Quantitative Aptitude

Directions (Q. 101–105) *What should come in the place of question mark (?) in the following questions ?*

101. $1\dfrac{1}{4} + 1\dfrac{5}{9} \times 1\dfrac{5}{8} \div 6\dfrac{1}{2} = ?$

   (1) 17   (2) 27

   (3) 42   (4) 18

   (5) None of these

102. If $289 = 17^{x-\frac{1}{5}}$, then $x = ?$

   (1) 16   (2) 8

   (3) 32   (4) $\dfrac{2}{5}$

   (5) None of these

103. $0.01 \times 0.1 - 0.001 \div 10 + 0.01 = ?$

   (1) 0.01009   (2) 0.0101

   (3) 0.19   (4) 0.109

   (5) 0.0109

104. If $x\%$ of $500 = y\%$ of 300 and $x\%$ of $y\%$ of $200 = 60$, then $x = ?$

   (1) $10\sqrt{2}$ (2) $20\sqrt{2}$

   (3) $15\sqrt{2}$ (4) $30\sqrt{2}$

   (5) None of these

105. $\dfrac{16 \times 32}{9 \times 27 \times 81} = ?$

   (1) $\left(\dfrac{2}{3}\right)^{12}$ (2) $\left(\dfrac{2}{3}\right)^{11}$

   (3) $\left(\dfrac{2}{3}\right)^{13}$ (4) $\left(\dfrac{2}{3}\right)^{9}$

   (5) None of these

Directions (Q. 106–110) *What approximate value should come in place of question mark (?) in the following questions ?*
(Note You are not expected to calculate the exact value.)

106. $23.999 \times 9.004 \times 16.997 = ?$
(1) 3200 (2) 4100 (3) 2700
(4) 3700 (5) 4500

107. $5\frac{7}{9} \times 8\frac{4}{5} \times 9\frac{2}{3} = ?$
(1) 490 (2) 590 (3) 540
(4) 460 (5) 520

108. $5940 \div 28 \div 6 = ?$
(1) 40 (2) 35 (3) 46
(4) 52 (5) 27

109. 15.5% of $850 + 24.8\%$ of $650 = ?$
(1) 295 (2) 330 (3) 270
(4) 375 (5) 220

110. $\sqrt[2]{2230} = ?$
(1) 54 (2) 59 (3) 41
(4) 37 (5) 47

Directions (Q. 111–112) *In the following number series only one is wrong. Find out the wrong number.*

111. 8 11 17 47 128 371 1100
(1) 11 (2) 47 (3) 17
(4) 371 (5) 128

112. 1 5 13 31 61 125 253
(1) 1 (2) 5 (3) 31
(4) 61 (5) 125

113. Aman's expense is 30% more than Raman's expense and Vimal's expense is 10% less than Raman's expense. If the sum of their expenses is ₹ 6447, then what would be the Aman's expense ?
(1) ₹ 2200 (2) ₹ 2457 (3) ₹ 1890
(4) ₹ 2100 (5) None of these

114. In a test, a candidate secured 336 marks out of maximum marks 'x'. If the maximum marks 'x' were converted into 400 marks, he would have secured 192 marks. What were the maximum marks of the test ?
(1) 700 (2) 750 (3) 500
(4) 650 (5) 800

115. An AC consumes 8 units of electricity in 30 minutes and a bulb consumes 18 units of electicity in 6 hours. How much total unit of electricity will both AC and bulb consume in 8 days if they run 10 hours a day ?
(1) 1280 unit (2) 1528 unit
(3) 1248 unit (4) 1520 unit
(5) 1620 unit

116. What amount a man would have received on a principal of ₹ 4000 after two yr simple interest @ 5 % per annum ?
(1) ₹ 4161 (2) ₹ 5200 (3) ₹ 4410
(4) ₹ 4100 (5) ₹ 4190

117. Four yr ago Shayam's age was $\frac{3}{4}$ times that of Ram. Four yr hence, Shayam's age will be $\frac{5}{6}$ times that of Ram. What is the present age of Shayam ?
(1) 15 yr (2) 20 yr (3) 16 yr
(4) 24 yr (5) 8 yr

118. The average marks in Science subject of a class of 20 students is 68. If the marks of two students were misread as 48 and 65 of the actual marks 72 and 61 respectively, then what would be the correct average ?
(1) 68.5 (2) 69 (3) 69.5
(4) 70 (5) 66

119. A school team has eight volleyball players. A five-member team and a captain will be selected out of these eight players. How many different selections can be made ?
(1) 224 (2) 112 (3) 56
(4) 88 (5) None of these

120. A bus started its journey from Ramgarh and reached Devgarh in 44 min with its average speed of 50 km/hr. If the average speed of the bus is increased by 5 km/hr, how much time will it take to cover the same distance ?
(1) 40 min (2) 38 min (3) 36 min
(4) 31 min (5) 49 min

Directions (Q. 121–125) *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.

121. I. $x^2 - 1 = 0$
II. $y^2 + 4y + 3 = 0$

122. I. $x^2 - 7x + 12 = 0$
II. $y^2 - 12y + 32 = 0$

123. I. $x^3 - 371 = 629$
II. $y^3 - 543 = 788$

124. I. $5x + 2y = 31$
II. $3x + 7y = 36$

125. I. $2x^2 + 11x + 12 = 0$
II. $5y^2 + 27y + 10 = 0$

Directions (Q. 126–130) *Study the information carefully to answer the questions that follows.*

In an annual function, 504 children participated. The ratio of number of girls to the number of boys is 5 : 3 respectively. Out of the total girls, 20% participtated in dance and remaining girls participated in solo song, group song and drama in the ratio of 2 : 3 : 4 respectively. Two-third of the total boys participated in group song and remaining boys participated in solo song and dance in the ratio of 4 : 5 respectively.

126. What is the **approximate** per centage of the boys who have participated in dance out of the total number of boys ?
(1) 19% (2) 23% (3) 16%
(4) 27% (5) 14%

127. What is the **approximate** per centage of the girls participated in solo song out of all the total participants ?
(1) 11% (2) 15%
(3) 6% (4) 20%
(5) 18%

128. What is the total number of girls who have participated in group song and drama together ?
    (1) 192   (2) 196   (3) 184
    (4) 168   (5) 175

129. What is the ratio between number of boys to the number of girls respectively who have participated in solo song ?
    (1) 1 : 2   (2) 2 : 1   (3) 4 : 3
    (4) 3 : 2   (5) None of these

130. What is the difference between the number of boys and girls who have participated in dance ?
    (1) 63   (2) 35   (3) 28
    (4) 126   (5) None of these

131. Ths sum of four consecutive even numbers is 284. What would be the smallest number ?
    (1) 72   (2) 74   (3) 68
    (4) 66   (5) 70

132. If $\dfrac{(a-b)^2 - (a+b)^2}{-4a} = \dfrac{x}{y}$

    On simplifying the above mentioned equation, what will be the equation ?
    (1) $xy = b$ (2) $bx = y$
    (3) $by = x$ (4) $ab = x$
    (5) $ay = x$

133. $\dfrac{1}{4}$ of $\dfrac{3}{5}$ of $\dfrac{6}{5}$ of a number = 54. What is the number ?
    (1) 280   (2) 250   (3) 300
    (4) 150   (5) 160

134. The average age of the family of five members is 24. If the present age of youngest member is 8 yr, then what was the average age of the family at the time of the birth of the youngest member ?
    (1) 20 yr   (2) 16 yr   (3) 12 yr
    (4) 18 yr   (5) 21 yr

135. A candidate appearing for an examination has to secure 35% marks to pass. But he secured only 40 marks and failed by 30 markes. What would be the maximum marks of test ?
    (1) 280   (2) 180   (3) 200
    (4) 150   (5) 210

136. The length of a rectangular floor is twice its breadth. If ₹256 is required to paint the floor at the rate of ₹ 2 per square m, then what would be the length of floor ?
    (1) 16 m   (2) 8 m   (3) 12 m
    (4) 32 m   (5) 20 m

137. Angle 'A' of the quadrilateral ABCD is 26° less than angle B. Angle B is twice angle C and angle C is 10° more than the angle D. What would be the measure of angle 'A' ?
    (1) 104°   (2) 126°
    (3) 56°   (4) 132°
    (5) 106°

138. A number when subtracted by $\dfrac{1}{7}$ of itself gives the same value as the sum of all the angles of a triangle. What is the number ?
    (1) 224   (2) 210
    (3) 140   (4) 350
    (5) 187

139. A man walked at a speed of 4 km/h from point A to B and come back from point B to A at the speed of 6 km/h. What would be the ratio between the time taken by man in walking from point A to B to point B to A respectively ?
    (1) 5 : 3   (2) 2 : 3   (3) 2 : 1
    (4) 4 : 3   (5) 3 : 2

140. In every 30 min the time of a watch increases by 3 min. After setting the correct time at 5 a.m. What time will the watch show after 6 h?
    (1) 10. 54 a.m.   (2) 11 : 30 a.m.
    (3) 11 : 36 a.m.   (4) 11 : 42 a.m.
    (5) 11 : 38 a.m.

Directions (Q. 141–145) *Study the following profile of parliament carefully and answer the questions given below it.*

Profile of Parliament in Year XXXX

Total members in Parliament
    = 640 (490 from Lok Sabha and 150 from Rajya Sabha)

Lok Sabha (No. of Members)	Party	Rajya Sabha (No. of Members)
280	A	90
180	B	45
30	Others	15
490	**TOTAL**	150
	SEX	
435	Males	120
55	Females	30
	RELIGION	
348	Hindus	85
42	Muslims	20
75	Sikhs	35
25	Christians	10
	PROFESSION	
300	Graduates	50
45	Businessmen	19
60	Educators	11
85	Unknown	70

141. What is the **approximate** per centage of the Muslim members in Lok Sabha ?
    (1) 9%   (2) 11%   (3) 13%
    (4) 14%   (5) 7%

142. In Rajya Sabha if 30 male members were replaced by 30 female members, then what is the ratio of male members to female members respectively ?
    (1) 3 : 1   (2) 3 : 2   (3) 1 : 3
    (4) 2 : 3   (5) 2 : 1

143. What per centage of members in parliament are businessmen ?
    (1) 8%   (2) 20%
    (3) 30%   (4) 18%
    (5) 10%

144. If all the 'others' party members of Lok Sabha join the party 'B' then what would be the ratio between members of party 'A' to the members of party 'B' respectively ?
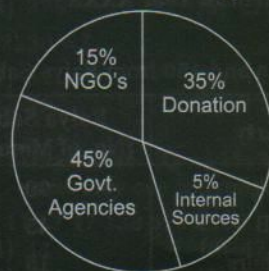(1) 3 : 2   (2) 6 : 5
(3) 4 : 3   (4) 7 : 6
(5) 4 : 5

145. Out of total members of party 'B' in parliament, what per centage of the members belong to Rajya Sabha ?
(1) 30%   (2) 35%
(3) 25%   (4) 20%
(5) 15%

Directions (Q. 146–150) *Study the following pie-charts carefully and answer the questions below it.*

The entire fund that school gets from different sources is equal to ₹ 500 lakhs.

Sources of Funds in School   Uses of Funds by School

146. What is the difference between the funds acquired by school from NGO's and internal sources ?
(1) ₹ 50 lakh   (2) ₹ 45 lakh
(3) ₹ 75 lakh   (4) ₹ 25 lakh
(5) None of these

147. If the school managed 'school maintenance' from the 'government agencies' fund only, then how much fund from government agencies would still left for other use ?
(1) ₹ 120 lakh   (2) ₹ 150 lakh
(3) ₹ 110 lakh   (4) ₹ 95 lakh
(5) None of these

148. If scholarship has to be paid out of the donation fund, then what is the **approximate** per cent of donation fund used for this purpose ?
(1) 43%   (2) 53%
(3) 37%   (4) 45%
(5) 32%

149. What is the total amount used by the school for payment ?
(1) ₹ 100 lakh   (2) ₹ 110 lakh
(3) ₹ 150 lakh   (4) ₹ 140 lakh
(5) None of these

150. What amount of the fund is acquired by the school from government agencies ?
(1) ₹ 220 lakh   (2) ₹ 310 lakh
(3) ₹ 255 lakh   (4) ₹ 225 lakh
(5) None of these