

(Solved Paper):-26-06-2011

PART C

NUMERICAL APTITUDE

101. The value of

$$\frac{3\sqrt{2}}{\sqrt{3}+\sqrt{6}} - \frac{4\sqrt{3}}{\sqrt{6}+\sqrt{2}} + \frac{\sqrt{6}}{\sqrt{3}+\sqrt{2}} \text{ is}$$

- (A) 4 (B) 0
(C) $\sqrt{2}$ (D) $3\sqrt{6}$

102. $\sqrt{6+\sqrt{6+\sqrt{6+\dots}}}$ = ?

- (A) 2.3 (B) 3
(C) 6 (D) 6.3

103. The square root of $\frac{\sqrt{3}+\sqrt{2}}{\sqrt{3}-\sqrt{2}}$ is

- (A) $\sqrt{3}+\sqrt{2}$ (B) $\sqrt{3}-\sqrt{2}$
(C) $\sqrt{2}\pm\sqrt{3}$ (D) $\sqrt{2}-\sqrt{3}$

104. The remainder when 3^{21} is divided by 5 is

- (A) 1 (B) 2
(C) 3 (D) 4

105. The value of $3 + \frac{2\frac{1}{3} - 1\frac{2}{11}}{3 + \frac{1}{3}}$ is

- (A) $\frac{38}{109}$ (B) $\frac{109}{38}$
(C) 1 (D) $\frac{116}{109}$

106. The last digit of $(1001)^{2008} + 1002$ is

- (A) 0 (B) 3
(C) 4 (D) 6

107. $3\sqrt[3]{1-\frac{127}{343}}$ is equal to

- (A) $\frac{5}{9}$ (B) $1-\frac{1}{7}$
(C) $\frac{4}{7}$ (D) $1-\frac{2}{7}$

108. If the sum of two numbers be multiplied by each number separately, the product so obtained are 247 and 114. The sum of the numbers is

- (A) 19 (B) 20
(C) 21 (D) 23

109. Find a number, one-seventh of which exceeds its eleventh part by 100.

- (A) 1925 (B) 1825
(C) $\sqrt{1540}$ (D) 1340

110. If $x * y = (x + 3)^2 (y - 1)$, then the value of $5 * 4$ is

- (A) 192 (B) 182
(C) 180 (D) 172

111. $\frac{(0.05)^2 + (0.41)^2 + (0.073)^2}{(0.005)^2 + (0.041)^2 + (0.073)^2}$ is

- (A) 10 (B) 100
(C) 1000 (D) None of these

112. If $9\sqrt{x} = \sqrt{12} + \sqrt{147}$, then $x = ?$

- (A) 2 (B) 3
(C) 4 (D) 5

113. A and B can complete a piece of work in 8 days, B and C can do it in 12 days, C and A can do it in 8 days. A, B and C together can complete it in

- (1) 4 days (2) 5 days
(3) 6 days (4) 7 days

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114. X is 3 times as fast as Y and is able to complete the work in 40 days less than Y. Then the time in which they can complete the work together is
 (1) 15 days (2) 10 days
 (3) $7\frac{1}{2}$ days (4) 5 days
115. A copper wire is bent in the shape of a square of area 81 cm^2 . If the same wire is bent in the form of a semicircle, the radius (in cm) of the semicircle is (Take $\pi = \frac{22}{7}$)
 (A) 16 (B) 14
 (C) 10 (D) 7
116. The volume (in m^3) of rain water that can be collected from 1.5 hectares of ground in a rainfall of 5 cm is
 (A) 75 (B) 750
 (C) 7500 (D) 75000
117. A river 3 m deep and 40 m wide is following at the rate of 2 km per hour. How much water (in litres) will fall into the sea in a minute?
 (A) 4,00,000 (B) 40,00,000
 (C) 40,000 (D) 4,000
118. The L.C.M. of three different numbers is 120. Which of the following **cannot** be their H.C.F.?
 (A) 8 (B) 12
 (C) 24 (D) 35
119. A number when divided by 49 leaves 32 as remainder. This number when divided by 7 will have the remainder as
 (A) 4 (B) 3
 (C) 2 (D) 5
120. In an examination a student scores 4 marks for every correct answer and loses 1 mark for every wrong answer. If he attempts all 75 questions and secures 125 marks, the number of questions he attempts correctly is
 (A) 35 (B) 40
 (C) 42 (D) 46
121. The traffic lights at three different road crossing change after 24 seconds, 36 seconds and 54 seconds respectively. If they all change simultaneously at 10 : 00 AM, then at what time will they again change simultaneously?
 (A) 10 : 16 : 54 AM (B) 10 : 18 : 36 AM
 (C) 10 : 17 : 02 AM (D) 10 : 22 : 12 AM
122. A can do a work in 12 days. When he had worked for 3 days, B joined him. If they complete the work in 3 more days, in how many days can B alone finish the work?
 (A) 6 days (B) 12 days
 (C) 4 days (D) 8 days
123. Among three numbers, the first is twice the second and thrice and third. If the average of the three numbers is 49.5, then the difference between the first and the third number is
 (A) 54 (B) 28
 (C) 39.5 (D) 41.5
124. The mean of 50 numbers is 30. Later it was discovered that two entries were wrongly entered as 82 and 13 instead of 28 and 31. Find the correct mean.
 (A) 36.12 (B) 30.66
 (C) 29.28 (D) 38.21
125. A bicycle wheel marks 5000 revolutions in moving 11 km. Then the radius of the wheel (in cm) is (Take $\pi = \frac{22}{7}$)
 (A) 70 (B) 35
 (C) 17.5 (D) 140
126. The perimeter of a triangle is 40 cm and its area is 60 cm^2 . If the largest side measures 17 cm, then the length (in cm) of the smallest side of the triangle is
 (A) 4 (B) 6
 (C) 8 (D) 15
127. A shopkeeper allows a discount of 10% to his customers and still gains 20%. Find the

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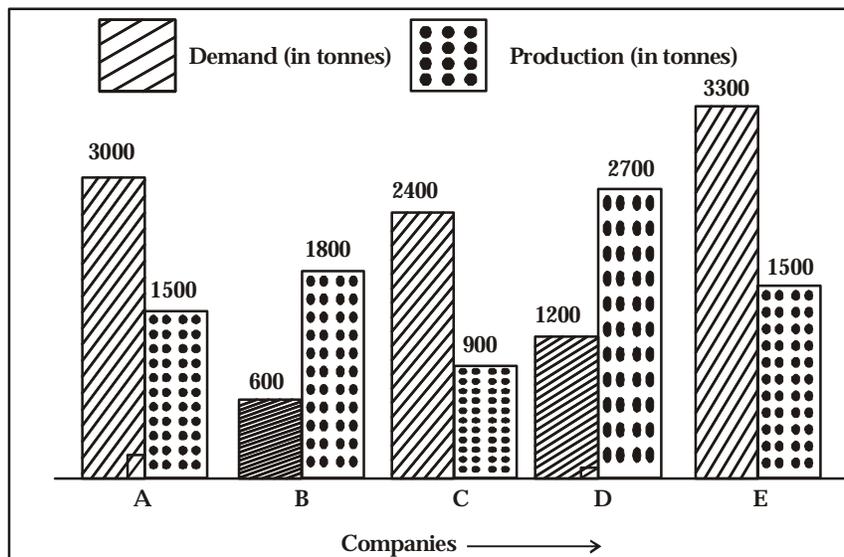
- marked price of the article which costs Rs. 450
 (A) Rs. 600 (B) Rs. 540
 (C) Rs. 660 (D) Rs. 580
128. What single discount is equivalent to two successive discounts of 20% and 15%?
 (A) 35% (B) 32%
 (C) 34% (D) 30%
129. In a business partnership among A, B, C and D, the profit is shared as follows:

$$\frac{\text{A's share}}{\text{B's share}} = \frac{\text{B's share}}{\text{C's share}} = \frac{\text{C's share}}{\text{D's share}} = \frac{1}{3}$$
 If the total profit is Rs. 4,00,000, the share of C is
 (A) Rs. 1,12,500 (B) Rs. 1,37,500
 (C) Rs. 90,000 (D) Rs. 2,70,000
130. A can contains a mixture of two liquids A and B in the ratio 7 : 5. When 9 litres of mixture are drawn off and the can is filled with B, the ratio of A and B becomes 7 : 9. Liters of liquid A contained by the can initially was
 (A) 10 (B) 20
 (C) 21 (D) 25
131. What number should be added to or subtracted from each term of the ratio 17 : 24 so that it becomes equal to 1 : 2?
 (A) 5 is subtracted (B) 10 is added
 (C) 7 is added (D) 10 is subtracted
132. The ratio of weekly incomes of A and B is 9 : 7 and the ratio of their expenditures is 4 : 3. If each saved Rs. 200 per week, then the sum of their weekly incomes is
 (A) Rs. 3,600 (B) Rs. 4,200
 (C) Rs. 4,800 (D) Rs. 5,600
133. If 30% of A is added to 40% of B, the answer is 80% of B. What percentage of A is B?
 (A) 30% (B) 40%
 (C) 70% (D) 75%
134. A man can row 6km/h in still water. If the speed of the current is 2 km/h, it takes 3 hours more in upstream than in the downstream for the same distance. The distance is
 (A) 30 km (B) 24 km
 (C) 20 km (D) 32 km
135. If the selling price of 10 articles is equal to the cost price of 11 articles, then the gain percent is
 (A) 10 (B) 11
 (C) 15 (D) 25
136. While selling a watch, a shopkeeper gives a discount of 5%. If he gives a discount of 6%, he earns Rs. 15 less as profit. What is the marked price of the watch?
 (A) Rs. 1,250 (B) Rs. 1,400
 (C) Rs. 1,500 (D) Rs. 750
137. Krishna purchased a number of articles at Rs. 10 for each and the same number for Rs. 14 each. He mixed then together and sold them for Rs. 13 each. Then his gain or loss percent is
 (A) Loss $8\frac{1}{3}\%$
 (B) Gain $8\frac{2}{3}\%$
 (C) Loss $8\frac{2}{3}\%$
 (D) Gain $8\frac{1}{3}\%$
138. A trader bought two horses for Rs. 19,500. He sold one at a loss of 20% and the other at a profit of 15%. If the selling price of each horse is the same, then their cost prices are respectively
 (A) Rs. 10,000 and Rs. 9,500
 (B) Rs. 11,000 and Rs. 8,000
 (C) Rs. 12,000 and Rs. 7,500
 (D) Rs. 10,500 and Rs. 9,000

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139. The cost price of an article is 40% of the selling price. What percent of the cost price is the selling price?
 (A) 140% (B) 200%
 (C) 220% (D) 250%
140. If 90% of A = 30% of B and B = 2x% of A then the value of x is
 (A) 450 (B) 400
 (C) 300 (D) 150
141. When the price of sugar decreases by 10%, a man could buy 1 kg more for Rs. 270. Then the original price of sugar per kg is
 (A) Rs. 25 (B) Rs. 30
 (C) Rs. 27 (D) Rs. 32
142. If the price of sugar is raised by 25%, find by how much percent a householder must reduce his consumption of sugar so as not to increase his expenditure?
 (A) 10 (B) 20
 (C) 18 (D) 25
143. The difference between the compound interest and simple interest on Rs. 10,000 for 2 years is Rs. 25. The rate of interest per annum is
 (A) 5% (B) 7%
 (C) 10% (D) 12%
144. A student goes to school at the rate of $2\frac{1}{2}$ km/h and reaches 6 minutes late. If he travels at the speed of 3 km/h, he is 10 minutes early. The distance (in km) between the school and his house is
 (A) 5 (B) 4
 (C) 3 (D) 1
145. A sum of money placed at compound interest doubles itself in 4 years. In how many years will it amount to four times itself?
 (A) 12 years (B) 13 years
 (C) 8 years (D) 16 years
146. The simple interest on a sum of 5 years is one-fourth of the sum. The rate of interest per annum is
 (A) 5% (B) 6%
 (C) 4% (D) 8%

Directions: (Question No. 147 to 150). The following graph shows the demand and production of cotton by 5 companies A, B, C, D and E. Study the graph and answer question 147 to 150.



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147. The production of company D is how many times that of the production of the company A?
(A) 1.8 (B) 1.5
(C) 0.5 (D) 0.4
148. The demand for company B is what percent of the demand?
(A) 1.5 (B) 2.5
(C) 25 (D) 30
149. What is the ratio of companies having more demand than production to those having more production than demand?
(A) 2 : 3 (B) 4 : 1
(C) 3 : 2 (D) 1 : 4
150. What is the difference (in tonnes) between average demand and average production of the five companies taken together?
(A) 320 (B) 420
(C) 2100 (D) 1050
- months, A increases his share by 50% If the total profit at the end of one year be Rs. 21,600, then B's share in the profit is
(A) Rs. 2,100 (B) Rs. 2,400
(C) Rs. 3,600 (D) Rs. 4,000
148. A person travels 48 km at 12 km/h and further 48 km at 16 km/h. His average speed for the whole journey, in km/h, is
(A) 14 (B) $13\frac{4}{7}$
(C) $12\frac{3}{7}$ (D) $13\frac{5}{7}$
149. The H.C.F. and L.C.M. of two numbers are 13 and 1989 respectively. If one of the numbers is 117, determine the other.
(A) 121 (B) 143
(C) 217 (D) 221
150. A sphere of radius r and a cylinder of the base radius r have equal volumes. If the height of the cylinder is h, then which of the following is true?
(A) $4r = 3h$ (B) $4r = h$
(C) $H = 3r$ (D) $H = 2r$

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147. A, B and C enter into a partnership with investments in the ratio $\frac{7}{2} : \frac{4}{3} : \frac{6}{5}$. After 4



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