



9. Which of the following statement is not correct related to electronegativity of elements?

- |   |  |
|---|--|
| 1) Pauling is used to measure electronegativity of elements                           | 2) Fluorine is an element having maximum electronegativity                       |
| 3) In general electronegativity of elements decreases from right to left in a period. | 4) In the first group of elements electronegativity decreases from top to bottom |

10. The correct order of first ionization enthalpy (ionization energy) among the following is .

- |  |                            |
|--|----------------------------|
| 1) $\text{Na} < \text{Al} < \text{Mg} < \text{Si}$ | 2) $\text{Na} < \text{Mg}$ |
| 3) $\text{Si} < \text{Al}$                         | 4) None of these           |

11. The molecule having ionic as well as covalent bond between its atoms is :

- |                    |                                    |
|--------------------|------------------------------------|
| 1) KCN             | 2) $\text{H}_2\text{O}$            |
| 3) $\text{CHCl}_3$ | 4) $\text{C}_2\text{H}_5\text{OH}$ |

12. Which of the following molecule or ion has a coordinate bond?

- |                  |                                    |
|------------------|------------------------------------|
| 1) $\text{NH}_3$ | 2) $\text{BF}_3$                   |
| 3) $\text{OH}^-$ | 4) $[\text{Fe}(\text{CN})_6]^{3-}$ |

13. Which of the following shape is given to a molecule due to  $\text{dsp}^2$  hybridization ?

- |                |                     |
|----------------|---------------------|
| 1) Tetrahedral | 2) Square planar    |
| 3) Octahedral  | 4) Square Pyramidal |

14. The Correct order of increasing field strength of the ligands is :

- |  |  |
|--|--|
| 1) $\text{F}^- < \text{Br}^- < \text{I}^- < \text{SCN}^-$  | 2) $\text{I}^- < \text{SCN}^- < \text{Br}^- < \text{F}^-$  |
| 3) $\text{I}^- < \text{Br}^- < \text{SCN}^- < \text{Cl}^-$ | 4) $\text{F}^- < \text{Br}^- < \text{SCN}^- < \text{Cl}^-$ |

15. The hybridization of chlorine atom in  $\text{ClF}_3$  molecule is:

- |                          |                            |
|--------------------------|----------------------------|
| 1) $\text{sp}^2$         | 2) $\text{sp}^3$           |
| 3) $\text{sp}^3\text{d}$ | 4) $\text{d}^2\text{sp}^3$ |

16. The bond order of  $\text{C}_2$  is:

- |      |      |
|------|------|
| 1) 1 | 2) 2 |
| 3) 3 | 4) 4 |

17. Which of the following element is not considered as a transition element?

- |       |       |
|-------|-------|
| 1) Cu | 2) Zn |
| 3) Sc | 4) Ag |

18. The correct outermost electronic configuration of palladium atom is:

- |                   |                |
|-------------------|----------------|
| 1) $5s^0 4d^{10}$ | 2) $5s^1 4d^9$ |
| 3) $5s^1 4d^{10}$ | 4) $5s^2 4d^8$ |

19. The set of elements belonging to first ,second and third transition series respectively ,out of the following is

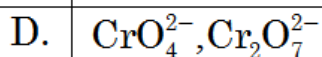
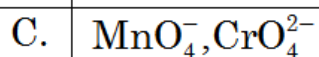
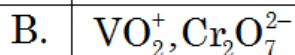
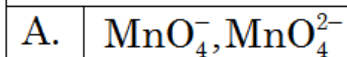
- |               |               |
|---------------|---------------|
| 1) Zr, Y, W   | 2) Fe Co, Cd  |
| 3) Ag, Cu, Pd | 4) Zn, Cd, Hg |

20.  $\text{Eu}^{2+}$  is a:
- |                          |                           |
|--------------------------|---------------------------|
| 1) Strong reducing agent | 2) Strong oxidising agent |
| 3) Weak reducing agent   | 4) Weak oxidising agent   |

21. Most Common oxidation state generally shown by actinoids is :

- |       |       |
|-------|-------|
| 1) +2 | 2) +3 |
| 3) +4 | 4) +5 |

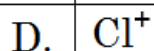
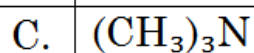
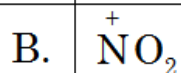
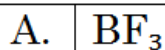
22. Which of the Following pair of ions have same oxidation number of their central metal atoms?



23. The state of hybridization of C in carbocation is:

- |                  |                          |
|------------------|--------------------------|
| 1) $\text{sp}^2$ | 2) $\text{sp}^3$         |
| 3) sp            | 4) $\text{sp}^3\text{d}$ |





24. Which of the following is not an electrophile?



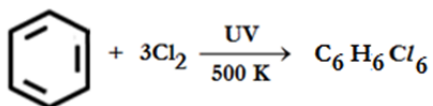
25. The C - C bond lengths in benzene is :

- |  |           |
|--|-----------|
| 1) 154 pm                                  | 2) 134 pm |
| 3) 3 bonds of 154 pm and 3 bonds of 134 pm | 4) 139 pm |

26. Which of the following is not an aromatic compound?

A.	
B.	
C.	
D.	

27.



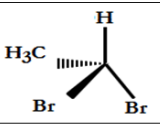
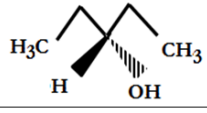
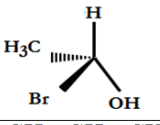
The above chemical reaction is an example of which of the following type of reaction ?

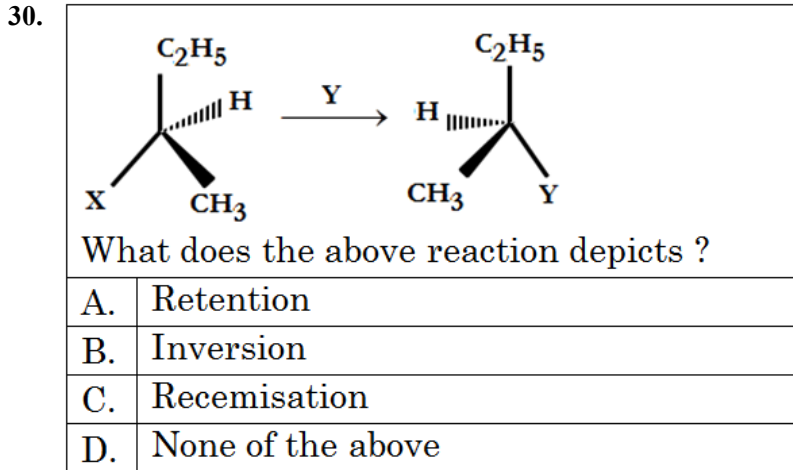
A.	Elimination reaction
B.	Addition reaction
C.	Substitution reaction
D.	Rearrangement reaction

28. Halogenation of alkane proceeds through which of the following intermediate ?

- 1) Free radical
- 2) Carbocation
- 3) Carbanion
- 4) Carbene

29. Identify the chiral molecule among the following molecules.

A.	
B.	
C.	
D.	$\text{CH}_3 - \text{CH}_2 - \text{CH}_2 - \text{CH}_2 - \text{Br}$



31. Which physical property is different in enantiomers ?

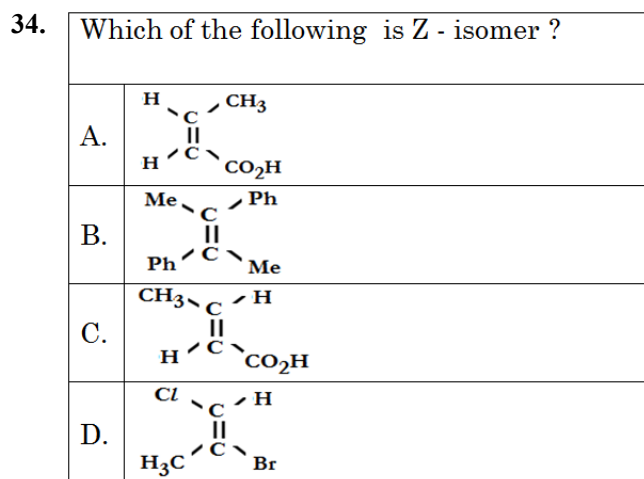
- 1) Direction of rotation of the plane of polarized light    2) Refractive index  
 3) Density    4) Melting point and boiling point

32. The most stable conformation of cyclohexane is :

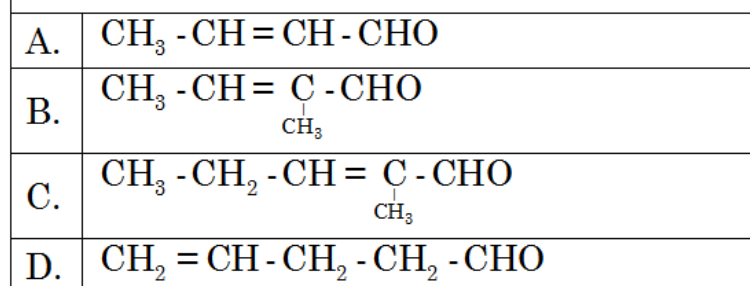
- 1) Chair form    2) Boat form  
 3) Twist boat    4) Half chair

33. With which of the following compound the relative configuration D or L are related

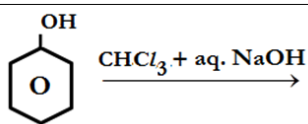
- 1) Glycerol    2) Glycerol acid  
 3) Glyceraldehyde    4) Lactic acid



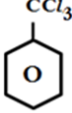
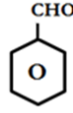
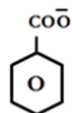
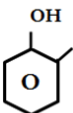
35. When  $\text{CH}_3\text{CHO}$  reacts with  $\text{CH}_3\text{CH}_2\text{CHO}$  in presence of dilute  $\text{NaOH}$  then on heating which of the following product is not formed ?



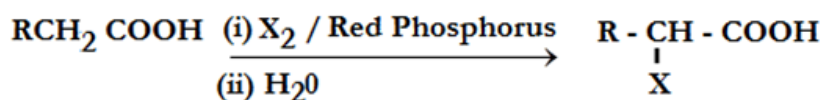
36.



What is the product formed in the above reaction ?

- |    |   |    |   |
|----|---|----|---|
| A. |  | B. |  |
| C. |  | D. |  |

37.

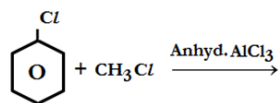


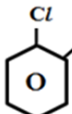
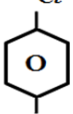
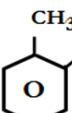
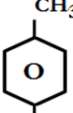
The above reaction is known as

- |    |                   |
|----|-------------------|
| A. | MPV reduction     |
| B. | HVZ reaction      |
| C. | Haloform reaction |
| D. | Witting reaction  |

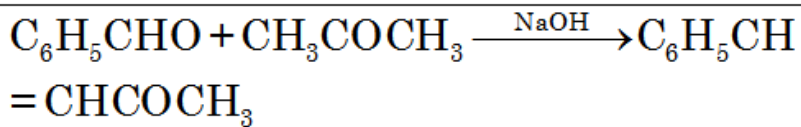
38.

The major product formed in the reaction, is:



- |    |   |    |   |
|----|---|----|---|
| A. |  | B. |  |
| C. |  | D. |  |

39.



The above reaction is known as-

- |    |                           |
|----|---------------------------|
| A. | Reformatsky reaction      |
| B. | Hofmann elimination       |
| C. | Claisen- Schmidt reaction |
| D. | Mannich reaction          |



48. About how many times artificial sweetening agent saccharin is sweeter than cane sugar

- 1) 100  
2) 550  
3) 1000  
4) 2000

49. In which of the following reagent sodium potassium tartrate is used?

- 1) Tollen's reagent  
2) Bayer's reagent  
3) Fehling A  
4) Fehling B

50. Which of the following does not give iodoform reaction ?

A.	$\begin{array}{c} \text{H} \quad \quad \text{CH}_3 \\ \quad \backslash \quad / \\ \quad \text{C} = \text{C} \\ \quad / \quad \backslash \\ \text{CH}_3 \quad \quad \text{C} - \text{CH}_3 \\ \quad \quad \quad \parallel \\ \quad \quad \quad \text{O} \end{array}$
B.	HCHO
C.	$\text{CH}_3 - \underset{\text{OH}}{\text{CH}} - \text{CH}_3$
D.	$\text{CH}_3 - \underset{\text{O}}{\text{C}} - \text{CH}_3$

51. 
$$\text{C}_6\text{H}_{12}\text{O}_6 \xrightarrow{\text{Enzyme}} 2\text{C}_2\text{H}_5\text{OH} + 2\text{CO}_2$$
  
The name of enzyme in the above reaction is :

A.	Invertase
B.	Zymase
C.	Diastase
D.	Maltase

52. Which of the following is used as phase transfer catalyst ?

- 1) Urea  
2) Acetoacetic ester  
3) Menthol  
4) Crown ether

53. Which one of the following is a non-reducing sugar ?

- 1) Sucrose  
2) Glucose  
3) Maltose  
4) Lactose

54. Glucose on reaction with bromine -water gives :

- 1) Pentabromo derivative  
2) Saccharic acid  
3) Gluconic acid  
4) n-hexane



55. **Deficiency of which vitamin causes increased fragility of RBCs and muscular weakness ?**
- 1) Vitamin K  
2) Vitamin E  
3) Vitamin B<sub>6</sub>  
4) Vitamin B<sub>12</sub>
56. **The Sugar moiety present in DNA molecule is:**
- 1)  $\beta$  -D -2-deoxyribose  
2)  $\beta$  -D -ribose  
3)  $\beta$  -D -Glucopyranose  
4)  $\beta$  -D-fructofuranose
57. **An example of globular protein is**
- 1) Insulin  
2) Myosin  
3) Keratin  
4) Protein present in hair, wool and silk
58. **Which one of the following is not an essential amino acid?**
- 1) Valine  
2) Leucine  
3) Alanine  
4) Lysine
59. **Which hormone suppresses ovulation ?**
- 1) Testosterone  
2) estrogen  
3) Progesterone  
4) thyroxine
60. **The weak antiseptic for eyes is :**
- 1) tincture of Iodine  
2) Boric acid  
3) Iodoform  
4) chlorine
61. **Disinfectant among the following is**
- 1) Soframicine  
2) 1% solution of phenol  
3) furacine  
4) 0.2% solution of phenol
62. **The antibiotic having bactericidal effect is:**
- 1) penicillin  
2) Tetracycline  
3) Erythromycin  
4) chloramphenicol
63. **Which of the following is not a broad spectrum antibiotic**
- 1) Ampicillin  
2) Amoxicillin  
3) Penicillin G  
4) Chloramphenicol
64. **Acetyl Salicylic acid is**
- 1) Dettol  
2) Chloroquine  
3) Aspirin  
4) Ampicillin
65. **If the dispersed phase and dispersion medium are two liquids then the colloid formed is known as :**
- 1) Sol  
2) Emulsion  
3) Foam  
4) Gel
66. **Dispersion medium and dispersed phase in butter are respectively :**
- 1) Solid ,Liquid  
2) Liquid, Solid  
3) Solid ,Gas  
4) Solid ,Solid
67. **Colloid formations not possible when dispersed phase and dispersion medium are respectively :**
- 1) Solid ,Solid  
2) Solid ,Liquid  
3) Liquid, Liquid  
4) Gas, Gas

68. Which of the following is not a method to purify colloid ?

- |                       |                    |
|-----------------------|--------------------|
| 1) Electro - dialysis | 2) Ultrafiltration |
| 3) Coagulation        | 4) Dialysis        |

69. The Correct order of flocculation power in the coagulation of a positive sol is

- |    |   |
|----|---|
| A. | $[\text{Fe}(\text{CN})_6]^{4-} > \text{PO}_4^{3-} > \text{SO}_4^{2-} > \text{Cl}^-$ |
| B. | $\text{Cl}^- > \text{SO}_4^{2-} > \text{PO}_4^{3-} > [\text{Fe}(\text{CN})_6]^{4-}$ |
| C. | $\beta\text{a}^{2+} > \text{Al}^{3+} > \text{Na}^+$                                 |
| D. | $\text{Na}^+ > \beta\text{a}^{2+} > \text{Al}^{3+}$                                 |

70. The study of rate and mechanism of chemical reaction is known as :

- |                         |                      |
|-------------------------|----------------------|
| 1) Thermodynamics       | 2) Chemical Kinetics |
| 3) Chemical equilibrium | 4) Surface chemistry |

71. The unit of rate Constant for zero order reaction is :

- |                                      |                                      |
|--------------------------------------|--------------------------------------|
| 1) $\text{mol L}^{-1} \text{s}^{-1}$ | 2) $\text{mol}^{-1} \text{L s}^{-1}$ |
| 3) $\text{s}^{-1}$                   | 4) $\text{mol L s}^{-1}$             |

72. If Rate  $K[\text{A}]^{3/2}[\text{B}]^{-1}$ , then the order of reaction will be :

- |    |                |
|----|----------------|
| A. | $\frac{5}{2}$  |
| B. | $\frac{1}{2}$  |
| C. | $-\frac{5}{2}$ |
| D. | $-\frac{1}{2}$ |

73. Molecularity of any reaction can not be :

- |      |      |
|------|------|
| 1) 0 | 2) 1 |
| 3) 2 | 4) 3 |

74. The order of artificial radioactive decay reaction is:

- |           |                   |
|-----------|-------------------|
| 1) Zero   | 2) First          |
| 3) Second | 4) Pseudo - First |

75. According to collision Theory Z is known as :

- |                        |                            |
|------------------------|----------------------------|
| 1) Probability factor  | 2) Steric factor           |
| 3) Collision frequency | 4) Orientation of molecule |

76.  $\text{CH}_3\text{COOC}_2\text{H}_5 + \text{H}_2\text{O} \xrightarrow{\text{H}^+} \text{CH}_3\text{COOH} + \text{C}_2\text{H}_5\text{OH}$   
 Order of reaction,

A.	2
B.	Zero
C.	1
D.	$\frac{1}{2}$

77. If there is exchange of energy and matter between system and surroundings, then the system is called:

- |                    |                     |
|--------------------|---------------------|
| 1) isolated system | 2) closed system    |
| 3) open system     | 4) adiabatic system |

78. When heat is transferred from system to the surroundings, then q is :

- |             |             |
|-------------|-------------|
| 1) Zero     | 2) Negative |
| 3) Positive | 4) Unity    |

79. Which of the following law is stated as  $\Delta U = q + W$  ?

- |                                 |                                 |
|---------------------------------|---------------------------------|
| 1) Third Law of thermodynamics  | 2) First Law of thermodynamics  |
| 3) Second Law of thermodynamics | 4) Zeroth Law of thermodynamics |

80. The measure of disorder is know as :

- |             |                  |
|-------------|------------------|
| 1) Enthalpy | 2) Gibb's energy |
| 3) Entropy  | 4) Heat          |

81. Relationship between  $C_p$  and  $C_v$  for an ideal gas is :

A.	$C_v - C_p = R$
B.	$C_p - C_v = R$
C.	$\frac{C_p}{C_v} = R$
D.	$\frac{C_v}{C_p} = R$

82. For Exothermic reaction the value of  $\Delta H$  is :

- |             |             |
|-------------|-------------|
| 1) Negative | 2) Positive |
| 3) Zero     | 4) Unity    |

83. Oxidation reaction occurring in Daniell cell is :

A.	$\text{Cu}^{2+} + 2\text{e}^{-} \rightarrow \text{Cu(s)}$
B.	$\text{Zn(s)} \rightarrow \text{Zn}^{2+} + 2\text{e}^{-}$
C.	$\text{Zn}^{2+} + 2\text{e}^{-} \rightarrow \text{Zn(s)}$
D.	$\text{Cu(s)} \rightarrow \text{Cu}^{2+} + 2\text{e}^{-}$

84. In the cell reaction ,  
 $\text{Zn(s)} + \text{Cu}^{2+}(\text{aq}) \rightarrow \text{Zn}^{2+}(\text{aq}) + \text{Cu(s)}$ ,  
 if  $E_{\text{R}}^{\circ} = 0.34\text{V}$  and  $E_{\text{L}}^{\circ} = -0.76\text{V}$ ,  
 then  $E_{\text{cell}}^{\circ}$  will be -

A.	-0.42 V
B.	1.1 V
C.	0.42 V
D.	-1.1 V

85. The Unit of specific conductance is :

- |                                     |                      |
|-------------------------------------|----------------------|
| 1) ohm                              | 2) ohm cm            |
| 3) $\text{ohm}^{-1} \text{cm}^{-1}$ | 4) $\text{ohm}^{-1}$ |

86.  $Q = It$ , is related with :

- |                     |                  |
|---------------------|------------------|
| 1) Kohlrausch's Law | 2) Ostwald's Law |
| 3) Faraday's Law    | 4) Daniel'SLaw   |

87. For a strong electrolyte, the conductivity of the solution on dilution:

- |                     |                    |
|---------------------|--------------------|
| 1) Increases        | 2) Decreases       |
| 3) Remains constant | 4) Become infinite |

88. Amalgam of mercury with sodium is a solution of :

- |                    |                     |
|--------------------|---------------------|
| 1) Solid in solid  | 2) Liquid in solid  |
| 3) Solid in liquid | 4) Liquid in liquid |

89. A mass of the solute present in 100 ml of the solution is known as

- |                              |                      |
|------------------------------|----------------------|
| 1) Mass percentage           | 2) Volume percentage |
| 3) Mass by volume percentage | 4) Parts per million |

90. If 74.5 g of KCl is dissolved in 1Kg of water ,then the molality of the solution will be

- |          |           |
|----------|-----------|
| 1) 1 m   | 2) 10 m   |
| 3) 0.1 m | 4) 0.01 m |

91. if  $\Delta H > 0$ , then the dissolution process is:
- 1) Exothermic
  - 2) Endothermic
  - 3) Adiabatic
  - 4) Isothermal
92. Two solutions having same osmotic pressure at a given temperature, are called :
- 1) Isobaric solutions
  - 2) Isothermal solutions
  - 3) Isotonic solutions
  - 4) Isotopic solutions
93. "Partial vapour pressure of each volatile component in the solution is directly proportional to its mole fraction " This Law is known as:
- 1) Dalton's Law
  - 2) Hess's Law
  - 3) Henry 's Law
  - 4) Raoult's Law
94. Ratio of carbon, oxygen and hydrogen atoms in a molecule of fructose is :
- 1) 1 : 1 : 2
  - 2) 1 : 2 : 1
  - 3) 2 : 1 : 1
  - 4) 2 : 3 : 2
95. Errors that depend on constant reasons and recur in all observations are called :
- 1) Indeterminate errors
  - 2) Determinate errors
  - 3) Random errors
  - 4) Unsystematic errors
96. Which of the following indicator is used in complex metric titrations?
- 1) Phenolphthalein
  - 2) Methyl orange
  - 3) EDTA
  - 4) Iodine
97. A cation exchanger consists of :
- 1) Polymeric anion and active cation
  - 2) Polymeric cation and active anion
  - 3) Active cation and active anion
  - 4) Polymeric cation and inactive anion
98. Which of the following is not a software ?
- 1) Microsoft word
  - 2) Adobe reader
  - 3) Pendrive
  - 4) Google Chrome
99. The output device out of the following is :
- 1) Key board
  - 2) Mouse
  - 3) Pendrive
  - 4) Monitor
100. Device that is used in the bank to read the code number on check is :
- 1) OMR
  - 2) OCR
  - 3) MICR
  - 4) Scanner