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CATEGORY - III

PART - 3

Physical Science

Question Numbers 71 to 150

71. Which among the following is an ore of zinc metal ?

(A) Bauxite

(B) Calamine

(C) Dolomite

(D) Spodumene

72. For pure water and perfectly clean glass, the angle of contact is :

(A) 90°

(B) 45°

(C) 8°

(D) 0°

73. Device used to measure potential difference :

(A) Ammeter

(B) Wattmeter

(C) Voltmeter

(D) Voltameter

74. In longitudinal wave the direction of vibration of particles of the medium is :

(A) Perpendicular to the propagation of wave

(B) Parallel to the propagation of wave

(C) Different from each other

(D) Varies with time to time

75. The distance travelled by a body falling from rest in the first, second and third seconds are in the ratio :

(A) 1 : 2 : 3

(B) 1 : 3 : 5

(C) 1 : 4 : 9

(D) 1 : 5 : 7

76. The focal length of lens in a camera is 5 cm. What is the power of the lens ?

(A) +0.2D

(B) +5D

(C) +10D

(D) +20D

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77. The number of nitrate ions in one mole of zinc nitrate is (N_A is the Avogadro Number) :

(A) N_A

(B) $2\ N_A$

(C) $3\ N_A$

(D) $4\ N_A$

78. The number of moles of chlorine molecules produced when 2 moles of potassium permanganate reacts with 16 moles of concentrated hydrochloric acid is :

(A) 2

(B) 3

(C) 5

(D) 8

79. Amount of work done in bringing unit positive charge from infinity to a point in electric field is called :

(A) Coulomb force

(B) Electrostatic force

(C) Electric potential

(D) Resistance

80. Which among the following compounds contain the maximum number of pi-bonds ?

(A) Acetylene

(B) Hexyne

(C) Pent-1-ene-4-yne

(D) 2-Methyl-1, 3-butadiene

81. A lens immersed in liquid become invisible when :

(A) the focal length of lens is zero

(B) the focal length of lens is infinity

(C) the refractive index of lens is less than that of refractive index of liquid

(D) the refractive index of lens is same as that of refractive index of liquid

82. Haber process is associated with the industrial preparation of :

(A) Acetylene

(B) Ammonia

(C) Nitric acid

(D) Sulphuric acid

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83. Which of the following is not a transverse wave ?

(A) Sound

(B) Visible light

(C) Infrared

(D) Radio wave

84. Which of the following is not a unit of time ?

(A) leap year

(B) lunar month

(C) light year

(D) micro second

85. Photoelectric effect was best explained by :

(A) Albert Einstein

(B) Heinrich Hertz

(C) Isaac Newton

(D) Max Planck

86. The acid having the highest basicity among the following is :

(A) Acetic acid

(B) Nitric acid

(C) Oxalic acid

(D) Phosphoric acid

87. The correct electronic configuration of potassium ion in K_2SO_4 is :

(A) $1s^2 2s^2 2p^6 3s^2 3p^6$

(B) $1s^2 2s^2 2p^6 3s^2 3p^6 4s^1$

(C) $1s^2 2s^2 2p^6 3s^2 3p^6 4s^2$

(D) $1s^2 2s^2 2p^6 3s^2 3p^6 4s^2 3d^1$

88. Which among the following is not usually a property of an ionic compound ?

(A) Conducts electricity in the solid state

(B) Crystalline nature

(C) Dissolves in polar solvents

(D) High melting points

89. Which among the following is FALSE regarding the reaction given below ?

$2Al + Fe_2O_3 \rightarrow Al_2O_3 + 2Fe$

(A) Iron obtained in this reaction is usually in the molten state

(B) It is known as thermite reaction

(C) The reaction is exothermic in nature

(D) The reaction shows that aluminium is less reactive than iron

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90. The second most electronegative element among the following is :

(A) Chlorine

(B) Fluorine

(C) Nitrogen

(D) Oxygen

91. Which among the following is not a macromolecular colloid ?

(A) colloid of protein

(B) colloid of rubber

(C) soap solution

(D) gold sol

92. Unit of Pressure is :

(A) N/m^2

(B) Newton

(C) $kg\ m/s^2$

(D) Joule

93. Which among the following does not conduct electricity ?

(A) A mixture of ammonia and vinegar in water

(B) Acidified water

(C) Water containing dissolved sugar

(D) Water containing dissolved NaCl

94. Temperature in Celsius corresponding to 95°F :

(A) 7°C

(B) 65°C

(C) 63°C

(D) 35°C

95. A liquid mixture which distils over at a constant temperature without any change in composition of the mixture is called :

(A) a solvent

(B) an allotrope

(C) an azeotrope

(D) an elutant

96. Solar eclipse takes place when :

(A) the sun is between the moon and earth

(B) the earth is between the moon and sun

(C) the moon is between the sun and earth

(D) the moon does not lie on the line joining the sun and earth

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97. Frequency of sound wave having wavelength 10 cm in air is, (Given velocity of sound = 340 m/s)

(A) 34 Hertz

(B) 340 Hertz

(C) 3.4 kilo Hertz

(D) 34 mega Hertz

98. Which among the following pairs of compounds have the metals in the same oxidation state ?

(A) $Ca(NO_3)_2$ and $AlCl_3$

(B) Fe_2O_3 and $CrCl_3$

(C) $MnCl_2$ and Na_2O

(D) MnO_2 and Ca_3P_2

99. Ultrapure germanium used in the manufacture of semiconductors is refined by :

(A) Zone refining

(B) Monds process

(C) Van Arkel process

(D) Clarkes process

100. Which among the following is a heterogeneous mixture ?

(A) Iron filings + Sulphur

(B) Oxygen + Nitrogen

(C) Petrol + Alcohol

(D) Water + Alcohol

101. Water reaches its highest density at a temperature of _____ degrees Celsius.

(A) 0

(B) 4

(C) −10

(D) −4

102. Carboxylic acids are isomeric with :

(A) alcohols

(B) ethers

(C) esters

(D) aldehydes

103. Bubbles produced in an aquarium increase in size as it rises upward. This observation is in accordance to :

(A) Avogadro's law

(B) Boyle's law

(C) Charle's law

(D) Graham's law

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104. Size of image is always smaller than object in :

(A) Convex mirror

(B) Concave mirror

(C) Plane mirror

(D) None of the above

105. Main constituent of LPG :

(A) Methane

(B) Ethane

(C) Propane

(D) Butane

106. If a force acts perpendicular to the direction of motion of a body, the amount of work done is :

(A) Infinity

(B) Constant

(C) Zero

(D) Negative

107. If the current in a wire is 8 amperes, how much charge will flow through it in 2 seconds ?

(A) 16 coulombs

(B) 8 coulombs

(C) 6 coulombs

(D) 2 coulombs

108. Final stage of evolution of a sun [illegible]

(A) Black dwarf

(B) White dwarf

(C) Neutron star

(D) Black hole

109. Which of the following is not a primary colour ?

(A) Blue

(B) Green

(C) Red

(D) Yellow

110. When a body is taken from the equator to the earth's north pole, its :

(A) mass and the weight remains the same

(B) mass increases weight remains the same

(C) weight increases mass remains the same

(D) mass and weight decreases

111. Number of valence electrons in a silicon atom is :

(A) 5

(B) 4

(C) 3

(D) 2

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112. Which among the following compounds violate the octet rule ?

(A) CCl_4

(B) CO_2

(C) PBr_3

(D) SF_6

113. The principle of operation of hydraulic press is based on :

(A) Boyle's law

(B) Pascal's law

(C) Newton's law of gravitation

(D) Dalton's law of partial pressure

114. A separating funnel is used to separate a mixture of two :

(A) immiscible liquids

(B) miscible liquids

(C) solids

(D) sublimable solids

115. Which of the following wire has least resistance ?

(A) longer and thicker

(B) longer and thinner

(C) shorter and thicker

(D) shorter and thinner

116. Lens used to correct far sightedness is :

(A) Concave lens

(B) Convex lens

(C) Cylindrical lens

(D) Plane glass

117. The number of moles of solute dissolved in 1 litre of the solution is known as :

(A) Molality

(B) Molarity

(C) Mole fraction

(D) Normality

118. Which among the following is used for the cathodic protection of iron ?

(A) Copper

(B) Lead

(C) Magnesium

(D) Tin

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119. Which of the following statements is NOT true regarding surface tension ?

(A) Capillary action is a property of surface tension.

(B) In the case of mercury taken in a glass tube, the cohesive force is lesser than adhesive force.

(C) Liquids that have strong intermolecular forces also have high surface tensions.

(D) Surface tension is the amount of energy required to stretch or increase the surface of a liquid by a unit area.

120. The amphoteric oxide among the following is :

(A) CaO

(B) CO_2

(C) NO_2

(D) ZnO

121. Structural and hierarchical arrangement of concept describes in :

(A) Concept Attainment Model

(B) Advance Organiser Model

(C) Inquiry Training Model

(D) Group Investigation Model

122. Who established Tata Institute of Fundamental Research (TIFR) in Mumbai ?

(A) Bhabha

(B) Einstein

(C) Faraday

(D) Max Plank

123. Which of the following is exclusively meant for learner ?

(A) Reference book

(B) Hand book

(C) Source book

(D) Work book

124. According to Bruner, the stage at which knowledge is represented through images is called :

(A) Enactive stage

(B) Iconic stage

(C) Symbolic stage

(D) Visual stage

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125. Which one of the following does not promote reflection ?

(A) Instrumental feedback

(B) Case records

(C) Journal

(D) Hand book

126. The professional growth of science teachers can be ensured maximum by providing :

(A) In-service training

(B) Source book

(C) Question bank

(D) Attractive salary

127. The evaluation at the end of the course is :

(A) Placement evaluation

(B) Formative evaluation

(C) Diagnostic evaluation

(D) Summative evaluation

128. The most appropriate chart to show the difference between nuclear fission and nuclear fusion :

(A) Flow chart

(B) Tabular chart

(C) Content chart

(D) Tree chart

129. National Curricular Framework (NCF 2005) lays more emphasize on :

(A) Behaviorism

(B) Naturalism

(C) Pragmatism

(D) Constructivism

130. Which among the following is not a Herbartian approach to lesson planning ?

(A) Association

(B) Generalization

(C) Application

(D) Induction

131. The term scaffolding is related to :

(A) Piaget

(B) Bruner

(C) Vygotsky

(D) Skinner

132. The approach based on the principle 'general to specific' in organizing curriculum is :

(A) Concentric approach

(B) Unit approach

(C) Topic approach

(D) Spiral approach

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133. Before teaching the topic gravitation the teacher explains the years of hard-work of Sir Isaac Newton which resulted in the discovery of the concept. The teacher is using :

(A) Scientific Method

(B) Problem Solving Method

(C) Discovery Method

(D) Historical Method

134. Identify the most suitable technique for transacting the concept of Rutherford's Scattering Experiment :

(A) Brainstorming

(B) Buzz session

(C) Dramatization

(D) Computer simulation

135. The logical and systematic breakup of the curriculum from the point of view of a pedagogue is :

(A) Technological analysis

(B) Pedagogical analysis

(C) Content analysis

(D) Techno pedagogic analysis

136. Which of the following is not a characteristic of scientific attitude ?

(A) Open mindedness

(B) Critical thinking

(C) Objectivity

(D) Easily accepting others opinion

137. While teaching the concept 'force', the size and shape of objects are considered as :

(A) Essential-Attributes

(B) Non-exemplars

(C) Non-essential attributes

(D) Exemplars

138. An instance where knowledge of Mathematics is NOT inevitable to understand Physics is :

(A) Arriving at the concept of Boyle's law

(B) Illustrating laws of motion

(C) Classifying simple machines to levers and non-levers

(D) Establishing relation between work and energy

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139. Identify the test used to find out area of difficulty faced by students :

(A) Achievement Test

(B) Diagnostic Test

(C) Prognostic Test

(D) Unit Test

140. Which of the following does not come under McCormack and Yager's Taxonomy ?

(A) Process Domain

(B) Creativity Domain

(C) Attitudinal Domain

(D) Affective Domain

141. Cognitive domain explains :

(A) Doing field

(B) Knowledge field

(C) Feeling field

(D) Activity field

142. What type of question is useful for collecting more creative ideas regarding the harmful effects of artificial drinks ?

(A) Multiple choice

(B) Sentence completion

(C) Short answer

(D) Essay

143. OHP is an example for :

(A) Activity aid

(B) Projected aid

(C) Non Projected aid

(D) Chart

144. 'Science is the pursuit of truth'. The value of science referred here is :

(A) Moral

(B) Practical

(C) Social

(D) Intellectual

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145. Identify the concept from the following :

(A) Helium is an inert gas

(B) Iron is a hard metal

(C) Sugar solution is a homogeneous mixture

(D) Metals conduct electricity

146. Who among the four educationalists is closely associated with project method ?

(A) Kilpatrick

(B) Thorndike

(C) Bloom

(D) Gagne

147. Which among the following is not associated with Piaget ?

(A) Schema

(B) Zone of Proximal Development

(C) Assimilation

(D) Accommodation

148. Which among the following is an audio-visual aid ?

(A) Video clips

(B) Working model

(C) Field trip

(D) Still model

149. Which of the following is not the property of CCE ?

(A) Diagnosing weaknesses of students

(B) Informal evaluation carried out by teachers

(C) Multiple techniques of evaluation

(D) Considering only scholastic aspects

150. If there is purchase of some non-consumable articles in the science laboratory, it should be entered in :

(A) Permanent stock register

(B) Breakable register

(C) Order register

(D) Requirement register

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