fe(CN)6], the iron atom is found to have ----symmetry

a. Square planar b. Trigonal bipyramid c. Octahedral d. Square pyramid

92. Aliphatic aldehydes are decarbonylated to paraffins using

a. Wilkinson's catalyst b. Ziegler-Natta catalyst c. Reppe catalyst

b. Baker's yeast

93. Which of the following is suitable for stereospecific reduction of βketoester and βdiketones?

a. $NaBH_4$ b. Baker's yeast c. $LiAlH_4$ d. LTA

94. Allenes show C=C stretching vibration at

a. 3300 cm^{-1} b. 1600 cm^{-1} c. 2140-2100 cm^{-1} d. 2000-1900 cm^{-1}

95. For photoinduced catalytic reactions

a. $\Phi s > \Phi c$ b. $\Phi s = \Phi c$ c. $\Phi s < \Phi c$ d. $\Phi s \leq \Phi c$

96. The number of Fundamental vibration modes in H_2S and C_2H_2 are respectively

a. 3 and 7 b. 3 and 4 c. 2 and 3 d. 4 and 5

97. Choose the correct answer

a. Geminal protons of a saturated compound, the value of J depend upon the bond angle.

b. Increase in electronegativity increases the value of coupling constant

c. For vicinal protons the value of coupling constant varies with dihedral angle

d. All are correct

98. I. Nuclear Overhauser effect is of great value in studying the molecular geometry of the compounds

II It tells whether two protons are in close proximity within the molecule or not.

a. Both I and II are incorrect b. Both I and II are correct

c. I is correct and II is incorrect d. I is incorrect and II is correct

99. Thermogram of DTA is obtained by plotting

a. Weight Vs Temperature b. Heat evolved Vs Temperature

c. Change of weight with time d. Change of weight with volume

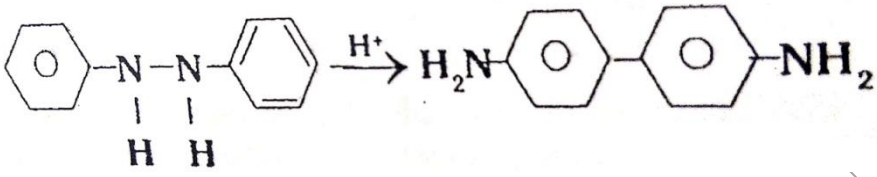
100. I. According to Debye-Huckel theory, decrease in molar conductance with increase in concentration is due to fall in the degree of dissociation.

II. For an ion with a given charge, size and shape greater the viscosity of the solvent, smaller is the ionic mobility and conductance.

a. I and II are wrong b. I and II are correct

c. I is correct but II is wrong d. I is wrong but II is correct

101. Name the rearrangement involving in the reaction of :

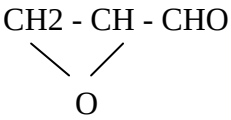


a. Favorski rearrangenment b. Claisen c. Benzidine d. Schimtts Rearrangement

102. How many signals would you expect for toluene in nmr ?

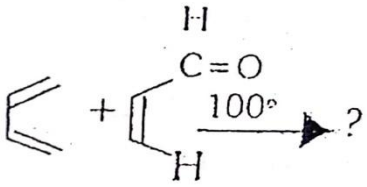
a. nine b. one c. two d.three

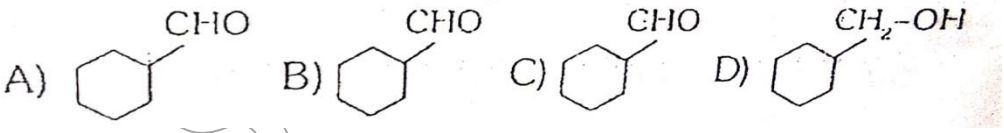
103. NMR signals for the following compound is :



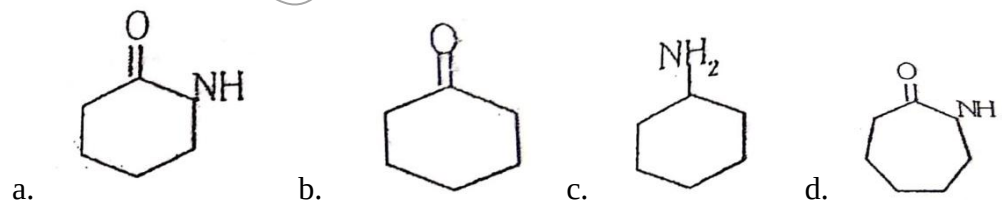
a. 1 b. 2 c. 3 d. 4

104.





105. Backmann rearrangement of cyclohexanone oxine yields :

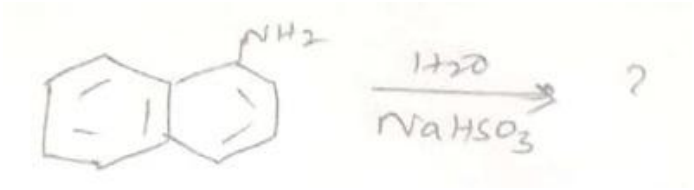


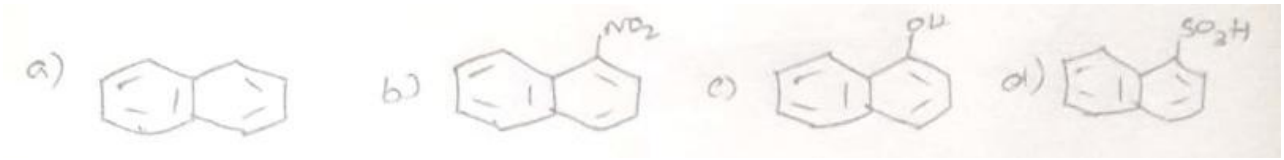
a. b. c. d.

106. Clemmensen reduction is the reduction of

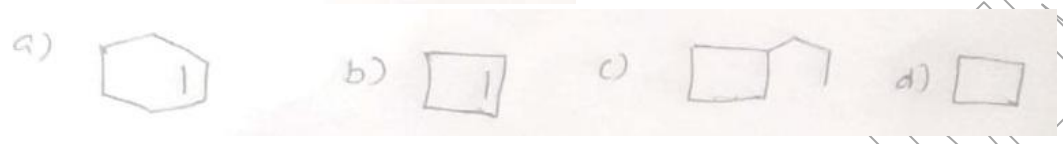
a. alcohols b. olifines c. nitro compounds d. ketones

107.

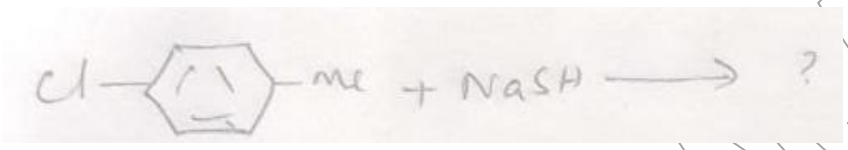


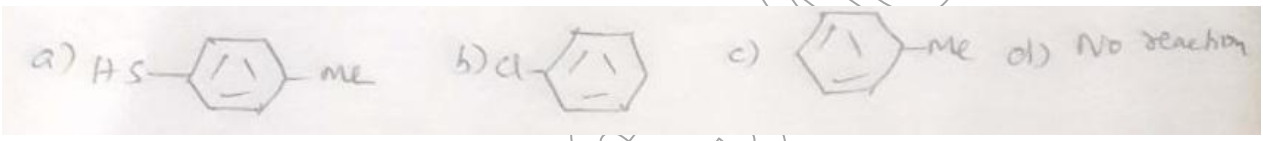


108.



109.





110. $C_6H_5Cl + CH_3CN \xrightarrow{2NaNH_2 - NH_3} C_6H_5CH_2CN + Hcl$. This reaction proceeds via the formation of intermedian.

a. Phenyl cation b. Phenyl anion c. Benzene d. carbene

111. புருனர் கருத்துப்படி செயல்சார்ந்த அறிதல் நிலை எவ்வயதுக்கு உரியது?

A. 0 -2 B. 3 - 7 C. 8 - 14 D. 0 - 7

According to Bruner, age group for enactive mode is

A. 0 -2 B. 3 - 7 C. 8 - 14 D. 0 - 7

112. கவனித்தல் எதைப் பொறுத்தது?

A. மனவெழுச்சி B. முயற்சி C. A & B D. குறிப்பிட்ட எதுவுமில்லை

Attention depends on

A. emotion b. trying c. Both A & B d. None

113. கவனக்குலைவு என்பது

A. ஒரே நேரத்தில் இரு செயல்களைக் கவனிப்பது

B. எந்தத் தூண்டலையும் கவனிக்காத நிலை

C. பயன்படாத தூண்டலின் மேல் கவனம் செல்வது

D. இவை எதுவுமில்லை

114. கவனத்திறகான அகக்காரணி எது?

A. புதுமை B. தேவை C. மாற்றம் D. அசைவு

Which of the following is an internal factor for attention?

A. Novelty B. Need C. Movement D. Change

115. மர்பி கூற்றுப்படி புலன்காட்சிக் கூறுகள் எத்தனை?

A. 5 B. 6 C. 3 D. 4

Perceptual elements according to Morphy is
A. 5 B. 6 C. 3 D. 4

116. பரிவு எத்தனை வகைப்படும்?
A. 2 B. 3 C. 4 D. 5
Sympathy is of
A. 2 B. 3 C. 4 D. 5

117. கீழ்கண்டவற்றில் எது எதிர்மறை மனவெழுச்சி?
A. உற்சாகம் B. மகிழ்ச்சி C. பரிவு D. அருவருப்பு
Which of the following is a negative emotion?
A. Joy B. Happiness C. Sympathy D. disgust

118. தாய் சிரிப்பதைப் பார்க்கும் சிறுகுழந்தை தானும் கைகொட்டி சிரிப்பது என்பது
A. சார்பெண்ணம் B. வார்ப்பெண்ணம் C. செயலாற்றபரிவு D. செயலுற்றபரிவு
Child's laugh after the laugh of its mother is a kind of
A. Sterotype B. Prejudice C. Passive sympathy D. active sympathy

119. கற்றலுடன் தொடர்புடைய மூளையின் பகுதி எது?
A. ஹைப்போதலாமஸ் B. புறணி C. தலாமஸ் D. சிறுமூளை
The part of the brain which has a relationship with learning?
A. Hypothalamus b. Central cortex C. thalamus D. Cerebellum

120. 'S' வகை வளைகோட்டின் முதல்நிலை எது?
A. சுணக்கம் B. தேக்கநிலை C. சீரான முன்னேற்றம் D. வீழ்ச்சி
First step of 'S' type curve
A. Spurt B plateau C. steady growth D. fall

121. பாவ்லவ் - ன் சோதனையை விரிவுபடுத்தியவர் யார்?
A. வாட்சன் B. ஸ்கின்னர் C. கோஹ்லர் D. கோஃப்கா
Who among the following extended the Pavlov's theory?
A. Watson B. skinner c. Kohler D. Kofka

122. காக்னேயின் படிநிலைக் கற்றல் கோட்பாடு யாரிடம் செய்த சோதனைகளை அடிப்படையாகக் கொண்டது?
A. விஞ்ஞானிகள் B. மிருகங்கள் C. மருத்துவர்கள் D. விமான ஓட்டிகள்
Gagne's theory of hierarchial learning was derived based on the experiments with
A. Scinetists B. animals c. Doctors D. Pilots

123. பொதுமைப்படுத்துதல் கோட்பாடு வழங்கியவர் யார்?
A. பேக்லி B. தார்ண்டைக் C. ஜட் D. பிராய்டு
Theory of Generalisation was explained by
A. Bagley B. Throndike C. Judd D. Freud

124. சிறப்பான கற்றல் மேம்பாட்டின் அடிப்படை
A. கற்றல் மாற்றம் B. நுண்ணறிவு C. நினைவு D. கவர்ச்சி
Basis for better learning and development is
A. Transfer of learning B. Intelligence C. Memory D. Interest

125. வலுவேற்றம் தொடர்புடைய கற்றல்
A. 5 வகை B. முயன்று தவறிக்கற்றல் C. R வகை D. உட்காட்சிவழிக் கற்றல்
Reinforcement is linked with
A. 5 type conditioning B. Trial and error C. R type conditioning D. Insightful learning

126. CAVD - உடன் தெர்புடையவர்
A. ரேவன் B. தார்ண்டைக் C. பீனே - சைமன் D. ஸ்டெர்ன்
CAVD is related with
A. Raven B. Thorndike C. Binet - Simon D. Stern

127. மிக உயர்வானவர்களின் நு.ஈ.
A. 120 - 140 B. 90 - 110 C. 110 - 120 D. 140 க்கு மேல்
Very superior has the IQ of
A. 120 - 140 B. 90 - 110 C. 110 - 120 D. Above 140

128. "ஆய்வு" என்பது எவ்வகை ஊக்கி ஆகும்?
A. இரண்டாம் நிலை B. மூன்றாம் நிலை C. உளவியல் D. முதன்நிலை
'Rest' is categorized as _____ motive
A. secondary B. Tertiary C. Psychological D. Primary

129. பின்னூட்டம் என்ற பதத்தை முதலில் பயன்படுத்தியவர்
A. ஜான் டூயி B. மக்டூகல் C. தார்ண்டைக் D. ஸ்கின்னர்
The word 'Feed back' was coined by
A. John Dewey B. McDougall C. Thorndike D. Skinner

130. மனப்பான்மையை அளவிட 5 புள்ளிகள் அளவுகோலைப் பயன்படுத்தியவர் யார்?
A. லிக்கர்ட் B. தர்ஸ்ட்டன் C. ஸ்ட்ராங் D. மர்ரே & மார்கன்
Five point scale was used by _____for measuring attitude
A. Likert B. Thurstone C. Strong D. Murray & Morgan

131. வார்தா திட்டம் தொடங்கப்பட்ட ஆண்டு
A. 1947 B. 1932 C. 1937 D. 1946
Vardha scheme was introduced in the year of
A. 1947 B. 1932 C. 1937 D. 1946

132. 'Secrets of Childhood' என்ற புத்தக ஆசிரியர் யார்?
A. புரோபல் B. காந்திஜி C. மாண்டிசோரி D. நில்
The author of the book 'Secrets of childhood' was
A. Froebel B. Gandhiji C. Montessori D. Neil

133. 'கின்டர்கார்டன் என்பது எம்மொழி வார்த்தை?
A. ஆங்கிலம் B. லத்தீன் C. கிரேக்கம் D. ஜெர்மன்
'Kindergarten' is a _____word
A. English B. Latin C. Greek D.German

134. "ஒருங்கிணைந்த கல்வி" - என்பது யாருடைய கல்வித்தாக்கம் ஆகும்
A. அரவிந்தர் B. காந்திஜி C. விவேகானந்தர் D. தாகூர்
'Integral Education' is the concept of
A. Aurobindo B. Gandhiji C. Vivekananda D. Tagore

135. சென்னைப் பல்கலை தோற்றுவிக்கப்பட்ட ஆண்டு
A. 1910 B. 1810 C. 1857 D. 1867
Madras University was established in the year of
A. 1910 B. 1810 C. 1857 D. 1867

136. 'D' தேவைகள் எத்தனை?
A. 3 B. 4 C. 2 D. 7
The number of 'D' needs are?
A. 3 B. 4 C. 2 D. 7

137. "இயற்கையும் மனிதனும் இணைந்த செயல்படு நிலை" - என்பது யாரின் கல்வித்தாக்கம் ஆகும்
A. அரவிந்தர் B. காந்திஜி C. அன்னிபெசன்ட் D. தாகூர்
Active communion with nature and man - is the concept of
A. Aurobindo B. Gandhiji C. Anne Besent D. Tagore

138. கற்றல் வளைகோட்டின் வடிவம் யாது?
A. L B. X C. S D. N
The shape of the learning curve is
A. L B. X C. S D. N

139. முதல் Summer hill பள்ளிகளைத் தோற்றுவித்தவர்_____ஆண்டு _____
A. புரோஃபல், 1922 B. நீல், 1922 C. நீல் 1912 D. புரோஃபல், 1912
The first summerhill school was formed by _____ in _____
A. Froebel, 1922 B. Neil, 1922 C. Neil 1912 D. Froebel, 1912

140. ரூஸோ கூற்றுப்படி எதிர்மறைக் கல்வியின் வயதுவரம்பு
A. 6 - 10 B. 7 - 12 C. 9 - 13 D. 13 - 19

The period of negative education according to Rousseau
A. 6 - 10 B. 7 - 12 C. 9 - 13 D. 13 - 19

141. பெண்களுக்கு வாக்குரிமை அளித்த முதல் நாடு?
A. நியூசிலாந்து B. USA C. அயர்லாந்து D. இந்தியா
Which among the following countries was the first to give women the right to vote?
A. Newzealand B. USA C. Ireland D. India

142. சூரிய ஒளி பூமியை வந்தடைய எடுத்துக் கொள்ளும் நேரம்
A. 8 min. B. 8 min. 16 sec. C. 9 min. D. 7 min. 16 sec.
Time taken by sunlight to reach earth is
A. 8 min. B. 8 min. 16 sec. C. 9 min. D. 7 min. 16 sec.

143. செல்களை பற்றிய பரப்பு?
A. Cosmology B. Cytology C. Animology D. Nucleology
Study of Cell?
A. Cosmology B. Cytology C. Animology D. Nucleology

144. B_{12} - ன் வேறுபெயர்?
A. Calciferol B. Cyanocobalamin C. Niacin D. Retinol
Other name for Vitamin B_{12}?
A. Calciferol B. Cyanocobalamin C. Niacin D. Retinol

145. சீனாவின் தேசிய விளையாட்டு
A. Tennis B. Hockey C. Volleyball D. Table Tennis
National sports of China?
A. Tennis B. Hockey C. Volleyball D. Table Tennis

146. மனித உடலின் பெரிய சுரப்பி எது?
A. கல்லீரல் B. தைராய்டு C. கணையம் D. அட்ரீனல்
Largest gland in human body?
A. Liver B. Thyroid C. Liver D. Adrenal

147. இந்தியாவின் முதல் டால்பின் ஆராய்ச்சி மையம் எப்பல்கலைக்கழகத்தில் அமையவுள்ளது?
A. டெல்லி B. ஹரியானா C. பாட்னா D. சென்னை
India's first dolphin research centre will be located in the university of
A. Delhi B. Haryana C. Patna D. Chennai

148. எத்தனால் அடிப்படையாகக் கொண்ட மோட்டார் சைக்கிளை தயாரிக்க உள்ள நிறுவனம் எது?
A. ஹோண்டா B. TVS C. பஜாஜ் D. Hero Motor
Which motor company is planned to start the products of motor cycles using ethanol?
A. Honda B. TVS C. Bajaj D. Hero motor corporation

149. 'Black buck' எனப்படும் கறுப்பு மான்களின் சரணாலயம் தமிழ்நாட்டில் எங்குள்ளது?
A. முதுமலை B. ஸ்ரீவில்லிப்புத்தூர் C. ஆனைமலை D. வல்லநாடு
Black buck sanctuary in T.Nadu is located at
A. Mudhumalai B. Srivilliputhur C. Aanaimalai D. Vallanadu

150. 'குடவோலை" முறையை அறிமுகப்படுத்தியவர்கள்
A. சேரர்கள் B. சோழர்கள் C. பாண்டியர்கள் D. பல்லவர்கள்
'Kudavolai' method was introduced by
A. Chera B. Chola C. Pandya D. Pallava