

MP - Pre Polytechnic Exam

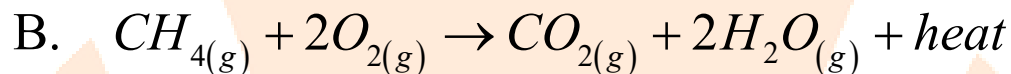
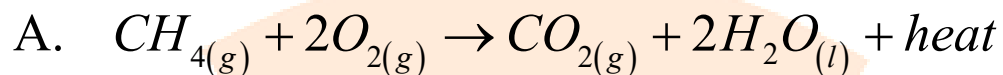
2019

Chemistry

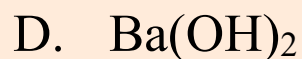
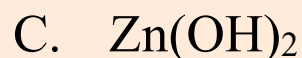
51. Which of the following forms of energy cannot help in bringing out a chemical reaction of the decomposition type?
- A. Heat energy
 - B. Mechanical energy
 - C. Light energy
 - D. Electrical energy
52. Which of the following actions is not a reflex action?
- A. Knee jerk
 - B. Coughing
 - C. Swallowing
 - D. Closing of eyes on flashing light
53. Which of the following is the most basic oxide ?
- A. MgO
 - B. SO₂
 - C. Al₂O₃
 - D. Na₂O

54. Which among the following groups of the Periodic table will the element "A" belong whose Mass number is 27amu and has 14 neutrons in its nucleus?
- A. Group 4
 - B. Group 13
 - C. Group 14
 - D. Group 6
55. Which one among the following reactions is not an example for Combination reaction?
- A. $CaO_{(s)} + H_2O \rightarrow Ca(OH)_{2(s)}$
 - B. $H_{2(g)} + Cl_{2(g)} \rightarrow 2HCl_{(g)}$
 - C. $NH_{3(g)} + HCl_{(g)} \rightarrow NH_4Cl_{(s)}$
 - D. $Ca(OH)_{2(aq)} + CO_{2(g)} \rightarrow CaCO_{3(s)} + H_2O$
56. Which isotope of the element Carbon finds its position in the modern Periodic table?
- A. ${}_6C^{15}$
 - B. ${}_6C^{13}$
 - C. ${}_6C^{14}$
 - D. ${}_6C^{12}$

57. Which one of the following representations is the correct balanced equation for the reaction of Methane burning in air?



58. Which one of the following is a Base and not an Alkali?



59. Which one of the following compounds undergoes Intramolecular dehydration when heated with Conc. H_2SO_4 at 443K to form an unsaturated compound with Molecular formula C_3H_6 ?



60. Which one of the following liquids is used to dissolve Platinum metal?
- A. Fuming Nitric acid
 - B. Aqua regia
 - C. Conc. Sulphuric acid
 - D. Conc. Hydrochloric acid.
61. Identify the next higher homologue of Propane which is a branched chain alkane.
- A. n- Butane
 - B. Isopentane
 - C. Neopentane
 - D. Isobutane
62. Identify the Amphoteric oxide from the following Oxides.
- A. K_2O
 - B. SO_3
 - C. Al_2O_3
 - D. CO_2
63. Identify the compound which is used for bleaching cotton and linen fabrics in the textile industry.
- A. $CaOCl_2$
 - B. $NaCl$

- C. $\text{Pb}(\text{NO}_3)_2$
D. $\text{CaSO}_4 \cdot \frac{1}{2} \text{H}_2\text{O}$

64. Due to the presence of hydrophilic and hydrophobic ends in the soap molecules, what do they form with oil or dirt particles on any material soaked in water?
- A. Micelles
B. Missiles
C. Ionic salts
D. Scum with dead germs
65. Solar energy is converted into ATP in _____.
- A. Mitochondria
B. Chloroplast
C. Ribosome
D. Golgi bodies
66. If the Atomic number of an element X is 19, what would be the formula of its Oxide?
- A. XO_2
B. XO
C. X_2O_2
D. X_2O

67. The structural formula of 1-hexene is $\text{CH}_2 = \text{CH} - (\text{CH}_2)_3 - \text{CH}_3$. Which among the following is its structural isomer?
- A. n-hexane
 - B. Cyclohexane
 - C. Cyclohexene
 - D. 1-hexyne
68. The thinking part of the brain is:
- A. Hind brain
 - B. Mid brain
 - C. Spinal cord
 - D. Fore brain
69. The hormone that is present in large quantities in the fruits and seeds is:
- A. Abscisic acid
 - B. Auxin
 - C. Gibberellin
 - D. Cytokinin
70. The first step of photosynthesis is:
- A. Conversion of light energy into chemical energy.
 - B. Absorption of light energy by chlorophyll

- C. Splitting of water molecules into hydrogen and oxygen
- D. Reduction of CO_2 into carbohydrates.

71. Oxygen is available in different forms. Which form is essential for all living organisms?

- A. O
- B. O_3
- C. H_2O
- D. O_2

72. Ranitidine comes under the classification of drugs as:

- A. An histamine
- B. Tranquilizer
- C. An fertility
- D. Antacid

73. If a round and yellow seeded pea plant (RRYY) is crossed with wrinkled and green seeded pea plant(rryy), the seeds produced in the F1 generation will be:

- A. Round and green
- B. Round and yellow
- C. Wrinkled and green
- D. Wrinkled and yellow

74. Offsprings formed as a result of sexual reproduction exhibit more variations because:
- A. Sexual reproduction is a very complicated process.
 - B. Genetic material comes from two parents belonging to two different species.
 - C. Genetic material comes from two parents belonging to the same species.
 - D. Genetic material comes from different parents.
75. What are the products formed during the Chlor-alkali process carried out in the chemical manufacturing industry?
- A. CaOCl_2 & H_2O
 - B. NaOH , Cl_2 & H_2
 - C. NH_4Cl & NaHCO_3
 - D. NaCl & H_2O
76. Which of the following is a pair of homologues?
- A. CH_3COCH_3 and $\text{CH}_3\text{CH}_2\text{CH}_2\text{CHO}$
 - B. C_2H_6 and C_3H_6
 - C. C_6H_6 and C_6H_{12}
 - D. C_6H_6 and $\text{C}_6\text{H}_5\text{CH}_3$

77. The metallic character of an element is expressed in terms of its:

- A. Electron gaining tendency
- B. Electron losing tendency
- C. Sharing electron with other element
- D. No tendency to lose, gain or share electron

78. Identify neutralization reaction from the following options :

- A. $2Al + FeO_2 \rightarrow Al_2O_3 + 2Fe$
- B. $Br_{(l)} + Kl_{(aq)} \rightarrow l_{2(s)} + 2KBr_{(aq)}$
- C. $KOH_{(aq)} + HNO_{3(aq)} \rightarrow KNO_{3(aq)} + H_2O_{(aq)}$
- D. $ZnCO_{3(s)} \xrightarrow{\Delta} ZnO_{(s)} + CO_{2(g)}$

79. Identify the element that belongs to the same family as boron:

- A. Sr
- B. As
- C. In
- D. Sn

80. Identify the group that consists entirely of metals :

- A. 16

- B. 2
- C. 17
- D. 14

81. Identify the impurity which is present to the maximum extent in pig iron :

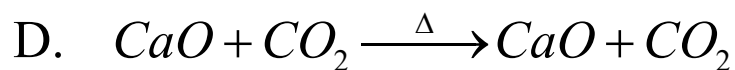
- A. Carbon
- B. Silicon
- C. Phosphorus
- D. Sulphur

82. Identify the organic component that burns with a sooty flame:

- A. Butane
- B. Hexane
- C. Butene
- D. Cyclobutane

83. Which of the following represents a disproportiona on (reactions in which same element undergoes oxidation and reduction)?

- A. $2NaOH + H_2SO_4 \longrightarrow Na_2SO_4 + 2H_2O$
- B. $4H_3PO_3 \longrightarrow 3H_3PO_4 + PH_3$
- C. $Na + \frac{1}{2}Cl_2 \longrightarrow NaCl$



84. Which of the following property does not reflect the periodicity of elements?

- A. Metallic nature
- B. Valency
- C. Non-metallic nature
- D. Density

85. Which of the following is the best conductor of electricity?

- A. Distilled water
- B. Demineralised water
- C. Sea water
- D. Tap water

86. Anhydrous calcium chloride is used in desiccators due to its:

- A. Both deliquescent & efflorescent nature
- B. Efflorescent nature only
- C. Deliquescent nature
- D. Hygroscopic nature only

87. Which of these contraceptive methods helps in the prevention of the fusion of sperm with the ovum?

- A. Cu T
- B. Condoms
- C. Loops
- D. Oral contraceptive pills

88. Which of the features of garden pea was not considered by Mendel for his experiments on heredity?

- A. Shape of the seeds
- B. Colour of seeds
- C. Colour of the flowers
- D. Number of seeds

89. Which of the following reactions give rise to brisk effervescence?

- A. $C_6H_5COOH + NaOH \xrightarrow{CaO} C_6H_6 + Na_2CO_3$
- B. $CH_3CH_2OH + HCOOH \xrightarrow{H^+} HCOOCO_2CH_3 + H_2O$
- C. $2CH_3CH_2OH + 2Na \longrightarrow 2CH_3CH_2ONa + H_2$
- D. $2HCOOH + NaCO_3 \longrightarrow 2HCOONa + 2CO_2 + H_2O$

90. Urine of a normal person should not have _____ substance.

- A. Glucose
- B. Ammonia

- C. Urea
- D. K^+

91. The accumulation of which of these substances results in biological magnification?

- A. DDT
- B. Industrial wastes
- C. Kitchen wastes
- D. Broken plastics

92. A pair of endocrine glands are closely associated with kidneys is:

- A. Thyroid
- B. Testis
- C. Adrenals
- D. Parathyroid

93. Identify the sexually transmitted bacterial diseases from the list mentioned below:

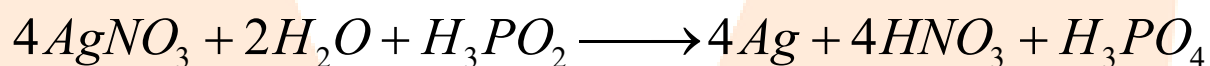
- i. syphilis
 - ii. AIDS
 - iii. Warts
 - iv. Gonorrhoea
- A. iii and iv
 - B. ii and iii

- C. i and ii
- D. i and iv

94. In a mono hybrid cross, in the F₂ generation, if the offsprings are to be in the ratio of 3 : 1 (dominant : recessive), then the parents should be:

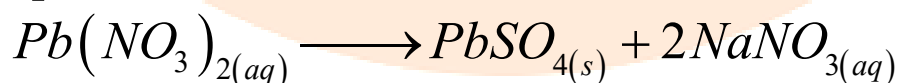
- A. Incompletely dominant
- B. Homozygous recessive
- C. Homozygous dominant
- D. Heterozygous

95. Identify the reducing agent from the following reaction:



- A. H₂O
- B. HNO₃
- C. H₃PO₂
- D. AgNO₃

96. What type of reaction is represented by the given equation?



- A. Double displacement reaction
- B. Decomposition reaction

- C. Displacement reaction
- D. Combination reaction

97. 4 solutions and their corresponding pH values are given below. Which one of the following is the correct arrangement of these solutions in the decreasing order of their Hydrogen ion concentration?

Solutions	P	Q	R	S
p ^H	8	3	11	7

- A. $S > Q > P > R$
 - B. $Q > S > P > R$
 - C. $P > R > Q > S$
 - D. $R > P > S > Q$
98. In the reaction
- $$4HCl + MnO_{2(s)} \longrightarrow MnCl_{2(aq)} + 2H_2O + Cl_{2(g)}$$
- what happen to the Redacting agent ?
- A. Reducing agent is reduced to $MnCl_{2(aq)}$
 - B. Reducing agent is reduced to H_2O .
 - C. Reducing agent is oxidized to $MnCl_{2(aq)}$
 - D. Reducing agent is oxidized to $Cl_{2(g)}$.

99. 4 elements along with their Atomic numbers are given below. Which one of them has the largest size?

Element	Al	Cl	Si	Na
Atomic number	13	17	14	11

- A. Cl
- B. Al
- C. Si
- D. Na

100. Identify the element from its chemical symbol which does not belong to the “Chalcogen family” of the Periodic table.

- A. S
- B. Se
- C. Si
- D. Te