

Quantitative Aptitude

Directions (Q. 76–80) What will come in place of question mark (?) in the following questions ?

76. $475 + 64\% \text{ of } 950^4 = 900 + ?$

- (1) 183 (2) 233
(3) 1983 (4) 1863
(5) None of these

77. $(0.064) \times (0.4)^7 = (0.4)^2 \times (0.0256)^2$

- (1) 17 (2) 2
(3) 18 (4) 3
(5) None of these

78. $534.596 + 61.472 - 496.708 = ? + 27.271$

- (1) 126.631 (2) 62.069
(3) 72.089 (4) 132.788
(5) None of these

79. $16 \times 12 - 672 \div 21 = ? - 211$

- (1) 381 (2) 347
(3) 372 (4) 311
(5) None of these

80. $(\sqrt{5} - 2)^2 = ? - \sqrt{80}$

- (1) $4\sqrt{5} + 4$ (2) $4\sqrt{5}$
(3) $9 - 4\sqrt{5}$ (4) 9
(5) None of these

Directions (Q. 81–85) What approximate value will come in place of question mark (?) in the following questions ? (You are not expected to calculate the exact value.)

81. $9228.789 - 5021.832 + 1496.989 = ?$

- (1) 6500 (2) 6000
(3) 6300 (4) 5700
(5) 5100

82. $1002 \div 49 \times 99 - 1299 = ?$

- (1) 700 (2) 600 (3) 900
(4) 250 (5) 400

83. $29.8\% \text{ of } 260 + 60.01\% \text{ of } 510 - 103.57 = ?$

- (1) 450 (2) 320 (3) 210
(4) 280 (5) 350

84. $(21.98)^2 - (25.02)^2 + (13.03)^2 = ?$

- (1) 25 (2) 120
(3) 10 (4) 65
(5) 140

85. $\sqrt{2498} \times \sqrt{626} + \sqrt{99} = ?$

- (1) 110 (2) 90
(3) 200 (4) 160
(5) 125

Directions (Q. 86–90) What will come in place of question mark (?) in the following number series ?

86. 7 20 46 98 202 ?

- (1) 420 (2) 410 (3) 310
(4) 320 (5) None of these

87. 210 209 213 186 202 ?

- (1) 138 (2) 77
(3) 177 (4) 327
(5) None of these

88. 27 38 71 126 203 ?

- (1) 212 (2) 202
(3) 301 (4) 312
(5) None of these

89. 435 354 282 219 165 ?

- (1) 103 (2) 112
(3) 120 (4) 130
(5) None of these

90. 4 200 369 513 634 ?

- (1) 788 (2) 715
(3) 734 (4) 755
(5) None of these

91. The angles of a quadrilateral are in the ratio of 2 : 4 : 7 : 5.

The smallest angle of the quadrilateral is equal to the smallest angle of a triangle. One of the angles of the triangle is twice the smallest angle of the triangle. What is the second largest angle of the triangle ?

- (1) 80°
(2) 60°
(3) 120°
(4) Cannot be determined
(5) None of the above

92. A shopkeeper sells notebooks at the rate of ₹ 45 each and earns a commission of 4%. He also sells pencil box at the rate of ₹ 80 each and earns a commission of 20%. How much amount of commission will he earn in two weeks if he sells 10 notebooks and 6 pencil boxes a day ?

- (1) ₹ 1956 (2) ₹ 1586
(3) ₹ 1496 (4) ₹ 1596
(5) None of these

93. Train-A crosses a stationary Train-B in 50 seconds and a pole in 20 seconds with the same speed. The length of the Train-A is 240 metre. What is the length of the stationary Train-B ?

- (1) 360 m
(2) 260 m
(3) 300 m
(4) Cannot be determined
(5) None of the above

94. In a test, minimum passing percentage for girls and boys is 35% and 40% respectively. A boy scored 483 marks and failed by 117 marks. What are the minimum passing marks for girls ?

- (1) 425 (2) 520
(3) 500 (4) 625
(5) None of these

95. Twelve per cent of Kaushal's monthly salary is equal to sixteen per cent of Nandini's monthly salary. Suresh's monthly salary is half that of Nandini's monthly salary. If Suresh's annual salary is ₹ 1.08 lacs. What is Kaushal's monthly salary ?
 (1) ₹ 20000 (2) ₹ 18000
 (3) ₹ 26000 (4) ₹ 24000
 (5) None of these
96. 8 men can complete a piece of work in 20 days. 8 women can complete the same work in 32 days. In how many days will 5 men and 8 women together complete the same work ?
 (1) 16 days (2) 12 days
 (3) 14 days (4) 10 days
 (5) None of these
97. The area of a square is 1024 sq. cm. What is the respective ratio between the length and the breadth of a rectangle whose length is twice the side of the square and breadth is 12 cm less than the side of the square ?
 (1) 5 : 18 (2) 16 : 7
 (3) 14 : 5 (4) 32 : 5
 (5) None of these
98. The sum of five consecutive even numbers of set-A is 220. What is the sum of a different set of five consecutive numbers whose second lowest number is 37 less than double of the lowest number of set-A ?
 (1) 223 (2) 225
 (3) 235 (4) 243
 (5) None of these
99. The bus fare for one person is ₹ 420 from Agra to Aligarh and train fare between the same places for one person is equal to three-fourth the bus fare for two persons between the same places. What is the total fare paid by 2 persons travelling by bus and 4 persons travelling by train between the two places ?
 (1) ₹ 3360 (2) ₹ 3460 (3) ₹ 3440
 (4) ₹ 3406 (5) None of these
100. The respective ratio between the speeds of a car, a jeep and a tractor is 3 : 5 : 2. The speed of the jeep is 250 per cent the speed of the tractor which covers 360 km in 12 h. What is the average speed of car and jeep together ?
 (1) 60 km/h (2) 75 km/h
 (3) 40 km/h (4) Cannot be determined
 (5) None of these

Directions (Q. 101–105) In the following questions two equations numbered I and II are given. You have to solve both the equations and

Give answer if

- (1) $x > y$
 (2) $x \geq y$
 (3) $x < y$
 (4) $x \leq y$
 (5) $x = y$ or the relationship cannot be established
101. I. $5x^2 - 18x + 9 = 0$
 II. $20y^2 - 13y + 2 = 0$

102. I. $x^3 - 878 = 453$
 II. $y^2 - 82 = 39$
103. I. $\frac{3}{\sqrt{x}} + \frac{4}{\sqrt{x}} = \sqrt{x}$
 II. $y^3 - \frac{(7)^{7/2}}{\sqrt{y}} = 0$
104. I. $9x - 15.45 = 54.55 + 4x$
 II. $\sqrt{y + 155} - \sqrt{36} = \sqrt{49}$
105. I. $x^2 + 11x + 30 = 0$
 II. $y^2 + 7y + 12 = 0$

Directions (Q. 106–110) Study the following table carefully to answer the questions that follow.

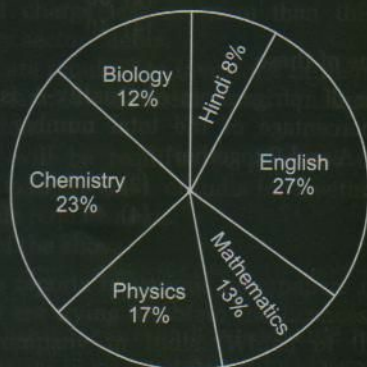
Number of Students (in thousands) passed out from five different Colleges during six different Years

Year	Colleges				
	P	Q	R	S	T
2005	9.3	9.6	8.7	10.4	9.8
2006	7.2	10.4	6.2	12.6	13.7
2007	10.4	12.6	9.8	9.8	14.9
2008	11.4	16.9	11.3	15.4	16.3
2009	13.2	19.3	7.8	13.9	11.8
2010	12.7	18.7	13.7	16.7	15.7

106. What was the respective ratio between the number of students passed out from College-P in the year 2008 and number of students passed out from College-S in the year 2006 ?
 (1) 38 : 41 (2) 23 : 29
 (3) 19 : 21 (4) 17 : 21
 (5) None of these
107. Number of students passed out from College-R in the year 2008 was **approximately** what percentage of the total number of students passed out from College-T in the year 2006, 2007 and 2009 together ?
 (1) 20 (2) 33
 (3) 24 (4) 38
 (5) 28
108. What was the average number of students passed out from all the colleges together in the year 2007 ?
 (1) 13500 (2) 57500
 (3) 1.15 thousands (4) 11500
 (5) None of these
109. In which college was the number of students passed out in the year 2008 second highest ?
 (1) Q (2) P (3) T
 (4) S (5) R
110. In which college the number of the students passed out continuously increased during the year 2005 to 2010 ?
 (1) Only R and T (2) Only Q
 (3) Only P (4) Only Q and T
 (5) None

Directions (Q. 111–115) Study the following Pie-chart carefully to answer these questions.

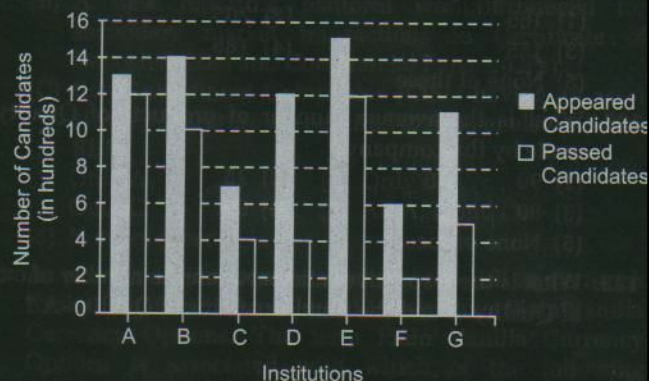
Percentage-wise Distribution of Teachers who Teach Six Different Subjects
Total Number of Teachers = 1800
Percentage of Teachers



111. If two-ninth of the teachers who teach Physics are female, then number of male Physics teachers is **approximately** what percentage of the total number of teachers who teach Chemistry ?
 (1) 57 (2) 42
 (3) 63 (4) 69
 (5) 51
112. What is the total number of teachers teaching Chemistry, English and Biology ?
 (1) 1226 (2) 1116
 (3) 1176 (4) 998
 (5) None of these
113. What is the difference between the total number of teachers who teach English and Physics together and the total number of teachers who teach Mathematics and Biology together ?
 (1) 352 (2) 342
 (3) 643 (4) 653
 (5) None of these
114. What is the **respective** ratio of the number of teachers who teach Mathematics and the number of teachers who teach Hindi ?
 (1) 13 : 7
 (2) 7 : 13
 (3) 7 : 26
 (4) 8 : 15
 (5) None of the above
115. If the percentage of Mathematics teachers is increased by 50 per cent and percentage of Hindi teachers decreased by 25 per cent then what will be the total number of Mathematics and Hindi teachers together ?
 (1) 390 (2) 379
 (3) 459 (4) 480
 (5) None of these

Directions (Q. 116–120) Study the following graph and answer the questions that follow.

Number of Appeared Candidates and Passed Candidates (in hundreds) in a Test from Seven Different Institutions



116. What is the difference between the number of candidates appeared from institutions–B, C, D and F together and candidates passed from institutions–A, E and G together ?
 (1) 100 (2) 900
 (3) 1000 (4) 540
 (5) None of these
117. What is the average number of candidates passed from all the institutions together ?
 (1) 700 (2) 490
 (3) 350 (4) 675
 (5) None of these
118. Number of candidates passed from institutions–C and E together is **approximately** what percentage of the total number of candidates appeared from institutions–A and G together ?
 (1) 72 (2) 62 (3) 54
 (4) 75 (5) 67
119. From which institution the difference between the appeared candidates and passed candidates is maximum ?
 (1) B (2) G (3) D
 (4) F (5) None of these
120. What is the respective ratio between the number of candidates who have failed from institution–B and the number of candidates who have appeared from institution–F ?
 (1) 2 : 5 (2) 2 : 3
 (3) 4 : 3 (4) 1 : 3
 (5) None of these

Directions (Q. 121–125) Study the following information carefully to answer the questions that follow.

A company produces 4 different products viz., ACs fans, refrigerators and ovens each product of two different qualities, ie, Quality–A and Quality–B. The company produces a total of 500 products. One-fifth of total number of products are fans out of which 35% are of Quality–B. Fifteen per cent of the total number of products are ACs. Two-third of AC's are of Quality–A. Twenty five per cent of the total number of products are refrigerators out of which 40% are of Quality–B. Ten per cent of the number of ovens are of Quality–B.

121. What is the total number of AC's and ovens of Quality-B and fans and refrigerators of Quality-A together made by the company ?
- (1) 165 (2) 205
(3) 155 (4) 185
(5) None of these
122. What is the average number of products of Quality-A made by the company ?
- (1) 90 (2) 75
(3) 80 (4) 95
(5) None of these
123. What is the respective ratio between the number of ovens of Quality-B and the number of fans of Quality-A ?
- (1) 5 : 2 (2) 4 : 13
(3) 5 : 13 (4) 4 : 9
(5) None of these
124. What is the difference between the number of ACs of Quality A and Quality B ?
- (1) 25 (2) 50
(3) 35 (4) 40
(5) None of these
125. Number of refrigerators of Quality-A is **approximately** what percentage of the total number of ovens (both Quality-A and B together) ?
- (1) 39 (2) 31
(3) 35 (4) 43
(5) 49