

Quantitative Aptitude

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

76. $\frac{343 \times 49}{216 \times 16 \times 81} = ?$

(1) $\frac{7^5}{6^7}$

(2) $\frac{7^5}{6^8}$

(3) $\frac{7^6}{6^7}$

(4) $\frac{7^4}{6^8}$

(5) None of these

77. $23 \times 15 - 60 + ? \div 31 = 292$

(1) 218

(2) 186

(3) 217

(4) 201

(5) None of these

78. $15\% \text{ of } 578 + 22.5\% \text{ of } 644 = ?$

(1) 231.4

(2) 233.6

(3) 231.8

(4) 231.6

(5) None of the above

79. $\sqrt{5^2 \times 14 - 6 \times 7 + (4)^2} = 18$

(1) 1

(2) 3

(3) 4

(4) 5

(5) None of these

80. $3\frac{3}{4} + 4\frac{2}{5} - 3\frac{1}{8} = ?$

(1) $4\frac{1}{40}$

(2) $5\frac{1}{40}$

(3) $6\frac{1}{40}$

(4) $5\frac{3}{40}$

(5) None of these

81. What would be the compound interest accrued on an amount of ₹ 7400 @ 13.5 p.c.p.a. at the end of two years ? (rounded off to two digits after decimal)

(1) ₹ 2136.87

(2) ₹ 2306.81

(3) ₹ 2032.18

(4) ₹ 2132.87

(5) None of these

82. Sonu invested 10% more than Mona. Mona invested 10% less than Raghu. If the total sum of their investment is ₹ 5780, how much amount did Raghu invest ?

(1) ₹ 2010

(2) ₹ 2000

(3) ₹ 2100

(4) ₹ 2210

(5) None of these

83. The ratio of the ages of Tina and Rakesh is 9 : 10 respectively. Ten years ago the ratio of their ages was 4 : 5 respectively. What is the present age of Rakesh ?

(1) 25 yr

(2) 20 yr

(3) 30 yr

(4) 24 yr

(5) None of these

84. The circumference of two circles is 132 m and 176 m respectively. What is the difference between the area of the larger circle and the smaller circle ?

(1) 1048 sq m

(2) 1076 sq m

(3) 1078 sq m

(4) 1090 sq m

(5) None of the above

85. In how many different ways can the letters of the word 'OFFICES' be arranged ?

(1) 2520

(2) 5040

(3) 1850

(4) 1680

(5) None of these

Directions (Q. 86–90) In the following number series only one number is wrong. Find out the wrong number.

86. 850 600 550 500 475 462.5 456.25
 (1) 600 (2) 550
 (3) 500 (4) 462.5
 (5) None of these
87. 2 10 18 54 162 486 1458
 (1) 18 (2) 54
 (3) 162 (4) 10
 (5) None of these
88. 13 25 40 57 79 103 130
 (1) 25 (2) 40
 (3) 57 (4) 79
 (5) None of these
89. 8 12 24 46 72 108 152
 (1) 12 (2) 24
 (3) 46 (4) 72
 (5) None of these
90. 142 119 100 83 65 59 52
 (1) 65 (2) 100
 (3) 59 (4) 119
 (5) None of these

Directions (Q. 91–95) In the following questions two equations numbered I and II are given. You have to solve both the equations and–

Give answer

- (1) if $x > y$
 (2) if $x \geq y$
 (3) if $x < y$
 (4) if $x \leq y$
 (5) if $x = y$ or the relationship cannot be established
91. I. $x^2 - 7x + 12 = 0$
 II. $y^2 + y - 12 = 0$
92. I. $2x^2 + 11x + 14 = 0$
 II. $4y^2 + 12y + 9 = 0$
93. I. $x^4 - 227 = 398$
 II. $y^2 + 321 = 346$
94. I. $x^2 - 4 = 0$
 II. $y^2 + 6y + 9 = 0$
95. I. $x^2 = 729$
 II. $y = \sqrt{729}$

Directions (Q. 96–100) Study the table carefully to answer the questions that follow.

Percentage of marks obtained by six students in six different subjects

Student	Subject	Hindi (Out of 175)	English (Out of 80)	Science (Out of 125)	Mathematics (Out of 100)	Social Studies (Out of 120)	Sanskrit (Out of 35)
A		87	83	87	74	39	84
B		58	68	87	74	57	79
C		63	71	81	94	44	86
D		48	57	70	79	68	44
E		83	83	49	77	55	50
F		74	68	42	63	61	58

96. What are the average marks obtained by all the students in Science ?
 (1) 87 (2) 86.5 (3) 90
 (4) 87.5 (5) None of these
97. What are the average marks obtained by student F in Hindi, English and Science subjects together ?
 (1) 78 (2) 82.4
 (3) 78.8 (4) 84
 (5) None of these
98. If a minimum of 101 marks in Science subject are required for opting science stream in the next academic year, how many students will not able to opt science stream due to insufficient marks in Science subject ?
 (1) None (2) Two
 (3) Four (4) Five
 (5) Three
99. What are the total marks obtained by D in Hindi, E in Social Studies and C in mathematics together ?
 (1) 258 (2) 244
 (3) 235 (4) 210
 (5) None of these
100. What is the respective ratio of the marks scored by E in Science and Hindi ?
 (1) 35 : 83
 (2) 61 : 75
 (3) 83 : 35
 (4) 75 : 61
 (5) None of the above
- Directions (Q. 101–105)** What approximate value should come in place of the question mark (?) in the following questions ? (You are not expected to calculate the exact value).
101. $3942 \div 64 \div 3 = ?$
 (1) 29 (2) 32
 (3) 21 (4) 17
 (5) 11
102. $16.978 + 27.007 + 36.984 - 12.969 - 9.003 = ?$
 (1) 72 (2) 42
 (3) 60 (4) 51
 (5) 65

103. $18\% \text{ of } 609 + 27.5\% \text{ of } 450 = ?$

- (1) 220 (2) 233
(3) 267 (4) 248
(5) 274

104. $2\frac{3}{10} \times 4\frac{6}{7} \times 7\frac{1}{2} = ?$

- (1) 68 (2) 72
(3) 93 (4) 84
(5) 101

105. $12.564 \times 22.009 \times 17.932 = ?$

- (1) 4901 (2) 4895
(3) 4800 (4) 4959
(5) 4350

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

On the occasion of an opening ceremony of a Sports events, in a stadium there are total of 600 players who are participating in four different events viz. Athletics, Table Tennis, Kho-Kho and Lawn Tennis. The ratio between male to female players is 11 : 4 respectively. 30% of the female players out of total female players are participating in athletics. 10% of female players out of total female players are participating in table tennis. The remaining female players are participating in kho-kho and lawn tennis in the ratio of 1 : 3 respectively. The ratio of male players who are participating in athletics and other events together is 3 : 5 respectively. 4% of those male players who are not participating in athletics are participating in lawn tennis. Remaining male players are participating in table tennis and kho-kho in the ratio of 5 : 3 respectively.

106. What is the ratio between the female players participating in lawn tennis to table tennis respectively ?

- (1) 9 : 5 (2) 4 : 7 (3) 7 : 4
(4) 9 : 2 (5) None of these

107. What is the difference between male players participating in kho-kho and female players participating in lawn tennis ?

- (1) 27 (2) 31 (3) 83
(4) 76 (5) None of these

108. What is the ratio between the male players participating in lawn tennis and female players participating in table tennis respectively ?

- (1) 11 : 72 (2) 11 : 38
(3) 11 : 16 (4) 16 : 13
(5) None of these

109. What is the total number of female players who are participating in athletics and kho-kho together ?

- (1) 68 (2) 72 (3) 58
(4) 67 (5) None of these

110. What is the total number of players (both males and females together) participating in table tennis and athletics together ?

- (1) 360 (2) 358
(3) 374 (4) 396
(5) None of these

Directions (Q. 111–115) Study the following table carefully to answer the questions that follow.

Production of Sugar (in tonnes) of three different States over the years

Year	2003	2004	2005	2006	2007	2008
State						
P	4.3	4.9	5.6	5.8	6.7	7.4
Q	3.1	3.7	4.4	5.1	6.0	6.2
R	3.9	4.7	5.8	6.6	7.3	8.3

111. What is the average production of sugar of all the three States in 2003 and 2004 together ?

- (1) 4.1 tonnes (2) 4.7 tonnes
(3) 5.1 tonnes (4) 4.8 tonnes
(5) None of these

112. What is the ratio between total production of sugar of all the three States in year 2006 and 2007 respectively ?

- (1) 7 : 9 (2) 6 : 7
(3) 8 : 7 (4) 7 : 8
(5) 11 : 12

113. What is the average production of sugar of State R for all the years together ?

- (1) 6.24 tonnes (2) 6.3 tonnes
(3) 7.1 tonnes (4) 6.1 tonnes
(5) None of these

114. What is the difference between the total production of sugar of all the three States together in 2008 and 2005 respectively ?

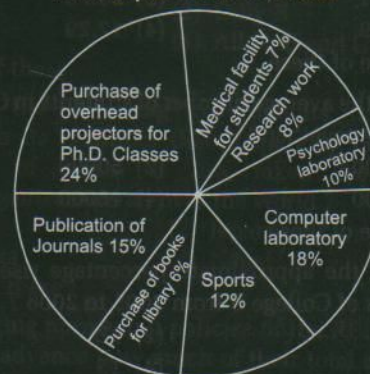
- (1) 6.9 tonnes (2) 4.3 tonnes
(3) 6.1 tonnes (4) 5.1 tonnes
(5) None of these

115. What is the approximate percentage increase in production of sugar in State Q from 2006 to 2007 ?

- (1) 12 (2) 18
(3) 24 (4) 10
(5) 21

Directions (Q. 116–120) Study the following Pie-chart carefully to answer these questions.

Total Expenditure : ₹ 60 lacs



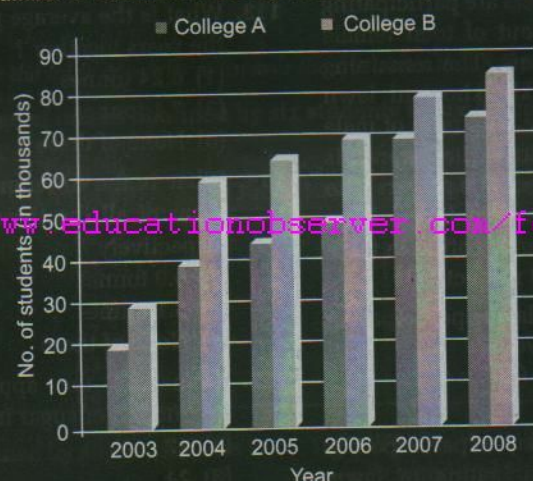
Expenditure of funds by University of various purposes

116. What is the total sum of expenditure on research work, purchase of overhead projectors for Ph.D. classes and purchase of books for library together ?
 (1) ₹ 22.6 lacs (2) ₹ 22.8 lacs
 (3) ₹ 23.4 lacs (4) ₹ 20.8 lacs
 (5) None of these
117. What is the difference between the expenditure made by university of publication of journals and psychology laboratory ?
 (1) ₹ 4 lacs (2) ₹ 3 lacs
 (3) ₹ 4.2 lacs (4) ₹ 3.8 lacs
 (5) None of these
118. What is the respective ratio between the expenditure made by university on research work and purchase of books for library ?
 (1) 4 : 5 (2) 5 : 4
 (3) 8 : 3 (4) 8 : 5
 (5) None of these

119. If the expenditure on purchase of overhead projectors for Ph.D. students is decreases by 7%, what will be the expenditure on the same after the decrease ?
 (1) ₹ 133920
 (2) ₹ 1339200
 (3) ₹ 102000
 (4) ₹ 108000
 (5) None of the above
120. Which of the following is definitely true ?
 (1) Ratio between expenditure of university for the purchase of library books and expenditure on computer laboratory is 3 : 1 respectively
 (2) Expenditure on medical facilities for students is ₹ 4.6 lacs
 (3) Difference between the expenditure on research work and medical facilities for student is ₹ 60000
 (4) All are true
 (5) None of the above

Directions (Q. 121–125) Study the following graph carefully to answer these questions.

Number of students in College A and College B over the years



121. Number of students of College B in year 2008 is what percent of total students of College B in all the years together? (Round off to two digits after decimal)
 (1) 20.61 (2) 23.79
 (3) 21.79 (4) 17.29
 (5) None of these
122. What is the average number of students in College A for all the years together ?
 (1) 45000 (2) 50000
 (3) 52000 (4) 48000
 (5) None of these
123. What is the approximate percentage rise in number of students of College B from 2005 to 2006 ?
 (1) 8 (2) 12
 (3) 4 (4) 15
 (5) 20
124. For which college(s) and in which year was the percent rise in number of students from the previous year the highest ?
 (1) College A in year 2004 and College B in year 2005
 (2) Only College B in year 2004
 (3) College A in year 2004 and College B in year 2004
 (4) College A in year 2007 and College B in year 2004
 (5) None of the above
125. What is the ratio between the total number of students of College A in year 2004, 2006 and 2007 together and the total number of students of College B in year 2003, 2004 and 2008 respectively ?
 (1) 35 : 32
 (2) 33 : 37
 (3) 34 : 31
 (4) 32 : 35
 (5) None of the above