1. Vinegar is
   (A) 2% ethanol  (B) 6-10% acetic acid
   (C) 1% glucose  (D) 3% acetone

2. Gobar gas is a mixture of
   (A) CH₄, CO₂ & H₂  (B) C₂H₆, CO₂ & H₂
   (C) C₂H₄, CO & H₂  (D) CHCO & H₂

3. Sand is
   (A) P₂O₅  (B) NO₂  (C) SiO₂  (D) MgO

4. Rainwater helps to increase the -------- of the soil
   (A) Phosphorous content  (B) Nitrogen content
   (C) Calcium content  (D) Potash content

5. Which one of the following is not found in protein?
   (A) S  (B) P  (C) C  (D) O

6. Heavy water is the name given to
   (A) 2H₂O  (B) T₂O  (C) Deuterium  (D) D₂O

7. Magnetron is used for the production of
   (A) X – rays  (B) Cathode rays  (C) Microwaves  (D) Positive rays

8. Aqua – regia consists of
   (A) HCl and HNO₃  (B) HCl and H₂SO₄
   (C) HCl and CH₃ COOH  (D) HNO₃ and H₂SO₄

9. The fertilizer essential for the growth of tobacco is
   (A) Superphosphate of lime  (B) Urea
   (C) Potassium nitrate  (D) Ammonium sulphate

10. National chemical laboratory is at
    (A) Delhi  (B) Kalpakkam  (C) Kolkata  (D) Pune
11. The ore of manganese is
   (A) Pentlandite    (B) Bauxite    (C) Carninerite    (D) Pyrolusite

12. Copper sulphate solution conducts the current by
   (A) Electrons    (B) Ions
   (C) Semi-conductors    (D) Mixed conductors

13. Match list-I with list-II correctly and select your answer using the codes given below:

<table>
<thead>
<tr>
<th>List-I</th>
<th>List-II</th>
</tr>
</thead>
<tbody>
<tr>
<td>(a) Carbolic acid</td>
<td>1. Acetophenone</td>
</tr>
<tr>
<td>(b) Substitude for petrol</td>
<td>2. Benaldehyde</td>
</tr>
<tr>
<td>(c) Oil bitter almond</td>
<td>3. Phenol</td>
</tr>
<tr>
<td>(d) Perfume</td>
<td>4. Aliphatic ether</td>
</tr>
</tbody>
</table>

Codes:
   a  b  c  d
   (A) 1  2  4  3
   (B) 2  1  3  4
   (C) 3  4  2  1
   (D) 4  3  1  2

14. First atomic model was proposed by
   (A) John Dalton    (B) E. Rutherford    (C) De Broglie    (D) D.I. Mendeleef

15. Lack of essential amino acids in diet causes
   (A) Pneumonia    (B) Kwashiorkor    (C) Rickets    (D) Tuberculosis

16. Consider the following sentences:
   Honey contains
   1) Glucose    2) Maltose    3) Fructose    4) Sucrose

   Of the statements:
   (A) 1 alone is correct    (B) 1 and 3 are correct
   (C) 2 and 4 are correct    (D) All are correct

17. Number of amino acids that can be synthesized by the human body is
18. Which one of the following is a biomolecule?
   (A) Formic acid (B) Tartaric acid (C) Glutamic acid (D) Glutaric acid

19. Consider the following statements:

   I. Bakelite is obtained from phenol and formaldehyde
   II. Bakelite is a resin
   III. Bakelite is a thermosetting plastic
   IV. Bakelite does not undergo chemical change on heating.

   Of the statements:
   (A) I alone is correct (B) I, II and III are correct
   (C) I, II, III and IV are correct (D) IV alone correct

20. The foul smell of rancid butter is due to
   (A) Phthalic acid (B) Butyric acid (C) Oxalic acid (D) Amino acetic acid

21. The organic compound used for silvering mirrors is
   (A) Acetal (B) Ethane (C) Ethyl alcohol (D) Acetaldehyde

22. What is the chemical name of marble?
   (A) Silicon dioxide (B) Calcium carbonate
   (C) Calcium chloride (D) Calcium silicate

23. Which is not an isotope of hydrogen?
   (A) Protium (B) Tritium (C) Yttrium (D) Deuterium

24. Which substance is obtained by the hydrolysis of oil?
   (A) Glycol (B) Glycerol (C) Ethanol (D) Acetic acid

25. What are parffins?
   (A) Alkenes (B) Alkanes (C) Alkynes (D) Fatty acids

26. In lighting which gas is produced?
   (A) NO (B) N₂O (C) N₂O₄ (D) NO₂
27. Rolled gold is an alloy of
   (A) Cu and Al    (B) Cu and Au    (C) Cu and Sn    (D) Cu and Zn

28. Freezing mixture may contain ice and
   (A) Sodium chloride  (B) Calcium chloride
   (C) Potassium iodide  (D) All the above

29. Lunar caustic is
   (A) NaNO₃    (B) AgNO₃    (C) Ag₂SO₄    (D) NaOH

30. Global warming is due to the release of this gas
   (A) Hydrogen  (B) Oxygen  (C) Carbon-di-oxide  (D) Nitrogen

31. Which metal does not form amalgam?
   (A) Fe    (B) Cu    (C) Zn    (D) Ag

32. Which of the following electronic configurations is the stabilest?
   (A) d²    (B) p²    (C) s²    (D) f²

33. Match list – I with list – II correctly and select your answer using the codes given below:

   List – I   List – II
   (a) Natural rubber   - (1) Aspartame
   (b) Luminous paint  - (2) Polyisoprene
   (c) Artificial sweetening agent  - (3) Cellulose nitrate
   (d) Gun cotton  - (4) Barium sulphide

   Codes:
   a   b   c   d
   (A) 1  2  3  4
   (B) 4  2  1  3
   (C) 2  1  4  3
   (D) 2  4  1  3

34. Which acid does not contain – COOH group?
   (A) Ethanoic acid  (B) Oxalic acid  (C) Phthalic acid  (D) Picric acid
35. Calciferol is
   (A) Vitamin A       (B) Vitamin B       (C) Vitamin C       (D) Vitamin D

36. All acids essentially contain this element
   (A) Chlorine       (B) Hydrogen       (C) Oxygen       (D) Sulphur

37. Atomic number denotes
   (A) The number of neutrons in an atom
   (B) The number of protons in an atom
   (C) The total number of protons and neutrons in an atom
   (D) None of these

38. “The properties of elements are periodic function of their atomic weights.” This statement was given by
   (A) Bohr       (B) Dobereiner       (C) Mendeleef       (D) Lother-Meyer

39. The catalyst used in the conversion of white phosphorous to red phosphorous is
   (A) Carbon       (B) Di-ammonium phosphate
   (C) Iodine       (D) Sulphur

40. Slaked lime is
   (A) CaO       (B) CaCO₃       (C) Ca(OH)₂       (D) CaO Cl₂

41. A preservative for biological specimen is
   (A) Acetaldehyde       (B) Ethyl alcohol       (C) Formaldehyde       (D) Chloroform

42. Maltase is
   (A) An organic compound       (B) An inorganic compound
   (C) An enzyme       (D) A sugar

43. The compound with a functional group COOH is called
   (A) Alcohol       (B) Aldehyde       (C) Carboxylic acid       (D) Ester

44. The number of isomers for C₂H₂O is
   (A) One       (B) Two       (C) Three       (D) Four

45. Air contains maximum amount of
46. **Strong reducing agent is**
   (A) $H_2S$  
   (B) $HCl$  
   (C) $KMnO_4$  
   (D) $K_2CrO_4$

47. **Indane gas is**
   (A) Butane + propane  
   (B) Butane + methane  
   (C) Methane + propane  
   (D) Methane + ethane

48. **An element has atomic weight 24 and equivalent weight 11.9. Its valency is**
   (A) 1  
   (B) 2  
   (C) 3  
   (D) 4

49. **Dry ice is**
   (A) Solid $NH_3$  
   (B) Solid $CO_2$  
   (C) Solid CO  
   (D) Solid $NO_2$

50. **The gas which is responsible for the rise in the mean temperature of the world is**
   (A) Oxygen  
   (B) Carbon-di-oxide  
   (C) Nitrogen  
   (D) Sodium oxide

51. **The chemical properties of elements are related to their**
   (A) Atomic weight  
   (B) Atomic number  
   (C) Number of neutrons in the nucleus  
   (D) Valency

52. **Gobar gas is**
   (A) Methane  
   (B) Ethane  
   (C) Butane  
   (D) Acetylene

53. **An amalgamation is a mixture of**
   (A) Mercury + water  
   (B) Mercury + oxygen  
   (C) Mercury + chlorine  
   (D) Mercury + metal

54. **A chemical used in photography is**
   (A) Sodium sulphate  
   (B) Sodium sulphite  
   (C) Sodium thiosulphate  
   (D) Sodium oxalate

55. **The oxidation agent in the following is**
   (A) Potassium chloride  
   (B) Potassium hydroxide  
   (C) Potassium carbonate  
   (D) Potassium dischromate
56. Alcohols contains
   (A) Double bond  (B) –OH group  (C) Triple bond  (D) None of these

57. Which of the following is an enzyme?
   (A) Carbon  (B) Glucose  (C) Invertase  (D) Ethanol

58. Petroleum is a
   (A) Compound  (B) Mixture  (C) Suspension  (D) Solution

59. Oxidation number of sulphur in sulphuric acid is
   (A) Two  (B) Four  (C) Six  (D) Eight

60. In liquefied petroleum gas, the gas leakages can be detected by using
   (A) Butylene  (B) Mercaotans  (C) Butane  (D) Isobutane

61. Producer gas is a mixture of
   (A) H₂O (Vapour) + C  (B) H₂ + CO  (C) CO + CO₂  (D) CO + N₂

62. The valency of helium but
   (A) 0  (B) 1  (C) 2  (D) 3

63. Dry ice is nothing but
   (A) Ice at a higher temperature  (B) Solid CO₂
   (C) Dried up water  (D) None of these

64. DDT was discovered by
   (A) Flemming  (B) Banting  (C) Edward  (D) Paul Muller

65. Which one of the following is not a fossil fuel?
   (A) Petrol  (B) Charcoal  (C) Diesel  (D) LPG

66. Pickout the molecule containing coo ordinate bond
   (A) CaCl₂  (B) AlCl₃  (C) NH₄Cl  (D) MgCl₂

67. Aspirin is
   (A) Methyl salicylate  (B) Ethyl salicylate
   (C) Acetyl salicylic acid  (D) Sodium salicylate
68. In the complex $K_4[Fe\,(CN)_6]$ the oxidation number of Iron is
   (A) 0  (B) 1  (C) 2  (D) 3

69. The scientist who gave the atomic concept of matter is
   (A) Niels Bohr  (B) Rutherford  (C) John Dalton  (D) Einstein

70. Washing soda is
   (A) Sodium carbonate  (B) Sodium bicarbonate
   (C) Sodium sulphate  (D) Sodium biosulphate

71. The chemical used in the washing of film rolls is
   (A) Sodium chloride  (B) Sodium hydrogen phosphate
   (C) Soda lime  (D) Sodium thiosulphate

72. Find the odd one out
   (A) PVC  (B) Nylon  (C) Terrylene  (D) DDT

73. The number of electrons that can be accommodated in K-shell
   (A) 8  (B) 4  (C) 2  (D) 16

74. Ether chloroform and nitrous oxide are
   (A) Antibiotics  (B) Explosives  (C) Anaesthetics  (D) Analgesics

75. The inner transition element among the following is
   (A) Scandium  (B) Lanthanum  (C) Titanium  (D) Cesium

76. Find the odd one out
   (A) Benzene  (B) Furan  (C) Pyrrole  (D) Thosphene

77. The general formula for an alkyne is
   (A) $C_nH_{2n+4}$  (B) $C_nH_{2n+2}$  (C) $C_nH_{2n}$  (D) $C_nH_{2n-2}$

78. Ascorbic acid is
   (A) Vitamin A  (B) Vitamin C  (C) Citric acid  (D) Ascetic acid

79. The vitamin that helps in the clotting of blood is
   (A) Vitamin A  (B) Vitamin C  (C) Vitamin E  (D) Vitamin K
80. Match list-I with list-II correctly and select your answer using the codes given below:

<table>
<thead>
<tr>
<th>List-I</th>
<th>List-II</th>
</tr>
</thead>
<tbody>
<tr>
<td>(a) Baking soda</td>
<td>1. Na$_2$CO$_3$</td>
</tr>
<tr>
<td>(b) Washing soda</td>
<td>2. Solid CO$_2$</td>
</tr>
<tr>
<td>(c) Dry ice</td>
<td>3. CaCO$_3$</td>
</tr>
<tr>
<td>(d) Marble</td>
<td>4. NaHCO$_3$</td>
</tr>
</tbody>
</table>

Codes:

<p>| | | | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
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</tr>
</thead>
<tbody>
<tr>
<td>a</td>
<td>b</td>
<td>c</td>
<td>d</td>
</tr>
</tbody>
</table>

(A) 1 2 3 4  
(B) 2 1 4 3  
(C) 4 1 2 3  
(D) 4 1 3 2  

81. Which one of the following is correctly matched?

- (A) Conductor - Copper
- (B) Semi-conductor - silver
- (C) Insulator - rusting of iron
- (D) Corrosion - rubber

82. Paper is made of

- (A) Cellulose
- (B) Starch
- (C) Dextrin
- (D) A mixture of glucose and maltose

83. The non-sticking frying pans are coated with a thin layer of

- (A) Polythene
- (B) Teflon
- (C) Nylon
- (D) Perspex

84. Starch is an example for

- (A) Monosaccharide
- (B) Oligosaccharide
- (C) Poly saccharide
- (D) Disaccharide

85. The substance coated on a photographic film is

- (A) Silver bromide
- (B) Quinol
- (C) Sodium thiosulphate
- (D) Starch

86. Which is a liquid at room temperature?

- (A) Chlorine
- (B) Bromine
- (C) Fluorine
- (D) Iodine
87. How many neutrons are present in the nucleus of a deuterium atom?
   (A) Zero   (B) 2   (C) 1   (D) 3

88. The only element which is not containing neutrons in its nucleus is
   (A) Berylium   (B) Helium
   (C) An isotope of hydrogen   (D) An isotope of sodium

89. Laser produces
   (A) High intense concentrated light   (B) Less intense concentrated light
   (C) Non-parallel rays of light   (D) None of these

90. The Van Allen radiation belt consists of high energy
   (A) Protons and electrons   (B) Protons and neutrons
   (C) Neutrons   (D) Protons

91. An endothermic reaction is one in which
   (A) Heat is liberated
   (B) Heat is absorbed
   (C) Temperature remains constant
   (D) Heat is liberated when carried out at constant pressure

92. One of the gases polluting air is
   (A) Nitrogen   (B) Oxygen   (C) Hydrogen   (D) Sulphur dioxide

93. Water drops are spherical because of
   (A) Surface tension   (B) Viscosity
   (C) Density is one   (D) Polarity

94. Marsh gas is
   (A) Methane   (B) Ethane   (C) SO₂   (D) CO₂

95. Human bone does not contain
   (A) Oxygen   (B) Phosphorous   (C) Carbon   (D) Calcium

96. The state of hybridization of carbon in diamond is
97. The rays that do not contain the material particles are
(A) Alpha   (B) Beta   (C) Gamma   (D) Positive

98. What product is given out at the anode when CuSO₄ / H₂SO₄ is electrolysed?
(A) H₂O   (B) CO₂   (C) H₂O   (D) H₂S

99. The acid present in lemon is
(A) Citric acid   (B) Tartaric acid   (C) Malic acid   (D) Lactic acid

100. A molar solution is one that contains one mole of a solute in
(A) 1000gm of the solvent   (B) 1000 ml of the solution
(C) One litre of the solvent   (D) 22.4 litres of the solution