

101. If A and B are subsets of U, then $(A \Delta B) \cap (A \cap B) =$

- (1) $A - B$ (2) $B - A$
(3) $A \cap B$ (4) Empty set

102. If $\log_{10}(\log_2 x) = 1$, then x is equal to

- (1) 512 (2) 2^8 (3) 1024 (4) 5

103. If a constant k is added to $p(x) = x^3 - 7x^2 - x + 6$, then $(x + 2)$ becomes a factor. Find k.

- (1) -28 (2) 28 (3) 32 (4) 5

104. If $\tan \theta = \frac{20}{21}$, then $\frac{\cos \theta - \sin \theta}{\cos \theta + \sin \theta} =$

- (1) $\frac{1}{21}$ (2) $\frac{1}{20}$ (3) $\frac{1}{41}$ (4) $\frac{21}{41}$

105. The mean of 10 items is 60. If one of the item is excluded, then the mean is reduced by 5. Find the value of the excluded item.

- (1) 100 (2) 95 (3) 90 (4) 105

106. Let A and B be subsets of the universal set U. Let $n(A) = 140$; $n(B) = 160$, $n(U) = 1600$, $n(A \cup B) = 200$. Then $n(A' \cup B') =$

- (1) 1500 (2) 1200 (3) 1000 (4) 1100

107. The number of terms in the sequence

$$-1, -\frac{5}{6}, \frac{2}{3}, \dots, \frac{10}{3}, \frac{7}{2} \text{ is}$$

- (1) 28 (2) 27 (3) 25 (4) 29

108. If -2 and 3 are roots of $x^3 - 5x^2 - 2x + 24 = 0$ then, the third root is

- (1) -3 (2) 2 (3) 3 (4) 4

109. Let $p(x) = x^2 - 5x + 6$ and $q(x)$ be two polynomials. If LCM and GCD of them are $(x - 3)(x - 2)(x + 6)$ and $(x - 2)$ respectively, then $q(x) =$

- (1) $x^2 + 4x - 8$ (2) $x^2 + 6x - 4$
(3) $x^2 + 4x - 12$ (4) $x^2 + 4x - 6$

110. The point of intersection of the straight lines $x + 4 = 0$ and $y - 4 = 0$ is

- (1) (4, 4) (2) (-4, 4) (3) (0, 4) (4) (4, 0)

111. Which of the following is not an irrational number?

- (1) $\sqrt{8}$ (2) π (3) $\sqrt{16}$ (4) $\sqrt{17}$

112. If $a_n = 2n^2 - 3n + 1$ then $a_6 =$

- (1) 40 (2) 70 (3) 55 (4) 22

113. If $1 + 2 + 3 + \dots + 20 = 210$ then $1^3 + 2^3 + \dots + 20^3 =$

- (1) 44100 (2) 8000 (3) 6500 (4) 3700

114. $\frac{1 + \cot^2 \theta}{1 + \tan^2 \theta} =$

- (1) $\cos^2 \theta$ (2) $\tan^2 \theta$ (3) $\sin^2 \theta$ (4) $\cot^2 \theta$

115. If the perimeter and radius of a sector are 38 cm and 9 cm respectively, then the length of arc of the sector is

- (1) 20 cm (2) 47 cm (3) 29 cm (4) 56 cm

116. The lateral surface area of a cuboid whose dimensions are given by $3m \times 5m \times 4m$

- (1) 60 sq.m (2) 64 sq.m
(3) 32 sq.m (4) 27 sq.m

117. $\sum_{i=1}^n (x_i - \bar{x})$

- (1) 1 (2) \bar{x} (3) $\sum x$ (4) 0

118. If a die is rolled once, the probability of getting the number 7 is

- (1) 0 (2) 1 (3) $\frac{1}{6}$ (4) $\frac{7}{6}$

119. If $\begin{pmatrix} 5x+2 & y-4 \\ 0 & 4z+6 \end{pmatrix} = \begin{pmatrix} 12 & -8 \\ 0 & 2 \end{pmatrix}$ then the values of

x, y, z are

- (1) 5, 4 and 2 (2) 2, -4 and -1
(3) 1, 2 and 3 (4) 6, 7 and 0

120. If the angle of inclination of a straight line is 45° then the slope is

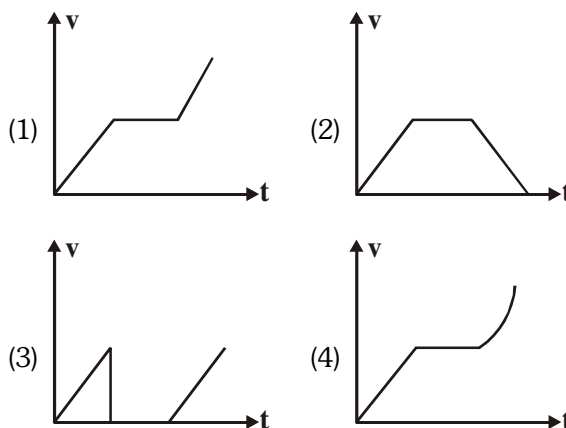
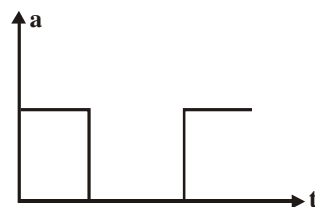
- (1) 1 (2) $\frac{1}{\sqrt{3}}$ (3) $\sqrt{3}$ (4) 0

121. Weight of an object is measured in :

- (1) Two pan balance (2) Physical balance
(3) Spring balance (4) Medical balance

- 122.** The unit of angular velocity is :
 (1) m/s (2) radian/second
 (3) m/s² (4) radian
- 123.** The process in which a substance changes from the gaseous state into liquid state is called :
 (1) Freezing (2) Sublimation
 (3) Vapourisation (4) Condensation
- 124.** Mass of an object is 6 kg. What is its weight on the earth ?
 (1) 56.8 N (2) 58.7 N
 (3) 53.9 N (4) 58.8 N
- 125.** The value of 'G' is :
 (1) 9.8 ms⁻²
 (2) $6.673 \times 10^{-10} \text{ Nm}^2\text{kg}^{-2}$
 (3) 9.8 sm⁻²
 (4) $6.673 \times 10^{-11} \text{ Nm}^2\text{kg}^{-2}$
- 126.** At what temperature, the cryogenics gas are produced ?
 (1) Below 123 K (2) Below 126 K
 (3) Above 123 K (4) Above 126 K
- 127.** Current is :
 (1) Flow of electrons (2) Flow of molecules
 (3) Flow of protons (4) Flow of Neutrons
- 128.** In our house, the potential difference between the two wires are :
 (1) 240 V (2) 230 V
 (3) 210 V (4) 220 V
- 129.** The expansion of LED :
 (1) Lead Emitting Diode (2) Liquid Emtting Diode
 (3) Light Emtting Diode (4) Light Crystal Diode
- 130.** In thermal power plant, the conversion of energy is :
 (1) Chemical energy into electrical energy
 (2) Heat energy into electrical energy
 (3) Hydro energy into electrical energy
 (4) Wind energy into electrical energy
- 131.** Non-radioactivity elements is/are :
 (1) Uranium (2) Lead
 (3) Radium (4) Polonium

- 132.** The device which convert solar energy into electrical energy is :
 (1) Solar stove (2) Solar heater
 (3) Solar cooker (4) Solar cells
- 133.** Which of the following graphs would probably show the velocity plotted against time graph for a body whose acceleration-time graph is shown in the figure?



- 134.** In an explosion a body breaks up into two pieces of unequal masses. In this
 (1) both parts will have numerically equal momentum.
 (2) lighter part will have more momentum.
 (3) heavier part will have more momentum.
 (4) both parts will have equal kinetic energy.
- 135.** Match the following-Composition of air
- | Gas | In mass % |
|--------------------|--------------|
| (a) Nitrogen | (i) 1.0% |
| (b) Oxygen | (ii) 0.0456% |
| (c) Argon | (iii) 75.50% |
| (d) Carbon dioxide | (iv) 23.20% |
- (a) (b) (c) (d)
 (1) (iii) (iv) (i) (ii)
 (2) (iii) (i) (iv) (ii)
 (3) (iii) (ii) (i) (iv)
 (4) (i) (iii) (iv) (ii)

- 136.** Maximum number of electrons accommodated in 'L' shell is
 (1) 2 (2) 8 (3) 18 (4) 32
- 137.** When sunlight passes through window of the classrooms, its path is visible. This is due to _____ of light.
 (1) reflection (2) scattering
 (3) refraction (4) diffusion
- 138.** Example for polyatomic molecule is
 (1) Helium (2) Ozone
 (3) Phosphorus (4) Oxygen
- 139.** When Potassium chlorate is heated, oxygen is evolved. In this reaction _____ is used as a catalyst
 (1) Manganese oxide
 (2) Manganese dioxide
 (3) Manganese chloride
 (4) Manganese sulphate
- 140.** The chemical compound present in white enamel coating in our teeth is
 (1) Calcium phosphate (2) Calcium Sulphate
 (3) Calcium chloride (4) Calcium carbonate
- 141.** When _____ is passed through lime water, it turns milky.
 (1) oxygen (2) carbon dioxide
 (3) nitrogen (4) hydrogen
- 142.** Write incorrect match.
 (1) Gas liquid – Soda water
 (2) Liquid in gas – Cloud
 (3) Liquid in liquid – Milk
 (4) Solid in solid – Smoke
- 143.** Find the atomicity of Ozone if its atomic mass is 16 and its molecular mass is 48
 (1) 2 (2) 3 (3) 1 (4) 4
- 144.** The gram molecular mass of water (H₂O) is
 (1) 18g (2) 9g (3) 44g (4) 40g
- 145.** Match the following:
- | Substance | | Name of acid | |
|-------------|-------|---------------------|-------|
| (a) Lemon | | (i) Acetic acid | |
| (b) Grapes | | (ii) Oxalic acid | |
| (c) Tomato | | (iii) Tartaric acid | |
| (d) Vinegar | | (iv) Citric acid | |
| (a) | (b) | (c) | (d) |
| (1) (i) | (iii) | (iv) | (ii) |
| (2) (iv) | (i) | (ii) | (iii) |
| (3) (iv) | (iii) | (ii) | (i) |
| (4) (iii) | (iv) | (i) | (ii) |
- 146.** The solution to be mixed with lead nitrate to obtain yellow precipitate is
 (1) Potassium iodide
 (2) Potassium sulphide
 (3) Potassium nitride
 (4) Potassium chloride
- 147.** Which of the following pair is isoelectronic?
 (1) CO₂, NO (2) NO₂, CO₂
 (3) CO, CN⁻ (4) SO₂, CO₂
- 148.** Example for sucking insects is
 (1) sugarcane borer (2) leaf hoppers
 (3) grass hoppers (4) caterpillars
- 149.** The hardest part of the human body is
 (1) Nail (2) Bone
 (3) Skull (4) Enamel of the tooth
- 150.** The mammal which can fly is
 (1) Owl (2) Egrets
 (3) Darters (4) Bat
- 151.** Bio catalysts that speed up reaction in cells is
 (1) Enzymes (2) Organic acids
 (3) Antibiotics (4) Steroids
- 152.** In man, blood sugar level under fasting condition is
 (1) 70–140 mg/100 ml (2) 80–100 mg/100 ml
 (3) 70–120 mg/100 ml (4) 82–120 mg/100 ml
- 153.** Measles are caused by the way of
 (1) Indirect Transmission through fomites
 (2) Transmission by animal
 (3) Direct transfer of germs
 (4) Transmission by water
- 154.** Which part of the brain is the seat of imagination?
 (1) Thalamus (2) Cerebellum
 (3) Cerebrum (4) Medulla oblongata
- 155.** The germinal epithelial cells of animals undergo _____ cell division.
 (1) Mitosis
 (2) Meiosis
 (3) Both mitosis and meiosis
 (4) Amitosis
- 156.** The first formed organism in the earth is a
 (1) Fungi (2) Protozoans
 (3) Virus (4) Bacteria
- 157.** Pollination by birds is called _____.
 (1) Ornithophily (2) Zoophily
 (3) Anemophily (4) Hydrophily

- 158.** By which plant, the Bioplastics are made from ?
 (1) Potatoes and Rice
 (2) Potatoes and Sugarcane
 (3) Corn and Potatoes
 (4) Corn and Wheat
- 159.** _____ wastes are usually disposed off by means of incineration.
 (1) Bio-medical wastes
 (2) Radioactive wastes
 (3) Bio degradable wastes
 (4) Non biodegradable wastes
- 160.** Assertion : The Golgi apparatus mainly performs the function of packaging materials.
 Reason : Materials to be packed in the form of vesicles from the ER fuse with trans face of the Golgi apparatus.
 (1) If both assertion and reason are true and reason is the correct explanation of assertion.
 (2) If both assertion and reason are true but reason is not the correct explanation of assertion.
 (3) If assertion is true but reason is false.
 (4) If both assertion and reason are false.
- 161.** Which was the birth place of Renaissance ?
 (1) Italy (2) Germany
 (3) England (4) Austria
- 162.** Who were the people of Kurinji region ?
 (1) Idayar (2) Uzhavar
 (3) Minavar (4) Kuravar
- 163.** A great demand for the raw material was created by :
 (1) Industrial Revolution (2) It Revolution
 (3) French Revolution (4) Agrarian Revolution
- 164.** In Russia, the Czarist government was overthrown by _____.
 (1) Lenin (2) Karlmarx
 (3) Martov (4) Stalin
- 165.** The followers of Mussolini were called _____.
 (1) Black shirts (2) Brown shirts
 (3) Pearl Harbour (4) Persian Gulf
- 166.** Mein Kampf means
 (1) My life (2) My struggle
 (3) My aim (4) My party
- 167.** The Japanese attacked the American ships stationed at
 (1) Port Arthur (2) Baltic Sea
 (3) Pearl Harbour (4) Persian Gulf
- 168.** The UNO was established in _____.
 (1) 1955 (2) 1945 (3) 1965 (4) 1975
- 169.** The name of the single European currency is _____.
 (1) Dollar (2) Yen
 (3) Euro (4) Pounds
- 170.** Match :
 (a) New York (i) 1996
 (b) Veto (ii) 1963
 (c) NTBT (iii) Head quarters of UNO
 (d) CTBT (iv) Right to deny
 (1) a-iv, b-ii, c-i, d-iii
 (2) a-iii, b-iv, c-ii, d-i
 (3) a-i, b-ii, c-iv, d-iii
 (4) a-ii, b-iii, c-i, d-iv
- 171.** The highest hills of eastern ghats is in _____.
 (1) Shervarayan (2) Anaimalai
 (3) Javadi (4) Pachamalai
- 172.** Which one of the following is a leading producer of Lignite ?
 (1) Villupuram (2) Neyveli
 (3) Chennai (4) Erode
- 173.** Palk Strait separates India from _____.
 (1) Srilanka (2) Myanmar
 (3) Maldives (4) Lakshadweep
- 174.** The islands of Andaman and Nicobar are situated in _____.
 (1) Bay of bengal (2) Arabian sea
 (3) Indian ocean (4) North sea
- 175.** The coastal areas enjoy _____ climate.
 (1) Continental (2) Equable
 (3) Humid (4) Hot
- 176.** Temperature decreases with increasing altitude at the rate of 1°C for every _____.
 (1) 100 metres (2) 115 metres
 (3) 165 metres (4) 195 metres

- 177.** Which one of the following mineral is contained in the monazite sand ?
 (1) Oil (2) Uranium
 (3) Thorium (4) Coal
- 178.** The soil which is best suited for the cultivation of cotton is :
 (1) Alluvial soil (2) Black soil
 (3) Red soil (4) Laterite soil
- 179.** In red soil, the red colour is due to its very high _____ content,
 (1) Manganese (2) Copper
 (3) Iron (4) Silica
- 180.** 60% of Indian Coffee is produced in _____.
 (1) Punjab (2) Assam
 (3) Karnataka (4) West Bengal
- 181.** The Upper House is known as:
 (1) Rajya Sabha (2) Lok Sabha
 (3) Cabinet (4) Parliament
- 182.** _____ was one of the most explicit reasons of child labour.
 (1) Poverty (2) Over population
 (3) Illiteracy (4) Untouchability
- 183.** There was a danger of a possible third world war when _____ was attacked by Israel, England, France.
 (1) Iran (2) Iraq
 (3) Egypt (4) Germany
- 184.** Nuclear test ban treaty was signed in _____.
 (1) 1963 (2) 1993 (3) 1936 (4) 1998
- 185.** Apartheid was practiced in _____.
 (1) South Korea (2) South America
 (3) South Africa (4) Turkey
- 186.** The 8th member of SAARC is _____.
 (1) Indonesia (2) Japan
 (3) Malaysia (4) Afghanistan
- 187.** The word democracy means the power of _____.
 (1) Nature (2) Good
 (3) King (4) People
- 188.** To contest an election a person should be above the age of _____.
 (1) 20 (2) 18 (3) 25 (4) 35
- 189.** The status of election commissioner is equivalent to that of the _____.
 (1) High Court Judge
 (2) Supreme Court Judge
 (3) District Court Judge
 (4) Magistrate
- 190.** Single party system is practised in
 (1) India (2) America
 (3) England (4) China
- 191.** There is an _____ relationship between price and demand.
 (1) Direct (2) Inverse
 (3) Market (4) Trade
- 192.** GDP-Depreciation is _____.
 (1) PCI (2) NDP (3) NNP (4) NIP
- 193.** Per capita income is obtained by dividing National Income by :
 (1) Depreciation (2) Population
 (3) Savings (4) Investment
- 194.** Non-intervention of government in economic activities is termed as :
 (1) Privatization (2) Liberalization
 (3) Laissez-faire (4) Double counting
- 195.** Primary sector consists of _____.
 (1) Trade (2) Construction
 (3) Agriculture (4) Telecommunication
- 196.** After the Second -World- War East Germany was controlled by _____.
 (1) Britain (2) France
 (3) America (4) Russia
- 197.** At the end of the war Japan was occupied by American forces under General
 (1) George Buckanan
 (2) Winston Churchill
 (3) McArthur
 (4) None of these

198. After the Second -World War a cold war started between

- (1) Russia and America
- (2) France and Britain
- (3) Germany and Russia
- (4) Germany and Japan

199. Apart from IInd World war, Which country also got Independency from foreign powers?

- (1) India
- (2) Burma
- (3) Philippines
- (4) All of these

200. Which organisation was set up to maintain International peace and harmony after Second - World War?

- (1) The United Nations Organisation
- (2) The National League
- (3) The European Union
- (4) The Democratic Alliance