Part - c

QUANTITATIVE APTITUDE

101. $\left(\frac{1}{10}\right)^{th}$ of $\left(\frac{2}{4}\right)^{th}$ of a number is 240.

What is the number?

- (A) 12 (B) 1200
- (C) 4800 (D) 48
- 102. If $\sqrt{15-x\sqrt{14}} = \sqrt{8}-\sqrt{7}$, then the value of x is

 - (A) 2 (B) $\sqrt{2}$ (C) 4 (D) 7
- 103. The next term of the series 325, 259, 204, 160, 127, 105,.... is
 - (A) 95 (B) 94
 - (C) 102 (D) 101
- 104. The simplified form of $\frac{17 + 12\sqrt{2}}{3 + 2\sqrt{2}}$ is
 - (A) $11\frac{2}{3}$ (B) 19
 - (C) $3 + 2\sqrt{2}$ (D) $3 2\sqrt{2}$
- 105. The least number which must be subtracted from 2361 to make it a perfect square is
- (C)
- (D) 47
- 106. A and B can together do a piece of work in 6 days. If B can do the work by himself in 8 days, how many days do the work will A take to independently?
 - (A) 24 days
- 14 days (B)
- 2 days (C)
- 22 days (D)

- 107. A does half as much work as B, and C does half as much work as A and B together. If C alone can finish the work in 40 days, then all together will finish the work in
 - (A) $13\frac{1}{3}$ days (B) 15 days
 - (C) 20 days (D) 30 days
- 108. A dealer buys a table listed at ₹ 1,500 and gets successive discounts of 20% and 10%. He spends ₹ 20 on transportation and sells it at a profit of 20%. The selling price of the table is
 - (A) ₹ 1,320 (B) ₹ 1,350
- - (C) ₹ 1,360 (D) ₹ 1,380
- 109. A pair of articles was bought for ₹ 37.40 at a discount of 15%. What must be the marked price of each of the articles?
 - (A) ₹11 (B) ₹44
 - (C) ₹33 (D) ₹22
- 110. In a relief camp of 550 men, the food was enough for 28 days. If 150 more people joined in the camp, the same amount of food will be enough for

 - (A) 22 days (B) 35 days
 - (C) 25 days (D) 10 days
- 111. A bag contains ₹ 121 in the form of 1 rupee, 50 paise and 25 paise coins in the ratio 1:2:3. Find the number of each type of coins (1Re, 50P, 25P respectively).
 - (A) 40, 92, 140
- (B) 42, 92, 132
- 45, 90, 132 (C)
 - 44, 88, 132 (D)
- 112. There were 984 mangoes on 12 trees of a mango-garden. What will be the average number of mangoes per tree after taking down 26 mangoes in average from 5 trees and 38 mangoes in average from 7 trees?
 - 53 (A)
- (B) 49 (C) 45 (D) 39

113.	The average age of a class is 15.8 years. The average age of the boys in the class is 16.4 years, while that of the girls is 15.4 years. What is the ratio of boys to girls in the class? (A) 1:2 (B) 3:4	() ()	y 100%, its area is A) 300% C) 100%	(B) 400% (D) 200%	
114.	(C) 3:5 (D) None of these A man sells an article at a profit of 25%. If he had bought it at 20% less and sold it for ₹ 10.50 less, he would	is a tr	The perimeter of an isosceles triangle is 18 cm. Its lateral side and the baare in the ratio 7: 4. The area of triangle is		
	have gained 30%. Find the cost price (in rupees) of the article.		A) $8\sqrt{5} \text{ cm}^2$ C) $4\sqrt{5} \text{ cm}^2$	(B) $6\sqrt{5} \text{ cm}^2$ (D) $10\sqrt{5} \text{ cm}^2$	
	(A) 50 (B) 20 (C) 25 (D) 35	7.		acent faces of a	
115.	Rahul had 200 mangoes. He sold 30 mangoes at 25% gain, 40 mangoes at 20% gain, 60 mangoes at 10% gain and 70 mangoes at 10% loss. His net gain/loss percentage is	re 1: ci	ctangular paralleler sq.m. and 20 sq.r i.m.) of the parallele	piped are 12 sq.m., n. The volume (in	
	(A) 7% gain (B) 7% loss (C) $7\frac{1}{4}$ % gain (D) $7\frac{1}{4}$ % loss	123. If the the	the volumes of the ratio 1: 4 and eir bases are in the	two cones are in the diameters of e ratio 4:5, then	
116.	13% of a number exceeds 5% of the same by 16. The number is (A) 500 (B) 450 (C) 300 (D) 200	(A	e ratio of their height) 1:25 (2) 16:125	(B) 25:16	
117.	If A's salary is $33\frac{1}{3}\%$ less than B's salary, by how much percentage is B's salary more than A's?	its	lindrical metallic total surface are rface at the ends i	s 98 π sq. cm. If	
	(A) 20 (B) 25 (C) 50 (D) $16\frac{2}{3}$	in	ner diameter in cm a) 6.5 (B) 7	is	
118.	An aeroplane covers a certain distance at a speed of 240 km/hr in 5 hours. To cover the same distance in $1\frac{2}{3}$ hours, it must travel at a speed	of bo	36 m, 1.06 m and a painting the innex at 50 paise per 10	er surface of the	
	(in km/hr) of	24202			
19.	(A) 300 (B) 360 (C) 600 (D) 720 \$\frac{25,000}{25,000}\$ is borrowed at compound interest at the rate of 3% for the first year, 4% for the second year and 5% for the third year. The amount to be paid after 3 years is (A) \$\frac{7}{28,119}\$ (B) \$\frac{7}{29,118}\$	sp the	spherical ball of meter is melted and herical balls. The di se are 1.5 cm and 2 e diameter of the th	d recast into three iameter of two of cm respectively. aird ball is	
	(C) ₹ 28,129 (D) ₹ 28,117	(C	• • •	(B) 1.8 cm (D) 2.5 cm	
		eshersnow.com/	,	, 2.5 cm	

	_	ri Linear and the second
127.	If $x = 2 + \sqrt{3}$, then the value of	1
	$x^2 - 4x + 2 \text{ is}$	
	(A) 1 (B) 2 (C) 3 (D) 4	
128.	The circumradius of the triangle formed	
	by the straight line $3x + 4y = 12$ and	
	the coordinate axes is	
	(A) 5/2 (B) 3/2 (C) 2 (D) 6	1
120	If $x\left(3-\frac{2}{x}\right)=\frac{3}{x}$, then value of $x^2+\frac{1}{x^2}$ is	-
129.	If $x(3-\frac{1}{x})=\frac{1}{x}$, then value of $x^2+\frac{1}{x^2}$ is	
	1 4 5 7	
10	(A) $1\frac{1}{9}$ (B) $2\frac{4}{9}$ (C) $3\frac{5}{9}$ (D) $4\frac{7}{9}$	
120		
130.	If $a^2 + b^2 - c^2 = 0$, then the value of	1.
	$\frac{a^6 + b^6 - c^6}{a^2b^2c^2}$ is	
	a ² b ² c ²	
	(A) 0 (B) 3 (C) -3 (D) 1	
131.	If a, b, c, d are four non-negative real	
	numbers and $a + b + c + d = 1$, then	
	the maximum value of ab + bc + cd is	13
	(A) 3 (B) 1 (C) $\frac{1}{2}$ (D) $\frac{1}{4}$	
	2 . 7	
132.	If P and Q are the middle points of	
	the sides AB and AC respectively of	
	a triangle ABC, X is any point on BC	
	and AX meets PQ at O, then the length AO is equal to	
	(A) $\frac{1}{2}$ AX (B) $\frac{1}{3}$ AX	11
	(A) $\frac{1}{2}$ AX (B) $\frac{1}{3}$ AX (C) PQ (D) AP	13
133	ABCD is a parallelogram with	
	AB = 10 cm, AD = 6 cm. The bisector	
	of ∠A meets DC in E, and is extended	
	to meet BC produced at F. CF is	
	(A) 4 cm (B) 2 cm	
	(C) 6 cm (D) 8 cm	14
	The radius of a circle is 13 cm and	
	AB is a chord which is at a distance	
	of 12 cm from the centre. Then the	
	length of the chord is	14

16 cm

8 cm

135. Radius of the incircle of an equilateral ΔABC of sides √3 units is
(A) 3/2 units (B) 1/2 units
(C) 3/4 units (D) 1/4 units
136. Radii of two circles are 7 cm and 3 cm. If one of these lies wholly inside the other, then the distance between their centres is

inside the other, then the distance between their centres is

(A) 4 cm

(B) more than 5 cm

(C) less than 4 cm (D) none of these

137. The sum of two angles is 135° and their difference is $\frac{\pi}{2}$. The value of the greater angle in radian is

(A) $5\frac{\pi}{8}$ (B) $\frac{\pi}{2}$ (C) $3\frac{\pi}{8}$ (D) $\frac{\pi}{8}$

138. A guard observes an enemy boat, from an observation tower at a height of 180 metre above sea level, to be at an angle of depression of 60°. The distance of the boat from the foot of the observation tower is

(A) 180 metre (B) $180\sqrt{3}$ metre

(C) $60\sqrt{3}$ metre (D) 60 metre ·

139. If $\tan 22\frac{1}{2}^{\circ} = x$, then the value of $\cos 67\frac{1}{2}^{\circ}$ is

(A) $\frac{x}{\sqrt{x^2+1}}$ (B) $\frac{1}{\sqrt{x^2+1}}$

(C) $\frac{x}{\sqrt{x^2-1}}$ (D) $\frac{1}{\sqrt{x^2-1}}$

140. If $\cos x = \sin y$ and $\cot (x - 40^\circ) = \tan (50^\circ - y)$, then the values of x and y are

(A) 70°, 20° (B) 85°, 5°

(C) 80°, 10° (D) 60°, 30° 141. If $f(x) = \cos^2 x + \sec^2 x$, then the

> minimum value of f(x) is (A) 1 (B) -1 (C) -2 (D) 2

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10 cm

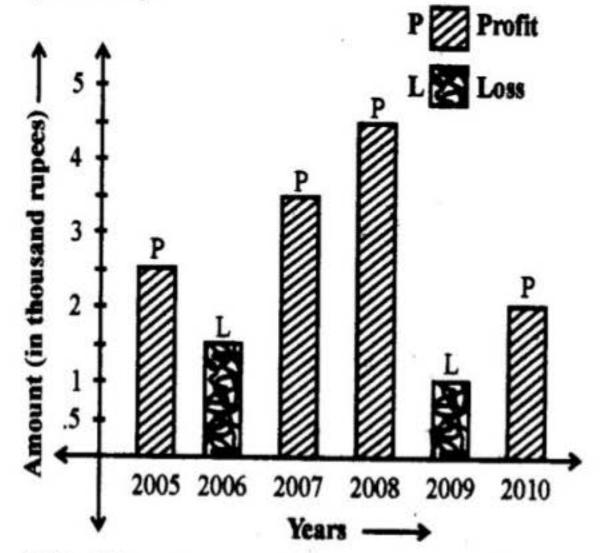
15 cm

(B)

(D)

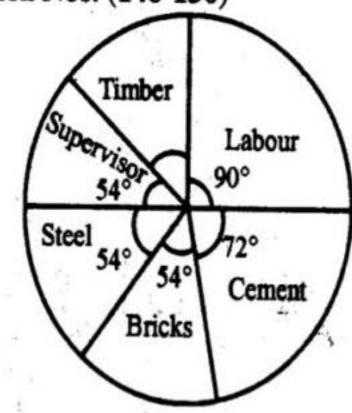
The following graph shows the Profits and Losses, (in thousand rupees) in a business for the years 2005-2010.

Study the graph and answer questions (142-145):



- 142. The amount of maximum profit as seen from the diagram is
 - (A) 2 thousand rupees
 - (B) 1.5 thousand rupees
 - (C) 1 thousand rupees
 - (D) 4.5 thousand rupees
- 143. The amount of total loss incurred during 2005-2010 is
 - (A) 3 thousand rupees
 - (B) 2.5 thousand rupees
 - (C) 1.5 thousand rupees
 - (D) 2 thousand rupees
- 144. The ratio of the maximum profit earned to the minimum loss suffered is
 - (A) 4:3
- (B) 3:4
- (C) 9:2
- (D) 2:9
- 145. If the loss is x % of the profit for the years under study, then x is
 - (A) 15
- (B) 25
- (C) 20
- (D) 19

The pie-graph given below shows the break-up of the cost of construction of a house. Assuming that the total cost of construction is ₹ 6,00,000, answer the Question Nos. (146-150)



- 146. The amount spent on cement is
 - (A) ₹2,00,000
- (B) ₹1,60,000
- (C) ₹ 1,20,000
- (D) ₹1,00,000
- 147. The amount spent on labour exceeds the amount spent on steel by
 - (A) 5% of the total cost
 - (B) 10% of the total cost
 - (C) 12% of the total cost
 - (D) 15% of the total cost
- 148. The amount spent on cement, steel and supervision is what percent of the total cost of construction?
 - (A) 40%
- (B) 45%
- (C) 50%
- (D) 55%
- 149. The amount spent on labour exceeds the amount spent on supervision by
 - (A) ₹ 2,00,000
- (B) ₹16,000
- (C) ₹1,20,000
- (D) ₹60,000
- 150. The amount spent on Timber is
 - (A) ₹60,000
- (B) ₹ 90,000
- (C) ₹1,20,000
- (D) ₹ 36,000

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- 142. A, B and C started a business with ₹ 3 lacs, ₹ 5 lacs and ₹ 6 lacs respectively. A remained in the business throughout the year. After 6 months, B invested ₹ 4 lacs more and C left the business 2 months before the end of the year. If the total profit was ₹ 3 lacs, then how much more profit did B get than C? (in ₹)
 - (A) ₹ 40,000
- (B) ₹80,000
- (C) ₹ 20,000
- (D) ₹1,60,000
- 143. 22 big lemons bought at the rate of ₹ 10 for 11 and 33 small lemons bought at the rate of ₹ 5 for 11 are mixed and sold at ₹ 12 for 10. The total loss or gain in this transaction is
 - (A) Profit of ₹31 (B) Loss of ₹11
 - (C) Profit of ₹ 21 (D) Loss of ₹ 21
- 144. In an examination, 72% of the students passed in Mathematics and 78% passed in Bengali. If none failed in both the subjects, then what percent of the students passed in both the subjects?
 - (A) 55%
- (B) 60%
- (C) 45%
- (D) 50%
- 145. A and B can do a piece of work in 18 days; B and C in 24 days; A and C in 36 days. In what time can they do it all working together?
 - (A) 12 days
- (B) 13 days
- (C) 16 days
- (D) 26 days

- 146. Find the difference between the simple and compound interest on ₹ 10,000 for 2 years at 4% per annum.
 - (A) ₹16
- (B) ₹18
- (C) ₹19
- (D) ₹31
- 147. If $\tan \theta = \cos 30^{\circ} + \sin 60^{\circ}$, then the value of θ is
 - (A) 45°
- (B) 60°
- (C) 30°
- (D) 15°
- 148. Manoj covers two-third of a certain distance at 4 km/hr and the remaining at 5 km/hr. If he takes 42 minutes in all to cover the total journey, the distance in km is
 - (A) 4
- (B) 4.6
- (C) 2.5
- (D) 3
- 149. ABCD is a cyclic trapezium and AD||BC, ∠ABC = 80°, the measure of ∠BCD is
 - (A) 80°
- (B) 100°
- (C) 60°
- (D) 110°
- 150. A shopkeeper is giving 6 kg of tomatoes at the rate of price ₹ 5 per kg. What should be the mark up on cost price if he wants to make a profit of 20%?
 - (A) 25%
- (B) 50%
- (C) 44%
- (D) 20%