1. Which of the following is not an ore of silver?
   (A) Ruby silver              (B) German silver              (C) Horn silver              (D) Argentite

2. Which one is added to paint to impart bright whiteness?
   (A) MgO₂                    (B) TiO₂                     (C) CaO                     (D) MnO₂

3. Match list-I with list-II correctly and select your answer using the codes given below:
   List-I                      List-II
   (a) Water gas              1. CO + N₂
   (b) Producer gas           2. CO + H₂
   (c) Coal gas               3. CO + H₂ + CJ₄ + CO₂

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

4. Example of Rodenticides
   (A) DAP                     (B) Zinc phosphate          (C) Arsenic                 (D) (B) and (C)

5. “The queen of drugs” refers to
   (A) Penicillin             (B) Streptomycin             (C) Aureomycitin            (D) Chloromycitin

6. Arrange the stages of respiration in a logic way.
   I. Electron transport chain
   II. Glycolysis
   III. Kreb’s cycle
   IV. Oxidation decarboxylation of pyruvic acid
   (A) I, II, III, IV         (B) II, IV, III, I         (C) I, II, IV, III         (D) III, IV, II, I

7. Consider the following statements.
I. Graphite is a good conductor of electricity
II. Diamond is very hard and has high melting point and boiling point
III. Solid carbon monoxide is known as dry ice
IV. Carbonic acid turns red litmus slightly blue

Which of the above statement is/are correct?

(A) I and III are correct  
(B) II and III are correct  
(C) I and II are correct  
(D) III and IV are correct

8. Which one of the following is correct example for isobars?
(A) $^{17}\text{Cl}^{35}$, $^{17}\text{Cl}^{35}$  
(B) $^{18}\text{Ar}^{40}$, $^{20}\text{Ca}^{40}$  
(C) $^1\text{H}^1$, $^1\text{H}^2$  
(D) $^6\text{C}^{13}$, $^7\text{N}^{14}$

9. pH values of 0.01 M HCl and 0.01 M NaOH solutions are
(A) 2 and 7  
(B) 2 and 12  
(C) 13 and 1  
(D) 3 and 11

10. The equivalent conductance of certain solution of acetic acid is 39.07 ohm$^{-1}$ cm$^2$ equ$^{-1}$. If $\lambda_\alpha$ of acetic acid is 390.7 ohm$^{-1}$ cm$^2$ equ$^{-1}$, then the degree of dissociation of acetic acid is
(A) 0.1  
(B) 0.2  
(C) 0.5  
(D) 0.75

11. Methyl orange and phenolphthalein indicators are used in acid-base titrations. Choose the correct colour changes in acid medium and basic medium.

<table>
<thead>
<tr>
<th>Acid</th>
<th>Base</th>
</tr>
</thead>
<tbody>
<tr>
<td>(a) Methyl orange</td>
<td>1. Red</td>
</tr>
<tr>
<td>(b) Methyl orange</td>
<td>2. Yellow</td>
</tr>
<tr>
<td>(c) Phenolphthalein</td>
<td>3. Pink</td>
</tr>
<tr>
<td>(d) Phenolphthalein</td>
<td>4. Colourless</td>
</tr>
</tbody>
</table>

(A) a – 1 and c – 3  
(B) a – 1 and d – 4  
(C) b – 2 and c – 3  
(D) b – 2 and d – 4

12. With reference to urea, consider the following statements.
I. It is used as fertilizer.
II. It does not change the pH of the soil.
III. It can be used to all types of crops and soils.

Which of the following given above is/are correct?
13. Which of the following statements about ‘Glycolysis’ is TRUE?

I. It is the process of breakdown of glucose.

II. It occurs in the cytoplasm

III. It is operative in the inner membrane of mitochondria

IV. It is also known as citric acid cycle

(A) I and II  (B) I and III  (C) I and IV  (D) All the above

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

<table>
<thead>
<tr>
<th>Column A</th>
<th>Column B</th>
</tr>
</thead>
<tbody>
<tr>
<td>(a) Potash alum</td>
<td>1. ZnCO₃</td>
</tr>
<tr>
<td>(b) Mohr’s salt</td>
<td>2. K₂SO₄ · Al₆(SO₄)₃ · 24H₂O</td>
</tr>
<tr>
<td>(c) Prussian blue</td>
<td>3. Fe₄[Fe(CN)₆]₃</td>
</tr>
<tr>
<td>(d) Calamine</td>
<td>4. (NH₄)₂SO₄ · FeSO₄ · 6H₂O</td>
</tr>
</tbody>
</table>

Codes:

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

15. Cinnabar is the ore of --------

(A) Copper  (B) Mercury  (C) Iron  (D) Zinc

16. The correct increasing order of acidity of HClO, HClO₂, HClO₃ and HClO₄ is

(A) HClO < HClO₂ < HClO₃ < HClO₄  (B) HClO₂ < HClO < HClO₃ < HClO₄

(C) HClO₃ < HClO₄ < HClO₂ < HClO  (D) HClO₄ < HClO₃ < HClO₂ < HClO

17. 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) Ammonia</td>
<td>1. Laughing gas</td>
</tr>
<tr>
<td>(b) Nitrous oxide</td>
<td>2. Important industrial chemical</td>
</tr>
<tr>
<td>(c) Hydrazine</td>
<td>3. Fertilizer manufacture</td>
</tr>
<tr>
<td>(d) Nitric acid</td>
<td>4. Rocket Propellant</td>
</tr>
</tbody>
</table>
18. Which type of polymer is Bakelite?

(A) Addition polymer  (B) Homopolymer
(C) Condensation polymer  (D) Biopolymer

19. Match the following pollutants.

(a) Gaseous pollutant  
1. Anthrax
(b) Metal pollutant  
2. Chloride
(c) Deposited matter pollutant  
3. Cadmium
(d) Bio pollutant  
4. Tar

Codes:

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

20. The oxidation number of Mn in K₂MnO₄ is

(A) +2  (B) +4  (C) +6  (D) 0

21. Which of the following oxides of nitrogen is coloured?

(A) N₂O  (B) N₂O₅  (C) NO  (D) NO₂

22. Colemanite is an important mineral of

(A) Boron  (B) Aluminium  (C) Gallium  (D) Indium

23. Classify the following elements as Lanthanides and Actinides

1) Samarium (Sm)  2) Uranium (U)  3) Plutonium (Pu)  4) Dysprosium (Dy)
(A) Lanthanides: Samarium, Dysprosium

Actinides: Uranium, Plutonium

(B) Lanthanides: Samarium, Uranium

Actinides: Plutonium, Dysprosium

(C) Lanthanides: Dysprosium, Plutonium

Actinides: Uranium, Samarium

(D) Lanthanides: Samarium, Plutonium

Actinides: Uranium, Dysprosium

24. Match the list of radio isotopes with its uses given below and choose the correct answer using the below given codes.

(a) Cobalt 60 1. Fertilizer
(b) Ag191 2. To photograph brain tumour
(c) Hg197 3. Blood cancer
(d) P32 4. Sterilisation

Codes:

a  b  c  d

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

25. Which is the strongest acid?

(A) HCOOH  (B) CH3COOH  (C) C3H7COOH  (D) C2H5COOH

26. For a cell reaction A(S) + 2B+ A2+ + 2B the equilibrium constant is found to be 10\textsuperscript{12}. Then the $E_{\text{cell}}^\circ$ value is

(A) 0.354 V  (B) 0.708 V  (C) 0.0295 V  (D) 0.177 V

27. The specific conductance of a 0.01 M solution of KCl is $1.4 \times 10^{-3}$ ohm\textsuperscript{-1} cm\textsuperscript{-1} at 298 K. Its equivalent conductance is (ohm\textsuperscript{-1} cm\textsuperscript{2} equiv\textsuperscript{-1}).

(A) 0.14  (B) 1.40  (C) 14.0  (D) 140

28. The compound is used as rocket propellant

(A) Hydrazine  (B) Nitric acid  (C) Ammonia  (D) Nitrogen
29. Photochemical smog is formed by  
   (A) $O_2$, NO, $H_2O_2$ organic peroxide etc.  
   (B) Consists of mercury and lead  
   (C) Consist of NO$_2$ and CO  
   (D) Hydrocarbons  

30. Which of the following known as complete fertilizer?  
   (A) Nitrogenous fertilizer  
   (B) Potash fertilizer  
   (C) NPK fertilizer  
   (D) NP fertilizer  

31. ---------------- is called buckminster fullerene.  
   (A) Diamond  
   (B) Graphite  
   (C) $C_{60}$  
   (D) Coal  

32. Which of the following is halide ore?  
   (A) Dolomite  
   (B) Rock salt  
   (C) Bauxite  
   (D) Galena  

33. The major component of natural gas is  
   (A) Ethane  
   (B) Methane  
   (C) Butane  
   (D) Propane  

34. ‘Green House effect’ is caused by  
   (A) Neon  
   (B) Helium  
   (C) CO$_2$  
   (D) Hydrogen  

35. Select the correct answer from the following:  
   Wolframite is the ore of  
   I. Tantalum  
   II. Molybdenum  
   III. Chromium  
   IV. Tungsten  
   (A) I  
   (B) II  
   (C) III  
   (D) IV  

36. Match the following and choose the correct option given below:  
   (a) Lithium  
   (b) Iron  
   (c) Cerium  
   (d) Thorium  
   1. Actinide  
   2. Lanthanide  
   3. Transition metal  
   4. Alkali metal  
   Codes:  
   a  b  c  d  
   (A) 1 2 3 4  
   (B) 4 3 2 1  
   (C) 2 3 4 1  

Learning Leads To Ruling
37. Oxidation number of Mn in KMnO₄ is
   (A) +5  (B) +6  (C) +7  (D) 0

38. Water gas is a mixture of
   (A) H₂ and NO₂  (B) H₂ and CO  (C) H₂ and CH₄  (D) CO and NO₂

39. The molecular formula for CAN is
   (A) Ca(NO₃)₂ 5NH₄NO₃  (B) Ca(NO₂)₂ 5NH₄NO₃
   (C) 5Ca(NO₂)₂ 5NH₄NO₃  (D) Ca(NO₃)₂ 5NH₄NO₃

40. If 0.400 g of NaOH(s) is dissolved to make 250 ml of solution, then calculate the pH.
   (A) 8.06  (B) 9.08  (C) 10.06  (D) 12.602

41. Who introduced the electronic theory of acids and bases?
   (A) Arrhenius  (B) Franklin  (C) Lewis  (D) Bronsted

42. In the redox reaction xKMnO₄ + H₂SO₄ + yH₂C₂O₄ → K₂SO₄ + MnSO₄ + H₂O + ZCO₂ the values of x, y and z are
   (A) 2, 10, 5  (B) 2, 5, 10  (C) 5, 2, 10  (D) 10, 5, 2

43. Calculate the pH of aqueous sodium hydroxide solution of strength 0.1 N
   (A) 1  (B) 13  (C) 7.8  (D) 0.1

44. The strongest reducing agent among the alkali metals is
   (A) K  (B) Na  (C) Cs  (D) Li

45. The nitrogen has a ____________ bond between atoms in a nitrogen molecule.
   (A) Single  (B) Double  (C) Triple  (D) Ionic

46. Which of the following is used as an insecticide?
   (A) Aspirin  (B) Gammexane  (C) Quinine  (D) Penicillin

47. Match the following:
   (a) Potassium chlorate  1. Constipation
   (b) Epsum salt  2. Match industry
   (c) Copper sulphate salt  3. Crackers
   (d) Potassium nitrate  4. Fungicide
Codes:

<table>
<thead>
<tr>
<th></th>
<th>a</th>
<th>b</th>
<th>c</th>
<th>d</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>3</td>
<td>4</td>
<td>2</td>
<td>1</td>
</tr>
<tr>
<td>B</td>
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</tr>
<tr>
<td>C</td>
<td>2</td>
<td>1</td>
<td>4</td>
<td>3</td>
</tr>
<tr>
<td>D</td>
<td>3</td>
<td>4</td>
<td>1</td>
<td>2</td>
</tr>
</tbody>
</table>

48. Find out the calcium compound found on bones and teeth

(A) Calcium carbonate  
(B) Calcium phosphate  
(C) Calcium chloride  
(D) Calcium sulphate

49. Amount the following which one is not an Insecticide?

(A) DDT  
(B) BHC  
(C) Zinc phosphide  
(D) Zinc sulphide

50. Which gas is released from the refrigerator?

(A) CH₄  
(B) Cl  
(C) H₂  
(D) CFC

51. Ammonia is manufactured by

(A) Solvay process  
(B) Haber process  
(C) Birkland and Eyde process  
(D) Claude’s process

52. Which one of the following is known as ‘Dry ice’?

(A) Solid carbon dioxide  
(B) Liquid carbon dioxide  
(C) Gaseous carbon dioxide  
(D) Liquid silicon dioxide

53. Select the wrong statement

(A) Calamine is a carbonate  
(B) Argentite is an oxide  
(C) Zinc blende is a sulphide  
(D) Malachite is an ore of copper

54. Which of the following traits are referred to as coinage metals.

(I) Li, K, Na  
(II) Be, Mg Ca  
(III) B, Al, Ga  
(IV) Cu, Ag, Au

(A) I  
(B) II  
(C) III  
(D) IV

55. Respirated Quotient (R:Q) calculated by the following formula
56. The pyrimidine nitrogen bases are
   (I) Uracil   (II) Thymine   (III) Adenine   (IV) Guanine
   (A) I only   (B) I and II  (C) II and III (D) I and IV

57. The regent used in the conversion of benzene diazonium chloride to phenyl cyanide
   (A) HBr₄ / NaNO₂, Powder  (B) KCN and dil HCl
   (C) CuCN₂ and aqueous KCN  (D) KCN solution / Cu

58. Which one of the polymers contains nitrogen?
   (A) PVC     (B) Teflon   (C) Nylon – 66 (D) Terylene

59. For the filtration between Oxalic acid and sodium hydroxide the indicator used in
   (A) Potassium permanganate  (B) Phenolphthalein
   (C) Litmus                  (D) Methyl Orange

60. One of the following methods is NOT useful for the purification of metal
   (A) Electrolytic Refining   (B) Zone refining
   (C) Mond’s process          (D) Calcination

61. Oxidation number of carbon in CH₄, CH₃Cl, ChCl₃ and CCl₄ are
   (A) +4, -2, +2, -4   (B) -4, -2, +2, +4   (C) +4, +2, -2, -4   (D) -4, -2, +4, +2

62. Two protoplasts are fused with a fusogen called
   (A) Polyethylene glycol   (B) Polyethane glycol
   (C) Polynvinyl alcohol    (D) Phosphoric acid

63. Identify the odd one from the group of chemical given below:
   (A) BHC      (B) DDT      (C) 2, 4D       (D) CAN

64. Anaesthetic used for minor operation dentistry
   (A) Nitrous oxide  (B) Nitric oxide
   (C) Nitric oxide + O₂  (D) Nitrogen dioxide
65. Identify the substance which is not optically active
   (A) Cinnabar    (B) Sugar solution   (C) Turpentine oil   (D) Wood

66. Lactic Acid, undergoes oxidation with Fenton’s reagent \((\text{FeSO}_4 + \text{H}_2\text{O}_2)\) gives

\[
\text{CH}_3\text{CHOH COOH} \xrightarrow{\text{FeSO}_4 + \text{H}_2\text{O}_2} \text{CH}_3\text{CO COOH} \]

(A) CH\(_3\)CO COOH Pyruvic acid
(B) CH\(_3\)CH COOH Propionic acid
(C) CH\(_3\)CH\(_2\)CHO Propion aldehyde
(D) CH\(_2\) - O - CO

67. Teflon is prepared by the polymerization of ........
   (A) Butadiene     (B) Vinyl Cyanide
   (C) Vinyl Chloride (D) Tetrafluoro Ethylene

68. The most reactive form of carbon is :
   (A) Diamond   (B) Graphite   (C) Coal   (D) Charcoal

69. Which of the following is an incorrect statement of Diamond?
   (A) Diamond is the purest form of carbon
   (B) Diamond is amorphous in nature
   (C) Diamond has the highest melting point
   (D) Diamond is the hardest variety of carbon

70. Which one of the following metal occurs in the native form?
   (A) Au   (B) Na   (C) Pb   (D) U

71. The process used for the manufacture of ammonia is
   (A) Contact process   (B) Ostwald process
   (C) Haber’s process   (D) Linde’s process

72. Which one of the following is not an Lewis base?
73. Which one of the following does NOT belong to Nitrogen family?
(A) Phosphorus  (B) Antimony  (C) Bismuth  (D) Silicon

74. Acids are substances which give H\(^+\) ions in aqueous solution is the concept of
(A) Arrhenius  (B) Faraday  (C) Ingold  (D) Oswald

75. The Oxidation number of Carbon in Carbon Tetrachloride and Chloroform are
(A) +4 and +2 respectively  (B) -4 and -2 respectively
(C) +4 and -3 respectively  (D) -4 and -3 respectively

76. Element Lanthanides and Actinides belong to which block in the modern periodic table?
(A) s – block elements  (B) d – block elements
(C) f – block elements  (D) p – block elements

77. Consider the following statements:
(A) : Malachite ore contains magnesium.
(B) : Epsom salt contains calcium.
Of these,
(A) (A) alone is correct  (B) (B) alone is correct
(C) Both are correct  (D) Both are wrong

78. In the nitrogen family, which one of the following has more metallic property?
(A) Bismuth  (B) Arsenic  (C) Phosphorus  (D) Nitrogen

79. The oxidation number of sulphur in \(S_8\) is :
(A) 1  (B) 2  (C) 8  (D) 0

80. Aluminothermic process is used in the metallurgy of which one of the following metals?
(A) Sodium  (B) Chromium  (C) Potassium  (D) Niobium

81. Arrange the following Greenhouse gases in ascending order according to their capacity of trapping heat from the atmosphere
(1) Methane  (2) Carbon dioxide  (3) Nitrous oxide  (4) Hydrocarbon
82. Identify the correct code of matching:

<table>
<thead>
<tr>
<th>Column – A</th>
<th>Column – B</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Compound</strong></td>
<td><strong>Oxidation Number of N</strong></td>
</tr>
<tr>
<td>(a) NH₃</td>
<td>(e) -2</td>
</tr>
<tr>
<td>(b) NO</td>
<td>(f) +2</td>
</tr>
<tr>
<td>(c) NO₂</td>
<td>(g) -3</td>
</tr>
<tr>
<td>(d) N₂H₄</td>
<td>(h) +4</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>a</th>
<th>b</th>
<th>c</th>
<th>d</th>
</tr>
</thead>
<tbody>
<tr>
<td>g</td>
<td>f</td>
<td>h</td>
<td>e</td>
</tr>
</tbody>
</table>

(A) g f h e  
(B) g h e f  
(C) f h g e  
(D) e f g h

83. 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) Cinnabar</td>
<td>1. Lead</td>
</tr>
<tr>
<td>(b) Galena</td>
<td>2. Copper</td>
</tr>
<tr>
<td>(c) Calamine</td>
<td>3. Mercury</td>
</tr>
<tr>
<td>(d) Malachite</td>
<td>4. Zinc</td>
</tr>
</tbody>
</table>

Codes:  
<table>
<thead>
<tr>
<th>a</th>
<th>b</th>
<th>c</th>
<th>d</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>2</td>
<td>4</td>
<td>3</td>
</tr>
</tbody>
</table>

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

84. 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) Sindri fertilizer</td>
<td>1. Ca(NO₃)₂NH₄NO₃</td>
</tr>
<tr>
<td>(b) Nangal fertilizer</td>
<td>2. NH₂CO NH₂</td>
</tr>
<tr>
<td>(c) Nitrolim</td>
<td>3. (NH₄)₂ SO₄</td>
</tr>
<tr>
<td>(d) Carbamide</td>
<td>4. CaCN₂</td>
</tr>
</tbody>
</table>

Learning Leads To Ruling
Codes:

<table>
<thead>
<tr>
<th></th>
<th>a</th>
<th>b</th>
<th>c</th>
<th>d</th>
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<tr>
<td>(A)</td>
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<td>(B)</td>
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<tr>
<td>(C)</td>
<td>3</td>
<td>2</td>
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<td>1</td>
</tr>
<tr>
<td>(D)</td>
<td>3</td>
<td>2</td>
<td>1</td>
<td>4</td>
</tr>
</tbody>
</table>

85. 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) Nylon - 66</td>
<td>1. Isoprene</td>
</tr>
<tr>
<td>(b) Bakelite</td>
<td>2. Condensation polymer</td>
</tr>
<tr>
<td>(c) Teflon</td>
<td>3. Tetrafluoro ethylene</td>
</tr>
<tr>
<td>(d) Natural rubber</td>
<td>4. Thermosteining polymer</td>
</tr>
</tbody>
</table>

Codes:

<table>
<thead>
<tr>
<th></th>
<th>a</th>
<th>b</th>
<th>c</th>
<th>d</th>
</tr>
</thead>
<tbody>
<tr>
<td>(A)</td>
<td>.2</td>
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<td>4</td>
</tr>
<tr>
<td>(B)</td>
<td>2</td>
<td>4</td>
<td>3</td>
<td>1</td>
</tr>
<tr>
<td>(C)</td>
<td>3</td>
<td>4</td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td>(D)</td>
<td>4</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
</tbody>
</table>

86. Manure is an organic substance and is prepared by

(A) Decomposition of Plant and Animal waste
(B) Decomposition of Ammonia
(C) Adding Ammonia to carbon dioxide
(D) Mixing calcium with Urea

87. The purity of ornamental gold is given by

(A) Carat value  (B) pH value
(C) Acidic value  (D) Basic value

88. (I) $\text{H}_2\text{CO}_3$ (Carbonic acid) is used in soft drinks or aerated drinks.

(II) Sodium Benzoate is not used as food preservative

(A) I only  (B) II only  (C) Both I and II  (D) Neither I nor II
89. 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) Water</td>
<td>1. H₂SO₄</td>
</tr>
<tr>
<td>(b) Sulphuric acid</td>
<td>2. Ae₂(SO₄)₃</td>
</tr>
<tr>
<td>(c) Calcium Carbonate</td>
<td>3. CaCO₃</td>
</tr>
<tr>
<td>(d) Aluminium sulphate</td>
<td>4. H₂O</td>
</tr>
</tbody>
</table>

Codes:

\[
\begin{array}{llll}
  a & b & c & d \\
  \hline \\
  (A) & 4 & 1 & 3 & 2 \\
  (B) & 1 & 2 & 3 & 4 \\
  (C) & 3 & 1 & 2 & 4 \\
  (D) & 2 & 1 & 4 & 3 \\
\end{array}
\]

90. 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>Elements</td>
<td>Valency</td>
</tr>
<tr>
<td>(a) Bromine</td>
<td>1. 2</td>
</tr>
<tr>
<td>(b) Barium</td>
<td>2. 1</td>
</tr>
<tr>
<td>(c) Carbon</td>
<td>3. 3</td>
</tr>
<tr>
<td>(d) Aluminium</td>
<td>4. 4</td>
</tr>
</tbody>
</table>

Codes:

\[
\begin{array}{llll}
  a & b & c & d \\
  \hline \\
  (A) & 2 & 3 & 4 & 1 \\
  (B) & 1 & 2 & 3 & 4 \\
  (C) & 2 & 1 & 4 & 3 \\
  (D) & 2 & 4 & 3 & 1 \\
\end{array}
\]

91. The one which is used in dentistry is:

(A) Plaster of paris  (B) Lime stone  (C) China clay  (D) Silica

92. Preparation of ammonia from nitrogen and hydrogen is a

(A) Irreversible reaction  (B) Reversible reaction  
(C) Fast reaction  (D) Side reaction
93. Louis bases are:

(1) Electron donors  (2) Electron acceptors
(3) Electron rich compounds  (4) Negatively charged ions

Choose the correct answer.

(A) 1, 2 and 3  (B) 1, 3 and 4  (C) 2, 3 and 4  (D) All of these

94. The oxidation state of Ni in \([Ni \ (CO)_4]\) is

(A) +4  (B) +2  (C) +3  (D) 0

95. Which of the following statements are incorrect with respect to the allotropes of carbon?

(I) Diamond is exactly hard while graphite is soft
(II) Diamond is ionic but graphite is covalent
(III) Diamond is a non-conductor but graphite is a good conductor of electricity
(IV) Diamond has a layered structure while graphite has a network structure

(A) I and II  (B) I, II and IV  (C) I, III and IV  (D) II and IV

96. The atomic symbol used for the element Tungsten is

(A) U  (B) V  (C) W  (D) Ti

97. When Aluminium is bombarded with fast neutrons it changes into Sodium with emission of particle ‘x’ according to the equation.

\[ ^{27}_{13}Al + ^0_1n \rightarrow ^{24}_{11}Na + x \]. What is x?

(A) Electron  (B) Proton  (C) Neutron  (D) Alpha particle

98. Consider the following statements:

(a) Calcium is alkaline earth metal  (b) Lithium is alkali metal

(A) (a) alone is correct  (B) (b) alone is correct

(C) Both (a) and (b) are correct  (D) Both (a) and (b) are wrong

99. Auto ionisation of \(H_2O\) leads to the formation of

(A) \(H^+\)  (B) \(OH^-\)  (C) \(H^+\)  (D) \(H_3O^+\) and \(OH^-\)

100. Which one of the following id not an allotrope of carbon?
(A) Diamond  (B) Graphite  (C) Fullerene  (D) Butane