

CATEGORY - III

PART - 3

Physical Science

Question Numbers 71 to 150

2

71. Weight of a body having mass 10 kg is :
 (A) 98 N
 (B) 9.8 N
 (C) 980 N
 (D) 0.98 N
72. Which of the following is a heterogeneous mixture ?
 (A) Blood
 (B) Liquid dish wash
 (C) Brine
 (D) Brass
73. Which of the following is an endothermic reaction ?
 (A) Dissolution of NH_4Cl in water
 (B) Formation of CO_2 from carbon and oxygen
 (C) Neutralization reaction between acid and alkali
 (D) Combustion of methane
74. Which among the following is the most abundant element in the Universe ?
 (A) helium
 (B) hydrogen
 (C) oxygen
 (D) nitrogen
75. To which of the following is Bohr's theory applicable ?
 (A) Be^+
 (B) Li^{2+}
 (C) He^{2+}
 (D) He
76. The process used for the manufacture of chlorine is :
 (A) Contact process
 (B) Deacon process
 (C) Haber process
 (D) Solvay process
77. Amount of heat energy required to convert unit mass of a substance from one state to another at its melting point :
 (A) Heat capacity
 (B) Specific heat capacity
 (C) Calorific value
 (D) Latent heat
78. In carbon-60 all carbon atoms are :
 (A) sp^2 hybridized with a graphite-like shape
 (B) sp^2 hybridized with a diamond shape
 (C) sp^3 hybridized with a square antiprism shape
 (D) sp^2 hybridized with a truncated icosahedron shape
79. Name the rule behind the working of electric motor :
 (A) Flemings right hand rule
 (B) Amperes swimming rule
 (C) Right hand thumb rule
 (D) Flemings left hand rule

80. Which of the following represents mathematical expression of Newton's second law of motion?

(A) $F \propto \frac{dp}{dt}$

(B) $F \propto \frac{dt}{dp}$

(C) $F \propto \frac{mv}{dt}$

(D) $F \propto \frac{dv}{dt}$

81. Name the nature of waves propagated from a stretched string.

- (A) Transverse
(B) Longitudinal
(C) Electromagnetic
(D) Ultraviolet

82. In the electrolysis of alumina, cryolite is added to:

- (i) increase the electrical conductivity
(ii) lower the melting point of alumina
(iii) minimise anode effect
(iv) remove impurities from alumina

- (A) (ii) and (iv)
(B) (ii) and (iii)
 (C) (iii) and (iv)
(D) (i) and (ii)

83. When an ebonite rod is rubbed with a piece of woolen cloth, ebonite rod acquires:

- (A) Same charge
(B) No charge
(C) Positive
 (D) Negative

84. In soap industry glycerol can be separated from spent-lye by using:

- (A) centrifugation
 (B) distillation under reduced pressure
(C) filtration
(D) differential extraction

85. Reciprocal of resistance is:

- (A) Reactance
 (B) Conductance
(C) Capacitance
(D) Inductance

86. Ten 5Ω resistors are connected in parallel. What is the effective resistance of the combination?

- (A) 10
(B) 5
 (C) 0.5
(D) 15

87. The pH of 10^{-8} M HCl will be approximately:

- (A) 2
 (B) 7
(C) 8
(D) 1

88. Kinetic and Potential energies belongs to:

- (A) Electromagnetic energy
 (B) Mechanical energy
(C) Mass-energy
(D) Sound energy

89. Which of the following metal can displace hydrogen from mineral acids?

- (A) Zn
(B) Ag
(C) Au
(D) Cu

90. The concentration term that depends on temperature is :
- (A) Mass percentage
(B) Molarity
 (C) Molality
(D) Mole fraction
91. A flask is of a capacity of 1 litre. How much increase in its capacity is required to accommodate the excess volume of air in the flask when it is heated from 27°C to 37°C ? Assume pressure to be constant :
- (A) 33.3 mL
(B) 3.33 mL
 (C) 1.033 L
(D) 1 L
92. Small drop of liquids assume spherical shape, because :
- (A) spherical drop has symmetrical distribution of force
(B) spherical drop has the least adsorption power
 (C) for a given volume, a sphere assumes the smallest surface area
(D) for a given volume, a sphere assumes the largest surface area
93. In commercial power generators which of the following is used as stator ?
- (A) Armature
 (B) Field magnet
(C) Brush
(D) Slip rings
94. The amount of water (g) produced by the combustion of 16 g of methane :
- (A) 9 g
(B) 16 g
 (C) 18 g
(D) 36 g
95. Which of the following do not undergo salt hydrolysis ?
- (A) CH_3COONa
(B) NH_4Cl
 (C) KCl
(D) $\text{CH}_3\text{COONH}_4$
96. Use of a transistor is as :
- (A) an amplifier
(B) an oscillator
(C) a switch
 (D) all of these
97. The device used to reduce current in a circuit without power loss :
- (A) Capacitor
(B) Resistor
 (C) Inductor
(D) Transistor
98. Which of the following statement is incorrect for cathode rays ?
- (A) Cathode rays consist of negatively charged particles.
(B) They are deflected by electric and magnetic fields.
(C) The characteristics of cathode rays depend upon the material of electrodes.
 (D) The characteristics of cathode rays do not depend upon the nature of the gas present in the cathode ray tube.
99. The IUPAC name of $(\text{CH}_3)_2\text{CHCH}(\text{CH}_3)_2$ is :
- (A) 2,3-Dimethylbutane
(B) 1,2-Di-isopropylethane
(C) 1,1,2,2-Tetramethylethane
(D) 1,5-Dimethylbutane

2

8+2 = 10

100. Which of the following electronic configurations represents the element with the maximum electron gain enthalpy?

- (A) $1s^2 2s^2 2p^6$
- (B) $1s^2 2s^2 2p^5$
- (C) $1s^2 2s^2 2p^6 3s^1$
- (D) $1s^2 2s^2 2p^6 3s^2 3p^3$

101. Which of the following violates octet rule?

- (A) Lithium chloride
- (B) Nitrogen dioxide
- (C) Sulphuric acid
- (D) All of the above

102. The most basic oxide among the following is:

- (A) Na_2O
- (B) Cl_2O_7
- (C) Al_2O_3
- (D) N_2O

103. Minimum velocity with which a body must be projected so that it escapes from the gravitational attraction of earth permanently is:

- (A) Orbital velocity
- (B) Escape velocity
- (C) Uniform velocity
- (D) Critical velocity

104. To estimate the speed of aeroplane, automobile, etc. which of the following effect is used?

- (A) Zebeck effect
- (B) Thomson effect
- (C) Joules effect
- (D) Doppler effect

105. If angle between two reflecting surfaces is 60° , how many images are formed?

- (A) 2
- (B) 3
- (C) 6
- (D) 5

106. The spherical mirror which is used in beauty parlour for shaving purpose is:

- (A) Convex mirror
- (B) Concave mirror
- (C) Plane mirror
- (D) Plano concave mirror

107. According to magnetic behavior of a substance 'Cobalt' belongs to:

- (A) Paramagnetic substance
- (B) Ferromagnetic
- (C) Diamagnetic
- (D) None of these

108. When a wave travels from one medium to another which of the following remains the same?

- (A) Wavelength
- (B) Velocity
- (C) Frequency
- (D) None of the above

109. Which of the following is not a reason for the anomalous properties of nitrogen?

- (A) Small size
- (B) High ionization enthalpy
- (C) Availability of d orbitals
- (D) High electronegativity

5
10+5
2(15)

110. Hot water is preferred to cold water in cleaning clothes because of :
- (A) Low surface tension
(B) High surface tension
(C) Absence of surface tension
(D) None of the above
111. The working principle of Dentist's chair is :
- (A) Bernoulli's principle
(B) Pascal's law
(C) Ohm's law
(D) Hookes law
112. The number of sodium ions in 1 molar NaOH solution is :
- (A) 6.022×10^{20}
(B) 6.022×10^{21}
(C) 6.022×10^{18}
(D) 6.022×10^{23}
113. Position-time graph of a stationary object is :
- (A) Parallel to the time axis
(B) Perpendicular to the time axis
(C) Inclined to time axis
(D) None of the above
114. Knee voltage of silicon is :
- (A) 0.3
(B) 0.7
(C) 0.5
(D) 0.6
115. Necessary condition to occur total internal reflection is :
- (A) Light ray must travel from rarer to denser medium
(B) Light ray must travel through same medium
(C) Light ray must travel from denser to rarer medium
(D) Light ray must travel perpendicular to surface of separation
116. Temperature of a body in Fahrenheit scale is 32°F . What is the value in Celsius scale ?
- (A) -32°C
(B) 305°C
(C) 0°C
(D) 100°C
117. Rainbow is formed due to which of the following phenomenon of light ?
- (A) Dispersion
(B) Reflection
(C) Scattering
(D) Refraction
118. Which of the following ions have minimum value of flocculating power ?
- (A) SO_3^{2-}
(B) SO_4^{2-}
(C) NO_3^-
(D) PO_4^{3-}
119. Which of the following is the most ionic ?
- (A) SnCl_2
(B) CuCl
(C) NaCl
(D) CaCl_2
120. Which of the following represents the general outer electronic configuration of d-block elements ?
- (A) $(n-1)d^{1-10} ns^2$
(B) $(n-1)d^{10} ns^2$
(C) $(n-1)d^{1-10} ns^{1-2}$
(D) $(n-2)d^{1-10} ns^{1-2}$
121. Learning aids prepared by students with simple and available inexpensive materials are :
- (A) Improvised Aids
(B) Activity Aids
(C) Digital learning Aids
(D) Learning Aids

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6 15-16
(21)

273
31
0.5

122. An instance where knowledge of Chemistry is desirable to understand the concept in Physics is while :
- (A) Deriving the unit of force
 (B) Explaining the concept of Mass
 (C) Explaining Galvanic cell
 (D) Classifying levers
123. The student is prepared to reconsider his/her own judgement in the light of new evidence has developed :
- (A) Manipulative skills
 (B) Scientific attitude
 (C) Scientific creativity
 (D) Scientific literacy
124. A teacher facilitates his/her students to be free from bias and superstitious beliefs. The teacher is purposefully trying to develop scientific :
- (A) Literacy
 (B) Attitude
 (C) Aptitude
 (D) Skill
125. Type of evaluation used to assign grades to students :
- (A) Unit evaluation
 (B) Formative evaluation
 (C) Summative evaluation
 (D) Diagnostic evaluation
126. Scoring Key and Marking scheme are prepared respectively for :
- (A) Essay type and Multiple choice type tests
 (B) Short answer and Multiple choice type tests
 (C) Multiple choice and Short answer type tests
 (D) Essay type and Short answer type tests
127. The most appropriate chart that can be used for distinguishing Oxidation and reduction reactions is :
- (A) Flow chart
 (B) Tree chart
 (C) Tabular chart
 (D) Flip chart
128. The type of learning emphasized where learning takes place through first-hand experience :
- (A) Abstract learning
 (B) Experiential learning
 (C) Behaviourist learning
 (D) Cognitive learning
129. The role of a teacher is that of a guide, friend and philosopher in :
- (A) Lecture Method
 (B) Historic Method
 (C) Project Method
 (D) Biographical Method
130. In Revised Bloom's Taxonomy, the lowest objective in the given hierarchy of the Cognitive domain is :
- (A) Creating
 (B) Analyzing
 (C) Applying
 (D) Evaluating
131. Match the following :
- | | |
|--|------------------------------|
| (a) Piaget | (i) Concept Attainment model |
| <input checked="" type="checkbox"/> (b) Bruner | (ii) Chain Learning |
| (c) Gagne | (iii) Scaffolding |
| (d) Vygotsky | (iv) Accommodation |
- The correct match is :
- (A) (a) - (iv); (b) - (ii); (c) - (i); (d) - (iii)
 (B) (a) - (iv); (b) - (i); (c) - (ii); (d) - (iii)
 (C) (a) - (i); (b) - (iv); (c) - (ii); (d) - (iii)
 (D) (a) - (i); (b) - (ii); (c) - (iv); (d) - (iii)

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 21+6
 227

132. Complete the following :

Advance Organiser : Advance organizer model ; Exemplars : _____

- (A) Concept Attainment Model
- (B) Inquiry Training Model
- (C) Synectic Model
- (D) Jurice Prudential Model

133. Zone of Proximal Development is the concept of :

- (A) Jerome. S. Bruner
- (B) Jean Piaget
- (C) Howard Gardner
- (D) L. Vygotsky

134. If a teacher wants to finish a large content within a limited time, the most appropriate method to be adopted is :

- (A) Historical method
- (B) Lecture method
- (C) Lecture demonstration method
- (D) Biographical method

135. 'For every action there is an equal and opposite reaction'. Which of the following is most appropriate for this statement ?

- (A) Law
- (B) Fact
- (C) Principle
- (D) Generalization

136. The anecdotal approach, the biographical approach, the evolutionary approach and the social approach are the major approaches coming under :

- (A) Problem Method
- (B) Scientific Method
- (C) Historical Method
- (D) Heuristic Method

137. The teacher explains the concept of Inertia to students. Then he/she asks them to cite examples of the concept. The approach used by the teacher is :

- (A) Induction
- (B) Deduction
- (C) Discovery
- (D) Factual

138. Select the odd one out :

- (A) Imitation
- (B) Precision
- (C) Articulation
- (D) Characterisation

139. A guide for the teacher to organize day-to-day class work keeping in mind the long term goals is :

- (A) Year plan
- (B) Unit plan
- (C) Lesson plan
- (D) Resource unit

140. The thermometers and lenses purchased for the Physical Science lab are to be entered in :

- (A) Consumable stock register
- (B) Permanent stock register
- (C) Supply register
- (D) Order register

141. Which of the following is not a quality of Science teacher ?

- (A) Subject expert
- (B) Dedicated to excellence
- (C) Rigid
- (D) Thrives on challenge

6 27-16 33

142. Which is the most suitable learning aid to teach solar system ?
(A) Planetarium
(B) Vivarium
(C) Museum
(D) Model
143. Which of the following is a contribution of Gagne ?
(A) Scaffolding
(B) Advance organizer
(C) Hypothetico deductive reasoning
(D) Multiple discrimination
144. Which among the following is the contribution of Bruner ?
(A) Field Theory
(B) Reception Learning
(C) Discovery Learning
(D) Critical Pedagogy
145. Which of the following does not come under vicarious experience ?
(A) Television
(B) Motion pictures
(C) Field trip
(D) Still pictures
146. The effective method for transacting the content Chain reaction is by using :
(A) Lecture method
(B) Activity method
(C) Discovery method
(D) Computer Assisted method
147. Blue print is not needed in :
(A) Unit test
(B) Teacher made Achievement test
(C) Standardised Achievement test
(D) Diagnostic test
148. The test that is used exclusively for predicting expected performance in future programme is :
(A) Diagnostic test
(B) Achievement test
(C) Prognostic test
(D) Unit test
149. The remedial measures adopted for overcoming the nature and extent of difficulties are to be on the basis of scores obtained in the :
(A) Unit Test
(B) Intelligence test
(C) Diagnostic test
(D) Achievement test
150. After internalizing the concept of levers if a student classifies levers into first order and second order, then the objective achieved is :
(A) Comprehension
(B) Analysis
(C) Evaluate
(D) Create

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33-5

38-5
22-P
24-E

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TENTATIVE ANSWER KEY

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KTET Tentative Answer Key			
Question No	Correct Option	Question No	Correct Option
Physical Science		96	D
71	A	97	C
72	A	98	D
73	A	99	A
74	B	100	D
75	B	101	B
76	B	102	A
77	D	103	B
78	D	104	D
79	D	105	D
80	A	106	B
81	A	107	B
82	D	108	C
83	D	109	C
84	B	110	A
85	B	111	B
86	C	112	D
87	B	113	A
88	B	114	B
89	A	115	C
90	C	116	C
91	C	117	A
92	C	118	D
93	B	119	C
94	D	120	C
95	C	121	A

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122	C	137	B
123	B	138	D
124	B	139	C
125	C	140	B
126	C	141	C
127	C	142	D
128	B	143	D
129	C	144	C
130	C	145	A
131	B	146	D
132	A	147	A
133	D	148	C
134	B	149	C
135	A	150	B
136	C		



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