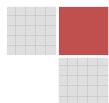


PART - III : QUANTITATIVE APTITUDE

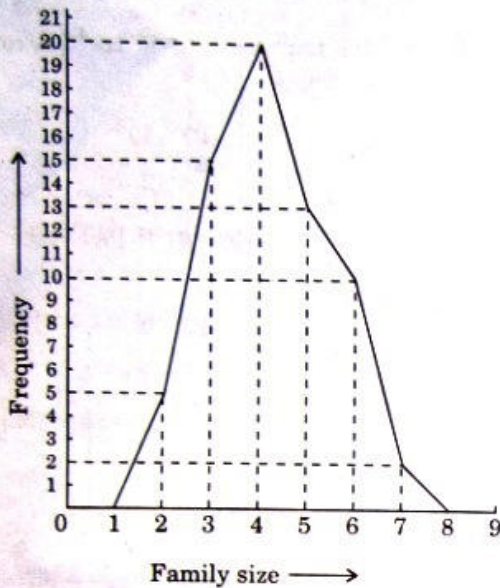
101. 3 cubes whose edges are 3 cm, 4 cm and 5 cm respectively are melted to form a single cube. The surface area of the new cube will be
 (A) 215 sq. m (B) 216 sq. m
 (C) 115 sq. m (D) 150 sq. m
102. There is a rebate of 15% if electric bills are paid in time. A man got a rebate of ₹ 54 by paying the bill in time. His electric bill was
 (A) ₹ 360 (B) ₹ 380
 (C) ₹ 300 (D) ₹ 350
103. After 3 successive discounts of 20%, 10% and 10%, a washing machine was sold for ₹ 6,480. Then the original marked price of the washing machine was
 (A) ₹ 10,800 (B) ₹ 12,000
 (C) ₹ 8,960 (D) ₹ 10,000
104. A dealer allows his customers a discount of 25% and still gains 25%. If the cost price of the article is ₹ 720, then the marked price is
 (A) ₹ 1,200 (B) ₹ 1,100
 (C) ₹ 1,400 (D) ₹ 1,300
105. If ab , bc , x and c^2 are in proportion, then find x , if none of these is equal to zero.
 (A) ac (B) a^2c^2
 (C) a^2c (D) c^2a
106. A watermelon is cut into two pieces in the ratio of 3 : 5 by weight. The bigger of the two is further cut in the ratio of 5 : 7 by weight. Find the ratio of each of the three pieces.
 (A) 15 : 25 : 26 (B) 5 : 7 : 9
 (C) 3 : 5 : 7 (D) 36 : 25 : 35
107. Divide ₹ 450 among A, B and C such that $A : B = 2 : 3$ and $B : C = 6 : 5$. Share of C is
 (A) ₹ 150 (B) ₹ 120
 (C) ₹ 90 (D) ₹ 100
108. The LCM of two given numbers is 6 times the GCD of the numbers. If the smaller of the two numbers is 6, then the other number is
 (A) 15 (B) 18
 (C) 9 (D) 12
109. The population of a city has been increasing at the rate of 10% every year. If the present population is 4840000, what was it 2 years ago?
 (A) 4100000 (B) 4200000
 (C) 3600000 (D) 4000000
110. $(0.98)^3 + (0.02)^3 + 0.98 \times 0.06 - 1$ is
 (A) 1.09 (B) 1.98
 (C) 0 (D) 1
111. A monkey wanted to climb on the smooth vertical pole of height 35 meters. In the first one minute, he climbs up 5 meters, in the next one minute, he slips down by 2 meters. Further, he repeated the same process till he has reached onto the top of the pole. How many times it has to go upward to reach the apex of the pole?
 (A) 11 (B) 27
 (C) 35 (D) 12
112. If a cistern generally takes 20 minutes to be filled by a pipe but due to a leak, it takes 10 extra minutes to be filled, then find the time in which the leak can empty the full cistern.
 (A) 50 minutes (B) 60 minutes
 (C) 30 minutes (D) 40 minutes
113. The wheel of a bus 0.75 m in radius, makes 84 revolutions in half minute. Then the speed of the bus in km per hour is
 (A) 23.76 (B) 33.26
 (C) 17.82 (D) 47.52

114. In a vocational course in a college, 15% seats increase annually. If there were 800 students in 2012, how many seats will be there in 2014 ?
 (A) 1058 (B) 1178
 (C) 920 (D) 1040
115. If I walk at 4 km/hr, I miss the bus by 10 minutes. If I walk at 5 km/hr, I am 5 minutes early. How far do I walk to reach the bus stand ?
 (A) 4 km (B) 6 km
 (C) 3 km (D) 5 km
116. Two trains 180 meters and 220 meters long are running in opposite directions at a speed of 40 km/hr and 50 km/hr respectively. They cross each other in
 (A) 17 seconds (B) 20 seconds
 (C) 16 seconds (D) 18 seconds
117. The simple interest on a certain sum for 2 years at 10% per annum is ₹ 100. The corresponding compound interest is
 (A) ₹ 105 (B) ₹ 85
 (C) ₹ 100 (D) ₹ 95
118. A man deposits ₹ 5,600 in a bank at $\frac{15}{4}\%$ simple interest. After 6 months he withdraws ₹ 3,200 together with interest and after 6 months, he withdraws the remaining money. The total amount, he gets as interest, is
 (A) ₹ 150 (B) ₹ 180
 (C) ₹ 100 (D) ₹ 125
119. The diameters of the internal and external surfaces of a hollow spherical shell are 6 cm and 10 cm respectively. If it is melted and recast into a solid cylinder of length $\frac{8}{3}$ cm, then the diameter of the cylinder is
 (A) 14 cm (B) 16 cm
 (C) 7 cm (D) 10 cm
120. The average of runs of a cricket player in 15 matches is 33. If the average of the first 10 matches is 45, then the average of the last 5 matches is
 (A) 15 (B) 23
 (C) 9 (D) 13.5
121. The average of ten numbers is 30. If 5 is added to every number, the new average is
 (A) 30 (B) 30.5
 (C) 35 (D) 53
122. Average age of 38 students is 14 years. If the age of the teacher is included, the average becomes 14 years and 4 months. Then teacher's age is
 (A) 25 years (B) 29 years
 (C) 23 years (D) 27 years
123. I bought a picture for ₹ 225, spent ₹ 15 to decorate it and sold it for ₹ 300. My profit percentage is
 (A) $33\frac{1}{3}$ (B) 25
 (C) 52 (D) 50
124. Mr. Sharma sold his bike to Mr. Kelkar at a loss of 20%. Mr. Kelkar spends ₹ 2,000 on its repair and sells it for ₹ 22,000, thus making a profit of 10%. Then the cost price of the bike for Mr. Sharma is
 (A) ₹ 22,500 (B) ₹ 15,000
 (C) ₹ 18,500 (D) ₹ 25,000
125. A dishonest dealer claims that he sells his goods at the cost price but uses a false weight of 920 gm instead of 1 kg. Find his gain percent.
 (A) 9% (B) 8.5%
 (C) 8% (D) 8.7%
126. 75% of a number when added to 75 is equal to the number. The number is
 (A) 225 (B) 300
 (C) 150 (D) 200

127. If $a = (\sqrt{3} + \sqrt{2})^{-3}$ and $b = (\sqrt{3} - \sqrt{2})^{-3}$, then the value of $(a + 1)^{-1} + (b + 1)^{-1}$ is
- (A) $48\sqrt{2}$ (B) $50\sqrt{3}$
(C) 1 (D) 5
128. If $5a + 3b : 4a + 7b = 3 : 4$, then $a : b$ is equal to
- (A) 9 : 8 (B) 7 : 11
(C) 8 : 9 (D) 11 : 9
129. The value of k for which the expression $9x^2 - kx + 16$ be a perfect square is
- (A) ± 12 (B) ± 24
(C) ± 2 (D) ± 6
130. The solution(s) of
- $$\frac{x + \sqrt{x^2 - 1}}{x - \sqrt{x^2 - 1}} + \frac{x - \sqrt{x^2 - 1}}{x + \sqrt{x^2 - 1}} = 14$$
- is/are
- (A) + 8 (B) - 6
(C) ± 2 (D) ± 4
131. The water contained by a hemispherical cup having diameter 13.5 cm is poured into an empty right circular cylindrical glass of diameter 9 cm. Then the depth of the water in the glass is
- (A) 8 cm (B) $12\frac{1}{3}$ cm
(C) $10\frac{1}{8}$ cm (D) $7\frac{3}{8}$ cm
132. The area of the base of a cuboidal box is 21 sq. cm and the area of one of the faces is 30 sq. cm. The numerical value of each of the dimensions of this box is an integer greater than 1. Then the volume of the cuboidal box, in cu. cm, is
- (A) 210 (B) 630
(C) 105 (D) 120
133. A chord of a circle of radius 14 cm makes a right angle at the centre. The area of the minor segment of the circle is (take $\pi = \frac{22}{7}$)
- (A) 154 cm^2 (B) 252 cm^2
(C) 56 cm^2 (D) 98 cm^2
134. Eliminating t from the equations, $x = \cos t$, $y = 2 \sin t \cos t$, we get
- (A) $y^2 = 2x^2 + 4x^4$ (B) $y^2 = 2x^2 - 4x^4$
(C) $y^2 = 4x^2 + 4x^4$ (D) $y^2 = 4x^2 - 4x^4$
135. If $\tan^4 \theta + \tan^2 \theta = 1$, then value of $\cos^4 \theta + \cos^2 \theta$ is equal to
- (A) 3 (B) 10
(C) 1 (D) 2
136. The value of $\sin(45^\circ + \theta) - \cos(45^\circ - \theta)$ is equal to
- (A) 1 (B) 0
(C) $2 \cos \theta$ (D) $2 \sin \theta$
137. In a ΔABC , \overline{AD} is a median. Which is the correct relation?
- (A) $AB + AC > 2AD$
(B) $AB + AC < 2AD$
(C) $AB + AC = 2AD$
(D) None of these
138. If ΔABC and ΔDEF are similar such that $2AB = DE$, $BC = 8$ cm, then EF is
- (A) 4 cm (B) 8 cm
(C) 16 cm (D) 12 cm
139. From an external point, a tangent to a circle is drawn. If length of this tangent be 8 cm and radius of the circle is 6 cm, the distance of the external point from the centre of the circle is
- (A) $\frac{12}{\sqrt{3}}$ cm (B) 10 cm
(C) $8\sqrt{3}$ cm (D) $6\sqrt{3}$ cm
140. A chord of length 16 cm is drawn in a circle of radius 10 cm. The distance of the chord from the centre of the circle is
- (A) 9 cm (B) 12 cm
(C) 6 cm (D) 8 cm

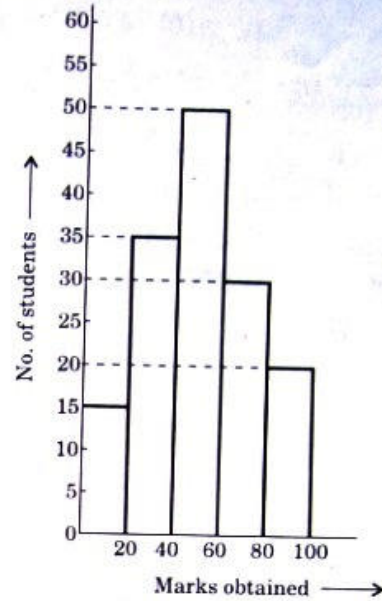


Directions : Study the following frequency polygon showing the family size (i.e. the number of members in a family) alongwith the corresponding frequency (i.e. number of the families) and answer questions number 141 to 145.



141. There are 10 families having the same family size; the family size is
 (A) 4 (B) 5
 (C) 3 (D) 6
142. The family size possessed by maximum number of families is
 (A) 3 (B) 8
 (C) 4 (D) 5
143. The number of families having size '4' or less is
 (A) 50 (B) 40
 (C) 35 (D) 45
144. The percentage of families having size '5' is
 (A) 20 (B) 25
 (C) 30 (D) 15
145. The difference between the number of families having size '3' and size '6' is
 (A) 15 (B) 8
 (C) 5 (D) 10

Directions : Study the following histogram showing frequency distribution of marks of a group of students and answer questions no. 146 to 150.



146. The percentage of students obtaining marks above 60 is
 (A) $30\frac{1}{3}$ (B) 40
 (C) 30 (D) $33\frac{1}{3}$
147. The maximum number of students secured marks between
 (A) 40 and 60 (B) 80 and 100
 (C) 20 and 40 (D) 60 and 80
148. The proportion of students getting marks in the range 60 to 80 is
 (A) $\frac{1}{6}$ (B) $\frac{1}{5}$
 (C) $\frac{2}{3}$ (D) $\frac{1}{10}$
149. Exactly 100 students have secured their marks above
 (A) 60 (B) 80
 (C) 40 (D) 20
150. The total number of students is
 (A) 150 (B) 180
 (C) 100 (D) 120

