

PART-III**NUMERICAL APTITUDE**

101. A sailor goes 12 km downstream in 48 minutes and returns in 1 hour 20 minutes. The speed of the sailor in still water is:
- (a) 12 km/hr (b) 12.5 km/hr
(c) 13 km/hr (d) 15 km/hr
102. If 24-carat gold is considered to be hundred per cent pure gold, then the percentage of pure gold in 22-carat gold is:
- (a) $91\frac{3}{4}$ (b) $91\frac{2}{3}$
(c) $91\frac{1}{3}$ (d) $90\frac{2}{3}$
103. If $x + \frac{1}{x} = 3$, then the value of $\frac{x^3 + \frac{1}{3}}{x^2 - x + 1}$ is
- (a) $\frac{3}{2}$ (b) $\frac{5}{2}$
(c) $\frac{7}{2}$ (d) $\frac{11}{2}$
104. $\left[\left\{ \left(\frac{-1}{2} \right)^2 \right\}^{-2} \right]^{-1}$ is equal to:
- (a) $\frac{1}{16}$ (b) 16
(c) $-\frac{1}{16}$ (d) -16
105. The price of sugar is increased by 25%. If a family wants to keep its expenses on sugar unaltered, then the family will have to reduce the consumption of sugar by:
- (a) 20% (b) 21%
(c) 22% (d) 25%
106. A sum of money amount to Rs. 850 in 3 years and to Rs. 925 in 4 years at some rate of simple interest. The sum is:
- (a) Rs. 550 (b) Rs. 600
(c) Rs. 625 (d) Rs. 700
107. Pipe A can fill a cistern in 6 hours and pipe B can fill it in 8 hours. Both the pipes are opened simultaneously, but after two hours, pipe A is closed. How many hours will B be closed. How many hours will B take to fill the remaining part of the cistern?
- (a) 2
(b) $3\frac{1}{3}$
(c) $2\frac{2}{3}$
(d) 4
108. The sides of a triangle are in the ratio $\frac{1}{3} : \frac{1}{4} : \frac{1}{5}$ and its perimeter is 94 cm. The length of the smallest side of the triangle is:
- (a) 18 cm
(b) 22.5 cm
(c) 24 cm
(d) 27 cm
109. The average of seven consecutive positive integers is 26. The smallest of these integers is:
- (a) 21 (b) 23
(c) 25 (d) 26
110. Due to an increase of 50% in the price of eggs, 4 eggs less are available for Rs. 24. The present rate of eggs per dozen is:
- (a) Rs. 24
(b) Rs. 27
(c) Rs. 36
(d) Rs. 42
111. Next number of the sequence 2, 9, 28, 65, 126, _____ is :
- (a) 195 (b) 199
(c) 208 (d) 217

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112. If A's income is 20% more than that of B, by how much percent is B's income less than that of A?
- (a) $16\frac{4}{5}$ (b) $16\frac{1}{3}$
- (c) $16\frac{2}{3}$ (d) $16\frac{2}{7}$
113. X alone can complete a piece of work in 40 days. He worked for 8 days and left. Y alone completed the remaining work in 16 days. How long would X and Y together take to complete the work?
- (a) $13\frac{1}{3}$ days (b) 14 days
- (c) 15 days (d) $16\frac{2}{3}$
114. Which of the following successive discount series is the best of all for a customer?
- (a) 30%, 20%, 10%
 (b) 25%, 20%, 15%
 (c) 30%, 10%, 15%
 (d) 25%, 15%, 10%
115. What price should a shopkeeper mark on an article costing him Rs. 200 to gain 35% after allowing a discount of 25% ?
- (a) Rs. 270 (b) Rs. 300
 (c) Rs. 330 (d) Rs. 360
116. Total weekly emoluments of the workers of a factory is Rs. 1534. Average weekly emolument of a worker is Rs. 118. The number of workers in the factory is:
- (a) 16 (b) 14
 (c) 13 (d) 12
117. The length and breadth of a rectangle are increased by 20% and 25% respectively. The increase in the area of the resulting rectangle will be:
- (a) 60% (b) 50%
 (c) 40% (d) 30%
118. A train travelling with uniform speed crosses two bridges of length 300 m and 240 m in 21 seconds and 18 seconds respectively. The speed of the train is:
- (a) 72 km/hr (b) 68 km/hr
 (c) 65 km/hr (d) 60 km/hr
119. Question Missing
- (a) 395 (b) 135
 (c) 45 (d) 5
120. If $A = \frac{1}{4}B$ and $B = \frac{1}{2}C$, then A : B : C is :
- (a) 8 : 4 : 1
 (b) 4 : 2 : 1
 (c) 1 : 4 : 8 (d) 1 : 2 : 4
121. A 7 m wide road runs outside around a circular park, whose circumference is 176m. The area of the road is:
- (use $\pi = \frac{22}{7}$)
- (a) 1386 m² (b) 1472 m²
 (c) 1512 m² (d) 1760 m²
122. If the cost price and selling price of an article are in the ratio 10 : 11, then the percentage of profit is:
- (a) 10 (b) 9
 (c) 3 (d) 1
123. A shopkeeper sells his goods at 15% discount. The marked price of an article whose selling price is Rs. 629 is:
- (a) Rs. 740 (b) Rs. 704
 (c) Rs. 700 (d) Rs. 614

124. Present population of a village is 67600. It has been increasing annually at the rate of 4%. What was the population of the village two years ago?
- (a) 62500 (b) 63000
(c) 64756 (d) 65200
125. The average age of A and B is 30 years and that of B and C is 26 years. The difference of the age of A and B is:
- (a) 2 years (b) 4 years
(c) 6 years (d) 8 years
126. Twenty women together can complete a work in 16 days. 16 men together can complete the same work in 15 days. The ratio of the working capacity of a man to that of a woman is:
- (a) 3 : 4 (b) 4 : 3
(c) 5 : 3 (d) 4 : 5
127. If $a + \frac{1}{a} + 1 = 0$ ($a \neq 0$) then the value of $(a^4 - a)$ is:
- (a) (b)
(c) 2 (d) -1
128. If the height of a cone is increased by 100% then its volume is increased by:
- (a) 100% (b) 200%
(c) 300% (d) 400%
129. If x is a perfect square integer such that $7 < (2x - 3) < 17$, then the value of x is:
- (a) 25 (b) 16
(c) 9 (d) 4
130. The difference between the simple interest received from two different banks on Rs. 500 for 2 years is Rs. 2.50. The difference between their per annum rates of interest is:
- (a) 0.10% (b) 0.25%
(c) 0.50% (d) 1.00%
131. $999 \frac{998}{999} \times 999$ is equal to:
- (a) 998999 (b) 999899
(c) 989999 (d) 999989
132. The cost price of 24 apples is the same as the selling price of 18 apples. The percentage of gain is:
- (a) $12\frac{1}{2}$ (b) $14\frac{2}{3}$
(c) $16\frac{2}{3}$ (d) $33\frac{1}{3}$
133. A merchant sold an article for Rs. 75 at a profit percent equal to his cost price. The cost price of the article was:
- (a) Rs. 45 (b) Rs. 50
(c) Rs. 54 (d) Rs. 60
134. The largest among the numbers 0.9, $(0.9)^2$, $\sqrt{0.9}$, $0.\bar{9}$ is:
- (a) 0.9 (b) $(0.9)^2$
(c) $\sqrt{0.9}$ (d) $0.\bar{9}$
135. The rain water from a roof $22 \text{ m} \times 20 \text{ m}$ drains into a cylindrical vessel having a diameter of 2 m and height 3.5 m. If the vessel is just full, then the rainfall in cm is:
- (a) 2 (b) 2.5
(c) 3 (d) 4.5
136. Question Missing
- (a) Rs. 100 (b) Rs. 150
(c) Rs. 175 (d) Rs. 200
137. If n is an integer, then $(n^3 - n)$ is always divisible by:
- (a) 4 (b) 5
(c) 6 (d) 7

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138. A sum of money was lent at simple interest at a certain rate for 3 years. Had it been lent at 2.5% per annum higher rate, it would have fetched Rs. 540 more. The money lent was:
 (a) Rs. 6400 (b) Rs. 6472
 (c) Rs. 6840 (d) Rs. 7200
139. What number should be added to each of 6, 14, 18 and 38 so that the resulting numbers make a proportion?
 (a) 1 (b) 2
 (c) 3 (d) 4
140. $\frac{0.8 \times 0.08 \times 0.08 + 0.02 \times 0.02 \times 0.02}{0.08 \times 0.08 - 0.0016 + 0.02 \times 0.02}$ is simplified to:
 (a) 0.001 (b) 0.1
 (c) 0.0016 (d) 0.016
141. If $x = \sqrt{3} + \sqrt{3}$, then the value of $x^2 + \frac{1}{x^2}$ is:
 (a) 4 (b) 6
 (c) 9 (d) 10
142. The ratio of the number of boys and girls in a school 3 : 2. If 20% of the boys and 25% of the girls are scholarship holders, then the percentage of the students, who do not get the scholarships, is:
 (a) 78 (b) 75
 (c) 60 (d) 55
143. The HCF to two numbers is 15 and their LCM is 255. If one of the numbers is 75, then the others is:
 (a) 105 (b) 90
 (c) 60 (d) 45
144. A pipe of diameter d can drain a certain water tank in 40 minutes. The time taken by a pipe of diameter $2d$ for doing the same job is
 (a) 5 minutes (b) 10 minutes
 (c) 20 minutes (d) 80 minutes
145. In a mixture of 60 litres, the ratio of milk and water is 2 : 1. How much more water must be added to make its ratio 1 : 2 ?
 (a) 40 liters (b) 52 liters
 (c) 54 liters (d) 60 liters
146. The area of an equilateral triangle is $4\sqrt{3}$ cm². The length of each side of the triangle is:
 (a) 3 cm (b) $2\sqrt{2}$ cm
 (c) $2\sqrt{3}$ cm (d) 4 cm
- Directions (147-150):** The pie-chart, given here, shows various expenses of a publisher in the production and sale of a book. Study the chart and answer questions based on it.
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- The pie chart illustrates the distribution of expenses for a book's production and sale. The largest portion is Printing cost at 35%, followed by Binding charges and Advertisement charges at 18% each. Royalty accounts for 15%, Paper cost for 10%, and Miscellaneous expenses for 4%.
147. If the printing cost is Rs. 17,500, the 'Royalty' paid is:
 (a) Rs. 8,750 (b) Rs. 7,500
 (c) Rs. 6,300 (d) Rs. 3,130
148. The measure of central angle for the section 'printing cost' is:
 (a) 126° (b) 70°
 (c) 63° (d) 35°

149. Miscellaneous expenses are what percent of paper cost?
(a) 4 (b) 10
(c) 40 (d) 44
150. The difference between the measures of central angles of sectors for bidding charges and advertisement charges is:
(a) 180° (b) 90°
(c) 18° (d) 0°

ANSWER SHEET

101. (a) 102. (b) 103. (c) 104. (a) 105 (a) 106 (c) 107 (b) 108 (c) 109 (b) 110 (c)
111 (d) 112 (c) 113 (a) 114 (a) 115 (d) 116 (c) 117 (b) 118 (a) 119 (a) 120 (c)
121 (a) 122 (a) 123 (a) 124 (a) 125 (d) 126 (b) 127 (a) 128 (a) 129 (c) 130 (b)
131 (a) 132 (d) 133 (b) 134 (d) 135 (b) 136 (b) 137 (c) 138 (d) 139 (b) 140 (b)
141 (b) 142 (a) 143 (d) 144 (a) 145 (d) 146 (d) 147 (b) 148 (a) 149 (c) 150 (d)



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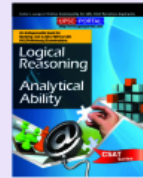
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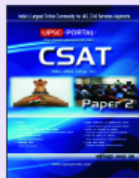
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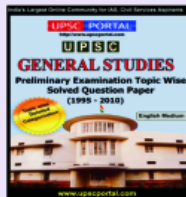
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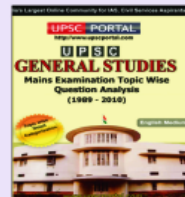


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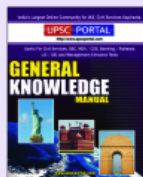


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