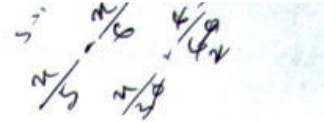
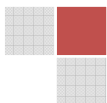


PART - (c)
QUANTITATIVE APTITUDE



101. The sides of a triangle are in the ratio 5 : 4 : 3. Find the sides of this triangle, given that another similar triangle of corresponding sides 30, 24 and 18 cm has an area 9 times the area of the first triangle.
 (A) 12, 10, 6 cm (B) 10, 8, 6 cm
 (C) 16, 12, 9 cm (D) 15, 12, 9 cm
102. A discount of 20% on one article is the same as a discount of 25% on another article. The cost prices of two articles respectively can be (in ₹):
 (A) 1000, 800 (B) 600, 800
 (C) 500, 700 (D) 900, 1000
103. The length of the longest tape in cm which can be used to measure exactly, the lengths 7 m ; 3 m 85 cm ; and 12 m 95 cm is :
 (A) 37 (B) 35
 (C) 20 (D) 11
104. 3 cubes each of edge 1 m, 6 m and 8 m respectively are melted and made into one single cube. The surface area of the new cube is :
 (A) 294 m² (B) 324 m²
 (C) 486 m² (D) 468 m²
105. If $2x = a$ and $4a = 2b$ what is $\frac{x}{b}$?
 (A) $\frac{1}{2}$ (B) $\frac{2}{1}$
 (C) $\frac{1}{4}$ (D) $\frac{1}{8}$
106. The value of $\frac{24.8 \times .73 \times .121}{1.24 \times .219 \times 133.1}$ is :
 (A) $\frac{2}{11}$ (B) $\frac{1}{33}$
 (C) $\frac{2}{33}$ (D) $\frac{11}{2}$
107. Hari walks from his home at 5 km/hr and reaches his office 3 minute too late. The next day he increases his speed by 1 km per/hour and reaches 3 minutes too early. The distance of his office from home is :
 (A) 1 km (B) 2 km
 (C) 3 km (D) $3\frac{1}{2}$ km
108. Both the end digits of a 999 digit number N is 3 and N is divisible by 11, then all the middle digits are :
 (A) 2 (B) 4
 (C) 6 (D) 8
109. If $x = 2, y = 1$, then $x^4 + 2x^3y - 2xy^3 - y^4$ is equal to :
 (A) 20 (B) 24
 (C) 27 (D) 30
110. The volume of a cone whose radius of the base is 6 cms and length of slant height is 10 cm is :
 (A) 288π cu. cm. (B) 96π cu. cm.
 (C) 48π cu. cm. (D) 144π cu. cm.
111. Two straight lines $x + 2y = -1$ and $4x - y = 5$ intersect each other at P. Then the coordinates of the point P is :
 (A) (1, 1) (B) (-1, 1)
 (C) (1, -1) (D) (-1, -1)
112. $6\frac{1}{4}\%$ expressed as a fraction is :
 (A) $\frac{1}{16}$ (B) $\frac{25}{4}$
 (C) $\frac{4}{25}$ (D) $\frac{1}{4}$



113. If the ratio of boys and girls in a class is 7 : 5. Which of the following cannot be the total number of students in the class ?
 (A) 36 (B) 50
 (C) 60 (D) 120
114. Two successive discounts of 10%, 20% are given on cost price of an article. Selling Price now is ₹ 720/- Cost Price of the article is :
 (A) 1200 (B) 900
 (C) 1000 (D) 1100
115. The ratio of the measure of an interior angle of a regular hexagon to the measure of each of its exterior angle is :
 (A) 2 : 1 (B) 1 : 2
 (C) 3 : 2 (D) 3 : 1
116. 8 men or 12 boys can do a piece of work in 16 days. The number of days that 12 men and 6 boys would finish the same work is :
 (A) 8 days (B) 12 days
 (C) 10 day (D) 7 days
117. Two circles touch each other internally. The greater circle has its radius as 6 cm and distance between the centres of the circles is 2 cm, then the radius of the other circle is :
 (A) 3 cm (B) 8 cm
 (C) 4 cm (D) 10 cm
118. The L.C.M. of $x^2 - 4x + 3$ and $x^2 - 5x + 6$ is :
 (A) $(x-1)(x-2)(x-3)^2$
 (B) $(x-1)(x+2)(x-3)$
 (C) $(x+1)^2(x-2)(x-3)$
 (D) $(x-1)(x-2)(x-3)$
119. If $x = \frac{\sqrt{5}-1}{\sqrt{5}+1}$ and $xy = 1$, then the value of $x^2 + y^2 - 3xy$ is :
 (A) 9 (B) 5
 (C) 4 (D) 3
120. A is twice as good a workman as B. Together they finish a piece of work in 18 days. Then B can do a similar work by himself in :
 (A) 9 days (B) 36 days
 (C) 54 days (D) 27 days
121. Angle 27° is equivalent to (in radian measure) :
 (A) $\frac{13\pi}{20}$ (B) $\frac{3\pi}{20}$
 (C) $\frac{9\pi}{20}$ (D) $\frac{5\pi}{20}$
122. The average age of 4 boys is 20 years. A new boy joins them and their average age now becomes 21 years then the age of the new boy is :
 (A) 25 years (B) 20 years
 (C) 21 years (D) 23 years
123. When the length of the shadow of a pillar on ground is same as the height of the pillar then the angle of elevation of the Sun is :
 (A) $\frac{\pi}{2}$ (B) $\frac{\pi}{3}$
 (C) $\frac{\pi}{6}$ (D) $\frac{\pi}{4}$
124. In an isosceles triangle ΔABC with $AB = AC$, a circle passing through B and C intersects the sides AB and AC at D and E respectively. The sides DE and BC of the quadrilateral DBCE are :
 (A) equal (B) parallel
 (C) non-parallel (D) none of these
125. An aeroplane travels distance 2500 km, 1200 km, and 500 km at the rate of 500 km/h, 400 km/h and 250 km/h respectively. The average speed of the plane is :
 (A) 420 km/h (B) 410 km/h
 (C) 405 km/h (D) 575 km/h

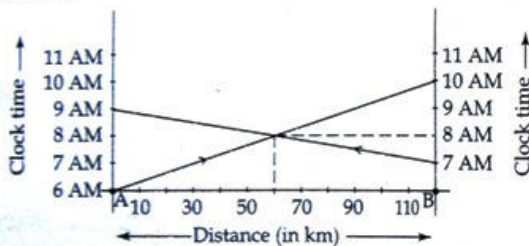
126. If the cost of 18 chairs is equal to selling price of 16 chairs, then the gain percentage is:
 (A) 12.5 (B) 13
 (C) 13.5 (D) 14
127. A bank gives an investor double the initial deposit in 5 years, interest being simple interest. Then the rate of interest is:
 (A) 15 (B) 16
 (C) 18 (D) 20
128. If $\cos^2\theta - \sin^2\theta = \frac{1}{3}$, value of $(\cos^4\theta - \sin^4\theta + 1)$ is:
 (A) 1 (B) $\frac{1}{3}$ $\therefore 5$
 (C) $\frac{4}{3}$ (D) $\frac{5}{3}$ $\sqrt{225}$
129. The sum of internal angles of a regular polygon is 1440° , then the number of sides of the polygon is:
 (A) 10 (B) 12
 (C) 8 (D) 15
130. The radii of two concentric circles are 11 cm and 4 cm. Taking $\pi = \frac{22}{7}$ the area of the annular space between the two circles is:
 (A) 230 sq. cm. (B) 660 sq. cm.
 (C) 330 sq. cm. (D) 440 sq. cm.
131. In ΔABC , BC is produced to D. If $\angle ACD = 112^\circ$ and $\angle B = \frac{3}{4} \angle A$ then measure of $\angle A$ is:
 (A) 64° (B) 65°
 (C) 60° (D) 75°
132. If $\cos 43^\circ = \frac{x}{\sqrt{x^2 + y^2}}$, then $\tan 47^\circ$ is equal to:
 (A) $\frac{y}{x}$ (B) $\frac{x}{y}$ $\cos \theta = \frac{1}{\sec \theta}$
 (C) $\frac{y}{\sqrt{x^2 + y^2}}$ (D) x $\sin^2 \theta = \frac{1 - \cos^2 \theta}{1 + \cos^2 \theta}$
133. If the diagonals of a Rhombus are 16 cm and 12 cm, then the area of Rhombus is:
 (A) 95 sq. cm. (B) 96 sq. cm. $\frac{1}{2}$
 (C) 97 sq. cm. (D) 98 sq. cm.
134. The value of $\sqrt{220 + \sqrt{21 + \sqrt{4 + \sqrt{135 + \sqrt{81}}}}}$ is \times
 (A) 25 (B) 15 $\frac{192}{2} = 96$
 (C) 3 (D) 9
135. If A's income is 25% more than B's income, then find the percentage by which B's income is less than that of A.
 (A) $22\frac{1}{2}$ (B) 20 $B = x$
 (C) 25 (D) $27\frac{1}{2}$ $A = 125\%$
 $\frac{25}{100} = \frac{25}{100}$
 $\frac{125}{100} = \frac{125}{100}$
136. The total surface area of a solid hemisphere is 1848 sq. cm., then the diameter of the same, taking $\pi = \frac{22}{7}$, is:
 (A) 22 cm (B) 28 cm
 (C) 30 cm (D) 18 cm $\frac{25}{125} = \frac{1}{5}$
137. If $2a - b = 4$ and $3b + 2c = 44$, then the value of $a + b + c$ is:
 (A) 22 (B) 24 $A = 179$
 (C) 28 (D) 20 $B = 21$
 $21 = 44$
 $21 = 21$
138. One side of a right angled triangle is 5 units and hypotenuse is 13 units; its area is:
 (A) 35 sq. units (B) 25 sq. units
 (C) 30 sq. units (D) 20 sq. units

139. A sum of ₹ 350 made up of 110 coins which are either ₹ 1 or ₹ 5 denomination. How many coins are of ₹ 5 ?
 (A) 50 (B) 55
 (C) 60 (D) 175

140. If $\frac{\sin \theta + \cos \theta}{\sin \theta - \cos \theta} = 7$, then the value of $\tan \theta$ is equal to:
 (A) $\frac{2}{3}$ (B) $\frac{4}{3}$
 (C) $\frac{1}{3}$ (D) $\frac{5}{3}$

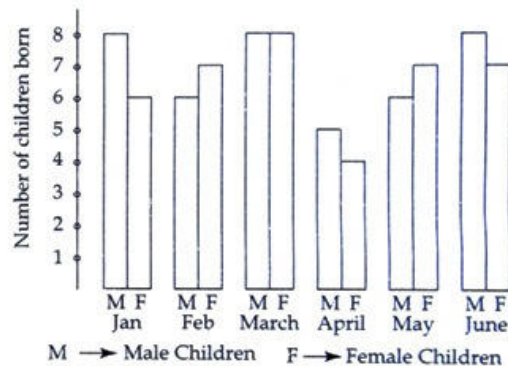
141. By selling 144 hens, Mahesh suffered a loss equal to the selling price of 6 hens. His loss percent is:
 (A) 4 (B) 5
 (C) 3 (D) 6

The graph given below shows the motion of two cars with uniform speed. Study the graph and answer the questions 142 to 145. (The distance between A and B is 120 km.)

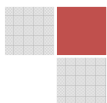


142. The speed of the car moving from A towards B, in meters per second is:
 (A) $8\frac{1}{3}$ (B) $7\frac{1}{3}$
 (C) $6\frac{2}{3}$ (D) $8\frac{1}{4}$
143. The speed of the car moving from B towards A, in meters per minute is:
 (A) 500 (B) 750
 (C) 1000 (D) 1200
144. When the car from B towards A is still 30 km away from its destination, the clock time is:
 (A) 8.45 AM (B) 8.30 AM
 (C) 8.15 AM (D) 8.20 AM
145. At 9.30 AM, the car moving from A to B is at a distance of x km. from the meeting place of two cars. The value of x in km is:
 (A) 45 (B) 40
 (C) 37 (D) 105

Bar Diagram showing the birth of male and female children in a maternity Hospital during the first half of the year 2011. Study the bar diagram and answer questions 146 to 150.



146. The percentage by which the maximum number of children born in a month exceeds the least number of children born in another month is:
 (A) $77\frac{7}{9}$ (B) $43\frac{3}{4}$
 (C) $66\frac{2}{9}$ (D) $55\frac{5}{9}$
147. The ratio of male children to female children born during the first five months is:
 (A) 41 : 39 (B) 33 : 32
 (C) 39 : 41 (D) 32 : 33



139. A sum of ₹ 350 made up of 110 coins which are either ₹ 1 or ₹ 5 denomination. How many coins are of ₹ 5?

- (A) 50 (B) 55
(C) 60 (D) 175

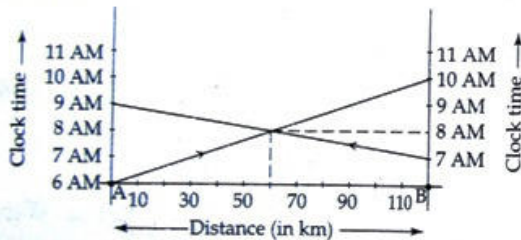
140. If $\frac{\sin \theta + \cos \theta}{\sin \theta - \cos \theta} = 7$, then the value of $\tan \theta$ is equal to :

- (A) $\frac{2}{3}$ (B) $\frac{4}{3}$
(C) $\frac{1}{3}$ (D) $\frac{5}{3}$

141. By selling 144 hens, Mahesh suffered a loss equal to the selling price of 6 hens. His loss percent is :

- (A) 4 (B) 5
(C) 3 (D) 6

The graph given below shows the motion of two cars with uniform speed. Study the graph and answer the questions 142 to 145. (The distance between A and B is 120 km.)



142. The speed of the car moving from A towards B, in meters per second is :

- (A) $8\frac{1}{3}$ (B) $7\frac{1}{3}$
(C) $6\frac{2}{3}$ (D) $8\frac{1}{4}$

143. The speed of the car moving from B towards A, in meters per minute is :

- (A) 500 (B) 750
(C) 1000 (D) 1200

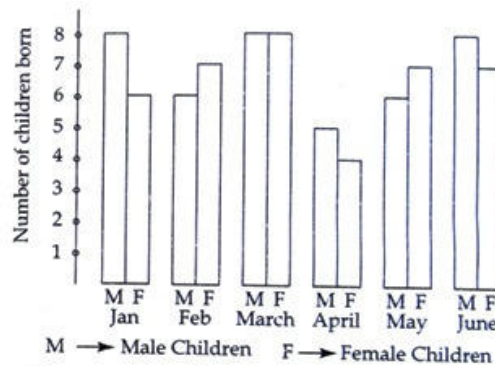
144. When the car from B towards A is still 30 km away from its destination, the clock time is :

- (A) 8.45 AM (B) 8.30 AM
(C) 8.15 AM (D) 8.20 AM

145. At 9.30 AM, the car moving from A to B is at a distance of x km. from the meeting place of the two cars. The value of x in km is :

- (A) 45 (B) 40
(C) 37 (D) 105

Bar Diagram showing the birth of male and female children in a maternity Hospital during the first half of the year 2011. Study the bar diagram and answer the questions 146 to 150.

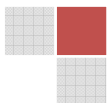


146. The percentage by which the maximum number of children born in a month exceeds the least number of children born in another month is :

- (A) $77\frac{7}{9}$ (B) $43\frac{3}{4}$
(C) $66\frac{2}{9}$ (D) $55\frac{5}{9}$

147. The ratio of male children to female children born during the first five months is :

- (A) 41 : 39 (B) 33 : 32
(C) 39 : 41 (D) 32 : 33



148. The vertical Bar diagram shows the birth of male and female children in a hospital. The diagram shows that the months on which the number of births of female children is at least equal to the number of births of male children are :
- (A) February, March and May
(B) February and March
(C) February and May
(D) March and May
149. The least number of children born during the 6 months period is :
- (A) April (B) March
(C) June (D) Jan
150. The number by which male child birth exceeds the female child birth during the 6 months period is:
- (A) 0 (B) 1
(C) 2 (D) 3

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142. The simplest value $\frac{3}{4} \div \frac{5}{8} \div \frac{3}{5}$ of $\frac{5}{6}$ of $\frac{7}{10}$ is :
- (A) $4\frac{3}{5}$ (B) $6\frac{4}{5}$
(C) $5\frac{2}{7}$ (D) $3\frac{3}{7}$
143. Anand and Deepak started a business investing ₹ 22,500 and 35,000 respectively. Out of a total profit of ₹ 13,800, Deepak's share is :
- (A) ₹ 5400 (B) ₹ 7200
(C) ₹ 8400 (D) ₹ 9600
144. A, B and C can independently complete a piece of work in 8, 12 and 6 days respectively. A and B work together for 4 days and leave. How long will C take to finish the remaining work ?
- (A) 5 (B) 1
(C) $\frac{1}{6}$ (D) $\frac{5}{6}$
145. A bank gives 10% simple interest per annum in general but 10.5% simple interest per annum for senior citizens. If senior citizen and a general customer receive same amount of interest in a year, the ratio of their principals :
- (A) 20 : 21 (B) 21 : 22
(C) 20 : 22 (D) 19 : 20
146. If A, S and H are area, perimeter and height of a equilateral triangle, then a correct relation among them is :
- (A) $A = SH$ (B) $A = \frac{1}{3}SH$
(C) $A = \frac{1}{2}SH$ (D) $A = \frac{1}{6}SH$
147. If $4^x = 8^y$, then the value of $\frac{x}{y} - 1$ is equal to :
- (A) 2 (B) 3
(C) $\frac{1}{2}$ (D) $\frac{1}{3}$
148. Out of 100 students, 50 fail in English and 30 in Maths. If 12 students fail in both English and Maths, then the number of students passed in both the subjects is :
- (A) 26 (B) 30
(C) 28 (D) 32
149. A point P can not lie on the graph of the linear equation $3x - 4y + 1 = 0$, if the co-ordinates of P is :
- (A) (1, 1) (B) (5, 4)
(C) (-1, 2) (D) (-3, -2)
150. If $\sin\theta + \cos\theta = 1$, then the value of $\sin\theta \cdot \cos\theta$ is :
- (A) 0 (B) $\frac{1}{2}$
(C) 1 (D) -1

