

TYBSC (Sem –VI) Sample question

Chemistry –III (organic)

1. Reaction leads to formation one of the selective stereoisomers out of all possible stereoisomer is a called as _____ reaction
 - a) Steroselective
 - b) Syeroisomeric
 - c) Sterospecific
 - d) None of this
2. The reaction gives formation of only one enantiomer out of all possible enantiomers is called as _____ reaction.
 - a) e,e
 - b) e,a
 - c) d,e
 - d) d,d
3. The reaction which gives only one diastereomer selectively is called as _____ reaction
 - a) e,e
 - b) d,e
 - c) d,d
 - d) e,a
4. Pyruvic acid on enzymatic reduction gives lactic acid only. This is called as _____ e,e reacton
 - a) 100%
 - b) 80%
 - c) 50%
 - d) 10%
5. 2-Butyne on reduction with Lindlar catalyst gives _____ 2- butene
 - a) Trans
 - b) cis
 - c) dl
 - d) meso
6. 2-Butyne on reduction with Na/NH₃ gives _____ 2- butane
 - a) Trans
 - b) Cis
 - c) dl
 - d) Meso
7. The reaction where stereochemically different reactant produces stereochemically different product is called as _____ reaction
 - a) Stereoselective
 - b) Stereospecific
 - c) Stereochemical
 - d) Enantioselective
8. Addition of Br₂ to cis 2-butene is _____ reaction

- a) Stereoselective
 - b) Stereospecific
 - c) Stereochemical
 - d) Enantioselective
9. Replacement of group and atom in a molecule if produces a pair of enantiomers then such groups are called as _____ ligand
- a) Enantiotopic
 - b) Diastereotopic
 - c) Regeoselective
 - d) Chemo selective
10. Replacement of group and atom in a molecule if produces a pair of diastereomers then such groups are called as _____ ligand
- a) Enantiotopic
 - b) Diasterotopic
 - c) Regeoselective
 - d) Chemo selective
11. If a pair of enantiomer is obtained by adding a reagent across a flat face of a molecule then it is called as _____ face
- a) Enantiotopic
 - b) Diastereotopic
 - c) Stereoselective
 - d) Chemo selective
12. If a pair of diastereomer is obtained by adding a reagent across a flat face of a molecule then it is called as _____ face
- a) Enantiotopic
 - b) Diastereotopic
 - c) Stereoselective
 - d) Chemo selective
13. Nucleophilic substitution reaction which gives product with 100% retention is called as _____ reaction
- a) SN^1
 - b) SN^2
 - c) SN^i
 - d) All the above
14. S-2-octanol on treatment with $SOCl_2$ gives _____ 2-chlorooctane
- a) R
 - b) S
 - c) D
 - d) L
15. Bromination of 2-butene gives _____ product
- a) d
 - b) l
 - c) dl
 - d) D

16. Hydrolysis of alkene with KMnO_4 is not _____ reaction
- Cis
 - Sin
 - Cine
 - Trans
17. Epoxide on acid hydrolysis gives _____ diol
- 1,2
 - 1,3
 - 1,4
 - 1,1
18. Cis 2-butene on epoxidation followed by hydrolysis gives _____ diols
- dl
 - d
 - l
 - meso
19. pinacol- pinacolone rearrangement is proceed in presence of _____ catalyst
- acid
 - base
 - alkali
 - salt
20. pinacol on heating with concentrated H_2SO_4 gives rearranged _____
- acid
 - ketone
 - ketene
 - ketoamine
21. In Beckmann rearrangement _____ on treatment with PCl_5 gives substituted amide
- Ketone
 - Ketoxide
 - Ketene
 - Ketoamide
22. Cyclohexane oxime on treatment with concentrated with H_2SO_4 gives _____
- Cyclohexanol
 - Cyclohexatriene
 - ϵ - caproactum
 - Cycloheptanone
23. In _____ rearrangement α -haloketone rearranges to corresponding ester
- Pinacol-pinacolone
 - Favorskii
 - Beckmann
 - Hofmann
24. In Michael reaction, reactive _____ compound is added across α , β unsaturated compound
- Ethylene
 - Methylene

- c) Propylene
 - d) None of these
25. In witting reaction aldehyde or ketone converted into _____
- a) Alkane
 - b) Alkene
 - c) Ketene
 - d) Ketoxide
26. Carbohydrates are polyhydroxy _____
- a) Aldehyde
 - b) Acid
 - c) Ester
 - d) Amide
27. Disaccharide contains _____ monosaccharide units
- a) 2
 - b) 4
 - c) 3
 - d) 1
28. D and L glyceraldehyde are _____ of each other
- a) Epimer
 - b) Diastereomer
 - c) Enantiomer
 - d) Anomer
29. D-Glucose and D-mannose are _____ of each other
- a) Epimer
 - b) Diastereomer
 - c) Enantiomer
 - d) Anomer
30. Reducing sugar contains free _____ group
- a) Carbonyl
 - b) Carboxylic
 - c) Ester
 - d) Ether
31. In D/L notation D configuration is assigned if OH group is placed on _____ side
- a) Right
 - b) Left
 - c) Middle
 - d) Terminal
32. In D/L notation L configuration is assigned if OH group is placed on _____ side
- a) Right
 - b) Left
 - c) Middle
 - d) Terminal
33. D(+) glucose has rotation at carbon atom number _____
- a) 2

- b) 3
 - c) 4
 - d) 5
34. D(+) Fructose has rotation at carbon atom number _____
- a) 2
 - b) 3
 - c) 4
 - d) 5
35. D(+) Arabinose is aldopentose with rotation at carbon atom number _____
- a) 2
 - b) 3
 - c) 4
 - d) 5
36. D-Glucose is _____ saccharide
- a) Mono
 - b) Di
 - c) Tri
 - d) Tetra
37. In α -D Glucopyranose OH group is located _____ the plane of ring
- a) Above
 - b) Below
 - c) Under
 - d) Left
38. In β -D Glucopyranose OH group is located _____ the plane of ring
- a) Above
 - b) Below
 - c) Under
 - d) Left
39. In pyranose form, the size of ring of carbohydrate is _____ membered
- a) 4
 - b) 5
 - c) 6
 - d) 3
40. In furanose form, the size of ring of carbohydrate is _____ membered
- a) 4
 - b) 5
 - c) 6
 - d) 3
41. α -D Glucopyranose has specific rotation at _____
- a) 112
 - b) 52
 - c) 19
 - d) 91
42. β -D Glucopyranose has specific rotation at _____

- a) 112
 - b) 52
 - c) 19
 - d) 91
43. D (+) Glucose on action of _____ gives glucoxino
- a) NH_2NH_2
 - b) NH_2OH
 - c) $\text{NH}_2\text{C}_6\text{H}_5$
 - d) $\text{NH}_2\text{NHC}_6\text{H}_5$
44. IR spectra is ranging between the frequency of _____ cm^{-1}
- a) 400-800
 - b) 400-4000
 - c) Above 800
 - d) Below 400
45. The _____ cm^{-1} region is known as fingerprint region
- a) 2000-1000
 - b) 2000-400
 - c) 1400-600
 - d) 3000-1000
46. _____ is IR inactive compound
- a) CH_3OH
 - b) CHCl_3
 - c) CCl_4
 - d) $\text{C}_6\text{H}_5\text{NH}_2$
47. In _____ vibration bond length is change
- a) Bending
 - b) Stretching
 - c) Rocking
 - d) Scissoring
48. In _____ vibration bond angle is changes
- a) Bending
 - b) Stretching
 - c) Rocking
 - d) Scissoring
49. In IR active molecule, its _____ should be changes during vibrational transition
- a) Polarity
 - b) Dipole moment
 - c) Magnetic moment
 - d) Melting point
50. IR spectra of cyclo hexanol shows strong band at _____ cm^{-1}
- a) 3000
 - b) 2000
 - c) 3600
 - d) 1720

51. IR spectra of cyclo hexanone shows strong band at _____ cm-1
- 3000
 - 2000
 - 3600
 - 1720
52. NMR spectroscopy is based upon nuclear _____
- Power
 - Spin
 - Energy
 - Motion
53. A plot of intensity versus magnetic field is called as _____ spectrum
- UV
 - NMR
 - IR
 - Mass
54. Shift in NMR signal due to shielding and deshielding is called as _____ shift
- Chemical
 - Physical
 - Bathochromic
 - Hexochromic
55. _____ is used as reference material in NMR
- Water
 - Ethanol
 - TMS
 - DMSO
56. Methanol molecules shows _____ NMR signals
- 1
 - 2
 - 3
 - 0
57. acetone molecules shows _____ NMR signals
- 1
 - 2
 - 3
 - 0
58. CH₃ group of isopropanol shows _____ signal
- Singlet
 - Doublet
 - Quartate
 - Multiplate
59. Signal of protons in _____ molecule can not be splitted
- Ethanol
 - Propane
 - Acetone

- d) n-pentane
60. signal of proton in _____ group can not be splitted
- a) OH
 - b) CH₃CH₂
 - c) CHCH₃
 - d) CH₂CH₂
61. NMR signal of CH₃ is obtained at _____ PPM
- a) 0.9
 - b) 1.8
 - c) 2.8
 - d) 5.8
62. Molecular formula of compound is C₄H₈O so it contains _____ double bond
- a) 1
 - b) 2
 - c) 3
 - d) 4
63. Molecular formula of compound is C₄H₈O₂ so it contains _____ double bond
- a) 1
 - b) 2
 - c) 3
 - d) 4
64. Nucleic acid on hydrolysis with Ba(OH)₂ at 115°C gives _____
- a) Nucleoside
 - b) Nucleotide
 - c) Base
 - d) Sugar
65. _____ and base condensed together to give nucleoside
- a) Nucleoside
 - b) Nucleotide
 - c) Base
 - d) Sugar
66. Guanine and ribose condense together to form _____
- a) Guanidine
 - b) Guanine-2 phosphate
 - c) Guanosine
 - d) None of these
67. Adenine + ribose + H₂PO₄ gives _____
- a) Adenine phosphate
 - b) Adenosine phosphate
 - c) Adenosine sulphate
 - d) Adenophosphate
68. RNA shows _____ strand structure
- a) Single
 - b) Double

- c) Multiple
 - d) Complexed
69. DNA shows _____ strand structure
- a) Single
 - b) Double
 - c) Multiple
 - d) Complexed
70. _____ is not an example of purine base
- a) Adenine
 - b) Guanine
 - c) Guanosine
 - d) Uracil
71. _____ is not an example of pyrimidine base
- a) Adenine
 - b) Cytosine
 - c) thymidine
 - d) uracil
72. α -helix structure is a common form of _____ structure
- a) primary
 - b) secondary
 - c) tertiary
 - d) basic
73. _____ is an example of pyrimidine base
- a) Adinine
 - b) Guanine
 - c) Uracin
 - d) Phinoline
74. Polymer is a _____ molecular weight substance
- a) Low
 - b) Micro
 - c) High
 - d) Small
75. Polymer is made up of low molecular weight substances called as _____
- a) Monomer
 - b) Diemer
 - c) Trimer
 - d) Tetramer
76. n-moles of vinyl chloride polymerises to form
- a) PVC
 - b) PS
 - c) PAN
 - d) PP
77. _____ is not an example of polyamide
- a) Nylon-66

- b) Nylon-6
 - c) Decron
 - d) Nylon-610
78. _____ is not an example of thermoplastic polymer
- a) PS
 - b) PVC
 - c) PP
 - d) Melmac
79. _____ is an addition polymer
- a) Nylon-66
 - b) Nylon-6
 - c) Terylene
 - d) PTEF
80. Anyl amine like _____ is used as stabilizer
- a) Diphenylamine
 - b) Chloroprene
 - c) Isoprene
 - d) Duprene
81. Mica is used as a _____
- a) Stabilizer
 - b) Filler
 - c) Plastisizer
 - d) Filter
82. _____ is used as a biodegradable polymer
- a) PA
 - b) PS
 - c) PVC
 - d) PTEF
83. Monimethylphenol polymerises in acid medium to give _____
- a) Bakelite
 - b) Novalac
 - c) Resol
 - d) All the above
84. Poly α carbonate are synthesis by using phosgene and _____
- a) Phenol
 - b) Beta-naphthol
 - c) Bis-phenol-A
 - d) α -naphthol
85. _____ and hexamethylene diamine polymerises to give nylon-66
- a) Ascorbic acid
 - b) Adipic acid
 - c) Aspartic acid
 - d) Acetic acid
86. Transform of polyisoprene polymer is refer as _____

- a) bunna
 - b) gutta- percha
 - c) bana-S
 - d) bana-R
87. _____ is used as selective reducing agent
- a) NaBH₄
 - b) SeO₂
 - c) NBS
 - d) KmNO₄
88. α -picoline is oxidised to α -picolinic acid by using _____
- a) SeO₂
 - b) m-CPBA
 - c) KmNO₄
 - d) K₂Cr₂O₇
89. Cinnamaldehyde on reduction with NaBH₄ gives cinnamyl _____
- a) Chloride
 - b) Alcohol
 - c) Amide
 - d) Anhydride
90. 1-propene on bromination with NBS gives _____ bromopropane
- a) 1
 - b) 2
 - c) 3
 - d) 4
91. Alkene on oxidation with _____ gives epoxide
- a) KmNO₄
 - b) m-CPBA
 - c) SeO₂
 - d) HNO₃
92. Butanone is reduced to _____ using red-Al
- a) Butane
 - b) Butanol
 - c) Butane-diol
 - d) None of these
93. _____ catalyst is used to reduce alkyne to alkane
- a) Raney-nickel
 - b) Adam
 - c) Lindlar
 - d) Rosenmond
94. Lithium aluminum hydride is _____ agent
- a) Oxidizing
 - b) Reducing
 - c) Nitrating
 - d) All of these

95. Using LiAlH_4 , aldehyde are reduces to _____ alcohol
- Primary
 - Secondary
 - Tertiary
 - Quarternary
96. Using LiAlH_4 , ketone are reduces to _____ alcohol
- Primary
 - Secondary
 - Tertiary
 - Quarternary
97. Acid chloride are reduces to aldehyde by _____ reduction
- Clemenson
 - Rosenmond
 - Wolkishner
 - None of these
98. Toluene on action of _____ gives benzyle bromide
- NBS
 - $\text{Br}_2\text{-NaOH}$
 - $\text{Br}_2\text{-CH}_3\text{COH}$
 - Br_2NKOH
99. NaBH_4 is selective reducing agent used to reduced _____ group
- NO_2
 - CO
 - Cn
 - COH
100. Chemical name of _____ Al is sodium bis (2 methoxyethoxy) aluminuim hydride
- Red
 - Green
 - Yellow
 - Orange