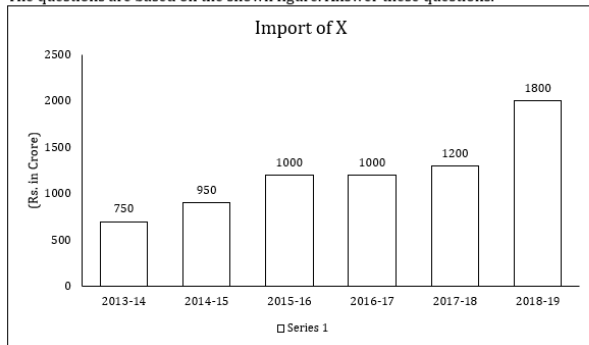


200 Important Quantitative Aptitude Questions for AAI JE ATC 2023 Exam

Directions (1-5): The following graph shows the import of a certain commodity X in Crore Rupees between 2013 and 2019.

The questions are based on the shown figure. Answer these questions.



Q1. Percentage increase in the import of X from 2013-14 to 2015-16 is

- (a) 41.0 %
- (b) 33.3 %
- (c) 28.8 %
- (d) 20.0 %

Q2. Average of the increase in import of X year by year for all the years is (in Rs. crore)

- (a) 250
- (b) 290
- (c) 210
- (d) None of these

Q3. For how many years, there was more import of X, than the average import of X?

- (a) 4
- (b) 3
- (c) 2
- (d) 1

Q4. The difference of the numbers of years in which import of X is less than the average import and in which import of X is more than the average import is

- (a) 3
- (b) 2
- (c) 1
- (d) 0

Q5. The percentage increase in import of X during 2018-19 over its Average Import of X of all years is:

- (a) 61.19s %
- (b) 63.5 %
- (c) 70.6 %
- (d) 64.38 %

Q6. A sold a book to B at a gain of 12.5% and B sold it to C at a loss of 10%. If C Paid Rs.1215 for it , how much did A Pay for the Book?

- (a) 1200Rs
- (b) 1500Rs
- (c) 1350Rs
- (d) 1285Rs

Q7. If the number 1981pq is divisible by 9, 11 and 13, then the possible values of p and q will be:

- (a) P = 4, q = 3
- (b) P = 8, q = 0
- (c) P = 2, q = 9
- (d) P = 9, q = 8

Q8. Three numbers are in the ratio $\frac{1}{5} : \frac{7}{4} : \frac{4}{3}$. If the Sum of first and third number is 644, then the value of the greatest number will be:

- (a) 765
- (b) 735
- (c) 700
- (d) 825

Q9. The three medians AD, BF and CE of ΔABC intersect at point O. If the area of ΔABC is 51.6 cm^2 , then the area of the quadrilateral CDOF is:

- (a) 12.5 cm^2
- (b) 15 cm^2
- (c) 18 cm^2
- (d) 17.2 cm^2

Q10. In a triangle ABC point D and E are on AB and AC respectively, such that AD= 3cm and DB= 4cm AE= 6 cm and EC= 8 cm .If DE= 6 cm then find BC= ?

- (a) 12cm
- (b) 7cm
- (c) 16cm
- (d) 14cm



Q11. If 28 men can finish a certain work in 7 days, then in how many days can 7 men do half of the same work?

- (a) 17days
- (b) 14 days
- (c) 21days
- (d) 15days

Q12.

$(x + \frac{1}{x} + 4)^3 = 125$ then find the value of $x^2 + \frac{1}{x^2}$

- (a) -1
- (b) 1
- (c) 2
- (d) -2

Q13.

If $\tan A = \frac{1.2}{0.5}$, then the value of $(25\cos A + 26\sin A)$

- (a) $\frac{374}{13}$
- (b) $\frac{187}{13}$
- (c) $\frac{437}{13}$
- (d) $\frac{435}{12}$

Q14. If $3\operatorname{cosec}^2\alpha + 4\sin^2\alpha = 7$, $0^\circ < \alpha < 90^\circ$ then find the value of α .

- (a) 30°
- (b) 0°
- (c) 45°
- (d) 60°

Q15. A borrows a sum of Rs 4500 for 4 years at 4% p.a simple interest. He lends to B at 6%p.a for 4 year at simple interest. What is his gain (in Rs.)?

- (a) Rs. 300
- (b) Rs. 360
- (c) Rs. 350
- (d) RS. 280

Q16. Three partners A, B and C started their company by investing Rs. 2000, Rs. 19000 and Rs. 15000 respectively. After 4 months A and C made additional investments of Rs. 1000 and Rs. 750 respectively, whereas B withdrew Rs. 4000. Total profit of the company at the end of the year is Rs. 232027. Find the B's profit share.

- (a) Rs.173600
- (b) Rs.160000
- (c) Rs. 109858
- (d) Rs.118270

Q17.

A ladder $7\sqrt{3}$ m long rests against a wall so that the angle between the ladder and the horizontal is 60° . How far (in m) is the base of the ladder from the wall?

- (a) 10.5 m
- (b) 21 m
- (c) 14 m
- (d) $\frac{14}{3}$ m

Q18. A person's income was increased by 25% and subsequently decreased by 50%. How much percentage does he lose or gain?

- (a) Loss of 30%
- (b) Loss of 37.5%
- (c) Gain 30%
- (d) Gain 37.5%

Q19. Two cars are running on parallel tracks in the same direction at the speed of 50 km/h and 40 km/h respectively. The cars crossed each other in 3 minutes. If the length of one cars in 175m then what is the length of the other car?

- (a) 300 m
- (b) 275 m
- (c) 375 m
- (d) 325 m

Q20. If $x^4 - 574x^2 + 1 = 0$, then the value of $x + \frac{1}{x}$ can be

- (a) 24
- (b) 26
- (c) 25
- (d) 22

Q21. What is compound interest on a sum of 32500 Rs. for 2 years at 12% p.a. if the interest is compounded 8 monthly?

- (a) Rs. 8440.64
- (b) Rs.8400.64
- (c) Rs.8400
- (d) Rs.7500

Q22. The selling price of an article is Rs. 15620 and it was sold at 37.5% profit. The cost price of the Article is.

- (a) Rs.11000
- (b) Rs.11360
- (c) Rs.11200
- (d) Rs.12300

Q23. If $A = 45^\circ$, what is the value of $\left[\frac{8 \tan A + 11 \operatorname{cosec}^2 A - 2 \cot^2 A}{14 \sin^2 A} \right]$?

- (a) $\frac{1}{2}$
- (b) 4
- (c) 3
- (d) 1

Q24. The sides of a triangular field are 180m, 240 m and 300m. Its area is equal to the area of square field. What is the side of the square field?

- (a) 60 m
- (b) $30\sqrt{6}$ m
- (c) 30 m
- (d) $60\sqrt{6}$ m

Q25. A and B working alone can complete a work in 6 and 18 days respectively. They working together, but B left 3 days before completion of the work. In how many days was the work completed?

- (a) $5\frac{1}{3}$ days
- (b) 5 days
- (c) $5\frac{1}{4}$ days
- (d) $5\frac{3}{4}$ days

Q26. A can complete a piece of work in 12 days and B can complete it in 28 days. They worked together for 3 days and then A left, B complete the remaining work. For how many total numbers of days did B work to finish the work completely?

- (a) 18 days
- (b) 21 days
- (c) 28 days
- (d) 20 days

Q27.

If $(A + 8B) = 8$ and $AB = 2$ Where $A > 0$ what is the value of $(A^3 + 512 B^3)$?

- (a) 328
- (b) 384
- (c) 320
- (d) 224

Q28.

If $4 \tan^2 \theta = 3$ ($\sec \theta - 1$), $0^\circ < \theta < 90^\circ$ then what is the value of $(2 \sin \theta + 4 \cos \theta - \sec \theta)$?

- (a) 0
- (b) 1
- (c) 2
- (d) 3

Q29. A Jacket costs Rs. 600 during a Holi sale, a company offers a sale discount that offers $x\%$ off on its regular price along with a discount coupon of 12.5%. The price of the Jacket after using both the sale discount and the discount coupon is Rs. 420. What is the value of x ?

- (a) 40
- (b) 35
- (c) 20
- (d) 25

Q30. Find the smallest number given below, which is divisible by 3 but Not a divisible by 9.

- (a) 320682
- (b) 320684
- (c) 321680
- (d) 329868

Q31. The angle of elevation of the top of an unfinished building at a point distance $26\sqrt{3}$ m. from its base is 30° . How much higher must be the building raised so that the angle of elevation of the top of the finished building at the same point will be 60° ?

- (a) 78 m
- (b) 52 m
- (c) 26 m
- (d) 34 m

Q32. O is the center of a circle with diameter 20 cm. T is a point outside the circle and TA is a tangent to a circle. If OT is 14.5 cm. What is the length (in cm) of the tangent TA?

- (a) 10 cm
- (b) 10.5 cm
- (c) 11.25 cm
- (d) 12 cm

Q33.

Find the value of

$$\frac{1}{35} + \frac{1}{63} + \frac{1}{99} + \frac{1}{143} + \frac{1}{195}$$

- (a) $\frac{1}{5}$
- (b) 15
- (c) $\frac{1}{10}$
- (d) $\frac{1}{15}$

Q34. In a cylinder, radius and height are increase by 10% and decrease by 8%. What is the percentage increase or decrease in its area ?

- (a) 11.32%
- (b) 15%
- (c) 13%
- (d) 10%

Q35. A Bus runs first 945 km at an average speed of 70 km/h and the next 825 km at an average speed of 50 km/h, what is the average speed (in km/h) for the entire journey.

- (a) 62.5
- (b) 57.5
- (c) 60
- (d) 59

Q36. If the average of 49, 68, 43, a and b is 37 and 37, 43, 49, 56, 45, c and d is 69, What is the average of a, b, c and d ?

- (a) 70
- (b) 69.5
- (c) 68
- (d) 72.5

Q37. Five cubes each of edge 5cm are joined end to end. What is the total surface area of resulting cube ?

- (a) 250 cm^2
- (b) 500 cm^2
- (c) 550 cm^2
- (d) 275 cm^2

Q38.

If LCM = $10^3 \times 5^2$, HCF = 10^2 and first number is 10^4 , then the second number is?

- (a) 250
- (b) 54
- (c) 500
- (d) 10^3

Q39. ABC is an isosceles triangle height = 20cm, perimeter = 80cm and AB = AC find the area of triangle.

- (a) 200 cm
- (b) 80 cm
- (c) 300 cm
- (d) 150 cm

Q40. A sum kept under simple interest after 4 year the amount received is 3 times of the sum. In how many years will we get an amount of 5 times the original sum at the same rate.

- (a) 4 years
- (b) 8 years
- (c) 6 years
- (d) 5 years

Q41.

If ABC is cyclic quadrilateral in which $\angle A = 5x^\circ$, $\angle B = 9x^\circ$, $\angle C = 15y^\circ$ and $\angle D = 13y^\circ$ then $\frac{x}{y}$ is

- (a) $1/2$
- (b) $7/12$
- (c) $11/9$
- (d) $9/11$

Q42.

In ΔABC , P is a point on BC such that BP : PC = 6 : 11. If Q is the mid-point of BP then area(ΔABQ) : area(ΔABC) is equal to

- (a) 3 : 15
- (b) 3 : 11
- (c) 6 : 11
- (d) 3 : 17

Q43. 40 liters of 70% concentration of acid solution is added to 35liters to 40% concentration of acid solution. What is the concentration of acid in the new solution ?

- (a) $52\frac{4}{5}\%$
- (b) 56%
- (c) $51\frac{2}{3}\%$
- (d) 53%

Q44. If a : b = 4 : 3 and c : d = 3a : 2b, then ac : bd is?

- (a) 8 : 3
- (b) 3 : 8
- (c) 4 : 3
- (d) 3 : 5

Q45.

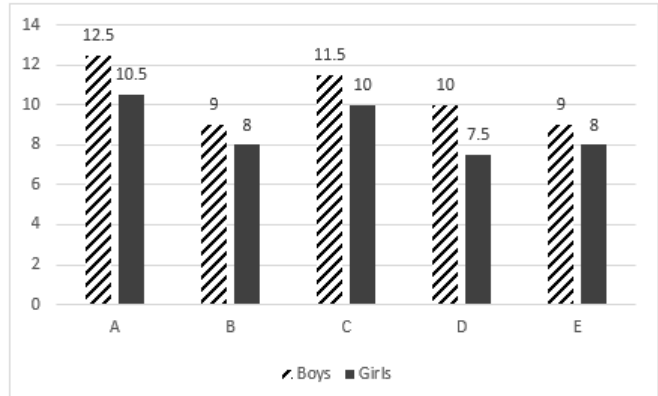
If $12\frac{1}{2}\%$ Loss is made on SP than the rate of loss on the CP will be ?

- (a) 14%
- (b) 12.25%
- (c) 13.5%
- (d) 14.28%

Q46. The sum for 2 year gives a compound interest of Rs. 6300, at 10% rate. The sum is?

- (a) Rs. 20000
- (b) Rs. 30000
- (c) Rs. 10000
- (d) Rs. 15000

Directions (47-48): The following bar graph shows the number of Boys and the number of girls in 5 states A, B, C, D and E.



Q47. In which state the number of Boys more that the average of Boys in the five states: -

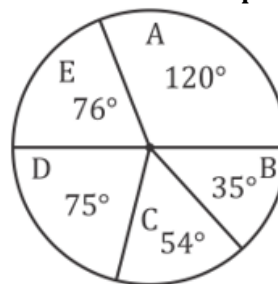
- (a) A, C
- (b) D, E
- (c) A, B, C
- (d) E, C

Q48. In which state the number of girls more than the average of boys in the five states

- (a) A
- (b) B
- (c) C
- (d) None of these

Directions (49-50): In the given pie chart, the breakup of the total number of employees of a company working in different offices (A to E) ?

Total Number of Employees = 4200



Q49. In which office the number of employees 875?

- (a) D
- (b) E
- (c) A
- (d) B

Q50. In Which office number of employees greater than 1600?

- (a) A
- (b) B
- (c) D
- (d) None of these

Q51. PQRS is a cyclic quadrilateral in which PR and SQ intersect each other at O point. If

$\angle QOR = 132^\circ$ and $\angle ORS = 40^\circ$, then what would be the measure of $\angle QPO$?

- (a) 85°
- (b) 95°
- (c) 92°
- (d) 83°

Q52. In a circle with center O, PQ is a diameter and PR is a chord. Point S is on PR such that $OS = 9\text{cm}$ $\angle PSO = 60^\circ$. if $\angle QOR = 60^\circ$, then what is the length of SR?

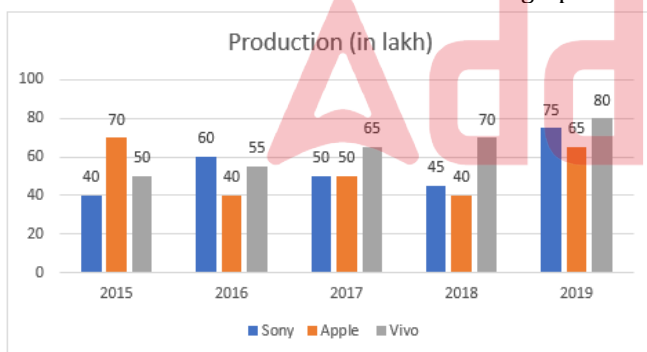
- (a) 14cm
- (b) 6cm
- (c) 9cm
- (d) 10cm

Q53.

If $x - \frac{1}{x} = 5, x \neq 0$, then what is the value of $\frac{x^8 - \frac{1}{x^8} + 5}{x - \frac{1}{x}}$?

- (a) 30
- (b) 28
- (c) 25
- (d) 29

Q54. Mobile phones of three different company – Sony, Apple and Vivo (in lakh) manufactured over a period of five years from 2015 to 2019 has been shown in the bar graph.



What would be the average production of Sony mobile phones of 2015, 2016 and 2018?

- (a) 50%
- (b) 48.33%
- (c) 45%
- (d) 40%

Q55. In ΔABC , D is a point on AC such that $AB = BD = DC$. If $\angle BAD = 70^\circ$ then the measure of $\angle B$ is:

- (a) 70°
- (b) 80°
- (c) 83°
- (d) 75°

Q56. If twenty-five persons working 15 hours a day can complete 5 unit of work in 8 days. How many days required by 12 persons to complete 10 units of work working 20 hours a day?

- (a) 24days
- (b) 20days
- (c) 22days
- (d) 25days

Q57. If the length of the rectangle is increased by 25% and breadth decreased by 50%. The ratio of the area of given rectangle to the area of new rectangle is:

- (a) 2 : 1
- (b) 8 : 5
- (c) 5 : 3
- (d) 4 : 5

Q58.

If $2\cos^2\theta = 3\sin\theta, 0^\circ < \theta < 90^\circ$, then the value of $(9\sec^2\theta - 12\tan^2\theta + 8\cos^2\theta)$ is:

- (a) 2
- (b) 8
- (c) 0
- (d) 1

Q59. The volume of a school wall in which its height is 8 times of its width and length is 5 times of its height is 2560m^3 . What is the cost of painting the wall on one side, taking length one of it's sides at the rate of Rs 45/m²?

- (a) Rs. 21,125
- (b) Rs. 32,225
- (c) Rs. 57,600
- (d) Rs. 52,335

Q60. The ratio of the monthly expenditure of Vishal and Radhika is 4 : 3 and that of their monthly income is 11 : 9. If the income of Radhika is equal to the expenditure of Vishal, then what is the ratio of saving of Vishal and Radhika?

- (a) 7 : 9
- (b) 2 : 1
- (c) 8 : 9
- (d) 4 : 7

Q61. If two pipe P and Q can fill an empty tank in 10hour and 8hour respectively. They are opened alternately for half an hour each, opening pipe Q first. In which hour, will the empty tank be filled?

- (a) 9th
- (b) 10th
- (c) 11th
- (d) 5th

Q62. A swimmer can go 8km downstream and 4km upstream in 40minutes. If he can swim 8km upstream and 6km downstream in 30minutes. How much time will it take to go 10km upstream?

- (a) None of these
- (b) 22min
- (c) 14min
- (d) Data inadequate

Q63. The length of each side of a rhombus is 25cm and one of the diagonals is 48cm. what is the area of the rhombus?

- (a) 546cm^2
 (b) 136cm^2
 (c) 300cm^2
 (d) 336cm^2

Q64. Study the following table and answer the question:
 Number of auto rickshaw sold by dealers P, Q, R, S and T during first months of 2020.

Dealer / Month	January	February	March	April	May	June
P	548	638	720	740	650	800
Q	520	645	722	740	600	780
R	640	635	640	540	635	740
S	600	642	635	580	450	620
T	620	640	628	635	430	625

In July 2020, if the sales of the auto rickshaws increased by the same percentage as June 2020 over its previous month by Q, what is the number of auto rickshaws sold by Q in July 2020?

- (a) 1820
 (b) 7689
 (c) 1014
 (d) 1890

Q65. There is a cyclic quadrilateral ABCD in which AB and DC are produced to meet at E and sides AD and BC are produced to at F. if $\angle ADC = 72^\circ$ and $\angle BEC = 64^\circ$, then the measure of $\angle AFB$ is:

- (a) 28°
 (b) 89°
 (c) 30°
 (d) 35°

Q66. Study the following table and answer the question:
 Number of auto rickshaw sold by dealers P, Q, R, S and T during first months of 2020.

Dealer / Month	January	February	March	April	May	June
P	548	638	720	740	650	800
Q	520	645	722	740	600	780
R	640	635	640	540	635	740
S	600	642	635	580	450	620
T	620	640	628	635	430	625

Total sale of the P from January to June is what percent of total sale of Q from January to June?

- (a) 100%
 (b) 102%
 (c) 78%
 (d) 89%

Q67. Find the value of $\cot 29^\circ \cot 34^\circ \cot 60^\circ \cot 61^\circ \cot 56^\circ$?

- (a) $1/\sqrt{3}$
 (b) $\sqrt{3}$
 (c) 1
 (d) 0

Q68. There are some oranges brought at 27 for Rs 90 and an equal number of oranges at 18 for Rs 70. If all the oranges are sold at Rs 85 per dozen, then what is the profit percent in the entire transaction?

- (a) 100%
 (b) 78%
 (c) 98%
 (d) 96.15%

Q69. What is the compound interest (in Rs) on a sum of Rs 25,600 for $1\frac{1}{4}$ years at 6% per annum, if interest is compounded 5 monthly?

- (a) Rs 1098
 (b) Rs 1865
 (c) Rs 1676
 (d) Rs 1968.4

Q70. To do a certain work, Abhishek and Bharat work on alternate days with Bharat beginning the work on the first day and the work gets completed in $13\frac{1}{2}$ days while Abhishek alone can complete the same work in 65 days. find that Bharat alone can complete 9 times the original work in:

- (a) 70 days
 (b) 78 days
 (c) 87 days
 (d) 89 days

Q71.

If $x + \frac{1}{x} = 7$, then the value of $x^5 + \frac{1}{x^5}$ is :

- (a) 10,127
 (b) 17,827
 (c) 15,000
 (d) 15,127

Q72. The average of 25 number is 56. The average of first 13 numbers is 70 and the average of last 13 numbers is 80. If the 13th number is excluded, then what is the average of the remaining numbers?

- (a) 30.78
 (b) 35.42
 (c) 67.28
 (d) 28.09

Q73. If the 5-digit number 464xy is divisible y 3, 7 and 11, then what is the value of $(3x^2 - 5y)$?

- (a) 67
 (b) 28
 (c) 22
 (d) 45

Q74. A shopkeeper earns a profit of 25% after selling a book at 25% discount on the printed price. The ratio of the cost price and selling price of the book is:

- (a) 15 : 78
 (b) 12 : 15
 (c) 16 : 25
 (d) 17 : 20

Q75.

25 of 15 + (35 ÷ 7) × 6 + 90 ÷ 15 of 7

- (a) 400
- (b) 447
- (c) 798
- (d) 367

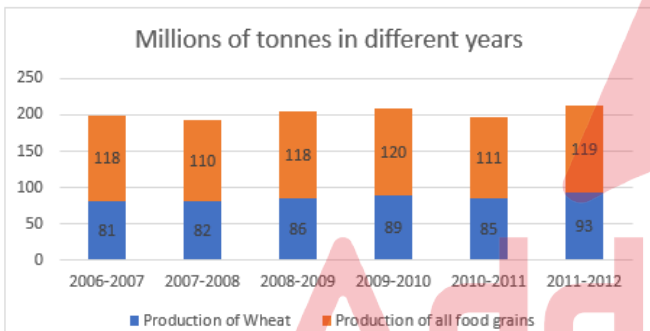
Q76. Three men went together for Kashi Vishwanath Temple. Their steps measure 252 cm, 280 cm and 308 cm respectively. The minimum distance, each should cover so that all can cover the distance in complete steps is:

- (a) 27,680
- (b) 27,094
- (c) 27,720
- (d) 27,730

Q77. If 7440 is added in a number then number becomes $444\frac{4}{9}\%$ of itself. Find the original number.

- (a) 960
- (b) 2160
- (c) 3080
- (d) 2540

Q78. The following graph shows the production of Wheat and all food-grains in India.



Average production of wheat is what per cent of the maximum recorded production of food grain over the years?

- (a) 86.3%
- (b) 82.7%
- (c) 71.7%
- (d) 77.02%

Q79. At 8% Simple interest per annum a sum of money become Rs. 6516 in $5\frac{1}{2}$ year. The sum (in Rs.) initially invested was-

- (a) 1991
- (b) 4525
- (c) 6516
- (d) None

Q80. Which of the following is correct?

- (a) $(6k + l)(k - 6l) = 6k^2 + 35kl - 6l^2$
- (b) $(6k + l)(k - 6l) = 6k^2 - 35kl - 6l^2$
- (c) $(6k + l)(k - 6l) = 6k^2 - 37kl - 6l^2$
- (d) $(6k + l)(k - 6l) = 6k^2 + 37kl - 6l^2$

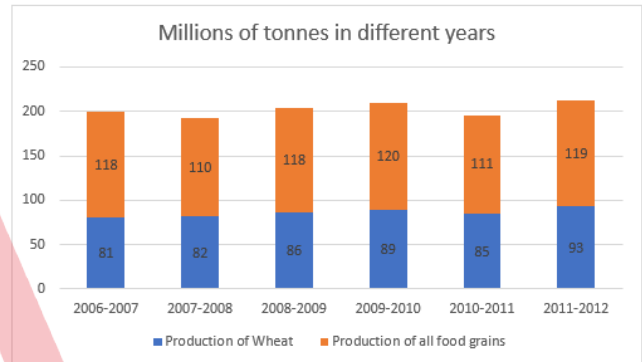
Q81. The HCF of $k^6 - 1$ and $k^4 + 2k^3 - 2k - 1$ is:

- (a) $k^2 + 1$
- (b) $k - 1$
- (c) $k^2 - 1$
- (d) $k + 1$

Q82. A team of 16 persons join in an archery competition in Beijing. The best Archer scored 170 points. If he had scored 184 points, the average score for the team would have been 168. The number of points the team scored was.

- (a) 1724
- (b) 2674
- (c) 6754
- (d) 2589

Q83. The following graph shows the production of Wheat and all food-grains in India.



Over the given years what is average production of wheat?

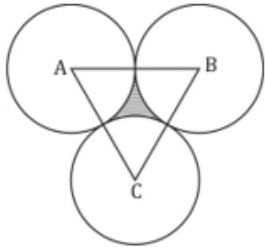
- (a) 86 m tonnes
- (b) 87.66 m tonnes
- (c) 88 m tonnes
- (d) 85.75 m tonnes

Q84. A guitar is labelled at a price of Rs. 14000 for sale. If one buys a guitar cover worth Rs. 1000 along with it, the discount offered is 24% on total deal. Manish wanted to buy guitar only. So, Manish availed this deal and sold the guitar cover to Amit at Rs. 900. What is the effective discount that he availed on guitar?

- (a) 33%
- (b) 25%
- (c) 20%
- (d) 30%



Q85. Find the area of the shaded region if the radius of each of the circles is 7 cm & A, B, C is the centers of the given circles.



- (a) $94(2 - \frac{\pi}{3})$
 (b) $49(\sqrt{3} - \pi)$
 (c) $49(\sqrt{3} - \frac{\pi}{2})$
 (d) $\sqrt{3} - \frac{\pi}{4}$

Q86. If the nine-digit number $908^{\wedge}6\#8!7$ is divisible by 33, then what is the value of $\wedge + \# + !$?

- (a) 19
 (b) 16
 (c) 13
 (d) 14

Q87. Shobhit's efficiency is $\frac{2}{5}$ th of Sameer's efficiency. Shobhit starts off three pieces of work and works for a day alone and Sameer joins him for the next half a day. As Shobhit leaves after that, Sameer bucks up and doubles his efficiency. If he can finish the remaining work alone in 4 hours, then in how much time could Shobhit and Sameer together do one piece of work at initial efficiency?

- (a) 2 days
 (b) $\frac{43}{126}$ th of a day
 (c) $7\frac{5}{12}$ day
 (d) $5\frac{1}{26}$ day

Q88. In a Republic Day parade parking, there are some two wheelers and rest are 4 wheelers. If wheels are counted, there are total 2080 wheels but the incharge of the parking told me that there are only 700 vehicles. If no vehicles have a stepney, then the no. of two wheelers vehicles is:

- (a) 300
 (b) 400
 (c) 360
 (d) 340

Q89.

If $x - \frac{20}{x} = 1$, where $x > 0$, then the value of $x^2 + \frac{75}{x^2}$ is :

- (a) 28
 (b) 29
 (c) 34
 (d) 30

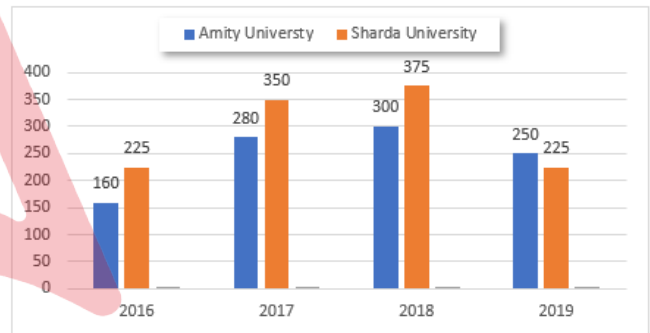
Q90. The given table shows the profit earned by the 4 company during the month of January, February, March and April.

Company Name / Months	January (Cr.)	February (Cr.)	March (Cr.)	April (Cr.)
Tata Pvt. Ltd.	350	630	290	420
Nestle Pvt. Ltd.	600	385	500	750
Jio Mart	100	110	100	124
Airtel Bharti	180	195	140	150

By what percent the profit of Tata Pvt. Ltd. More or less than the profit of Jio Mart and Airtel Bharti together during the four months?

- (a) 54%
 (b) 49%
 (c) 52%
 (d) 39%

Q91. The bar graph shows the number of students enrolled for a commerce course in the Universities of Amity university and Sharda University



What is the ratio of total number of students enrolled in the Sharda University in 2018 and 2019 to that of students enrolled in the Amity University in 2016 and 2017?

- (a) 14:13
 (b) 15: 13
 (c) 15 : 9
 (d) 15 : 11

Q92. A boat can cover a distance of 7.2 km downstream and 3.2 km upstream in 2 hours. It can also cover 1.5 km. downstream and 0.6 km upstream in 24 minutes. What is the speed of the boat when going downstream (in km/h)?

- (a) 6
 (b) $4\frac{1}{2}$
 (c) 5
 (d) $7\frac{1}{2}$

Q93.

The value of $5\frac{1}{6} + \left[3\frac{1}{6} + \left\{ 17 \times \left(4\frac{4}{5} \div 2\frac{2}{50} \right) \right\} \right]$ is equal to:

- (a) 48.33
 (b) 30
 (c) 45.50
 (d) 54

Q94.

In $\triangle ABC$, $AB = 9\text{cm}$, $BC = 12\text{cm}$ and $AC = 15\text{cm}$. What is the value of $\sin A + \cos C + \tan C$?

- (a) 131/60
- (b) 61/60
- (c) 11/60
- (d) 141/60

Q95. In a triangle PQR, Point S lies on PQ and point T and U lie on QR such that SU is parallel to PR and ST is parallel to PU. If $QT = 4\text{cm}$, $UR = 3\text{cm}$, then find the length (in cm) of TU.

- (a) 3cm
- (b) 2cm
- (c) 5cm
- (d) 7cm

Q96. Rajesh and Radhika can do a work in 20 days and 25 days respectively. They started doing the work together but after 6 days Radhika had to leave. Then Rajesh working with a new partner Ritika and both completed the remaining work in 4 days. If Ritika works alone then in how many days she can do 50% of the same work?

- (a) 5 days
- (b) 6.65 days
- (c) 7.69 days
- (d) 9 days

Q97. If one of the angles of the triangle is 78° , then the angle between the bisector of the other two interior angle is:

- (a) 130°
- (b) 145°
- (c) 120°
- (d) 129°

Q98. Radhika have a piggy bank in which she deposits denomination (in the form of coins) of Rs 1, Rs 2, Rs 5 and Rs 10 in the ratio of 9 : 7 : 5 : 3. If there are 144 coins in all, then how much money is there in the piggy bank in the form of coins?

- (a) Rs. 568
- (b) Rs. 468
- (c) Rs. 670
- (d) Rs. 456

Q99. Abhijeet has two articles which he decided to sell. The selling price of the 1st article is equal to the cost price of the second article. The 1st article is sold at 25% profit whereas the second article is sold at 16% loss. What is his overall profit/loss percentage?

- (a) 2.2% loss
- (b) 2.2% profit
- (c) 5% profit
- (d) 5% loss

Q100. The average monthly salary of 35 security guard of an office is Rs 18500. If the average salary of 2 supervisors is Rs.35000 and the average salary of 6 Gardner is Rs 24000, then what is the average salary of all the employees (nearest integer)?

- (a) Rs 14000
- (b) Rs 25540
- (c) Rs 20035
- (d) Rs 21980

Q101. The distance between two places P and Q is 320km. A car runs from P to Q at a speed of 68km/h, while another car runs from Q to P at a speed of 72km/h. what will be the distance between the two cars (in km) 6 minutes before they meet?

- (a) 14km
- (b) 18km
- (c) 26km
- (d) 10km

Q102.

If $\theta = 60^\circ$, what is the value of: $\frac{10\sqrt{3}\sin\theta + 15\sqrt{3}\operatorname{cosec}\theta - 3\sqrt{3}\tan\theta}{5\sqrt{3}\operatorname{cosec}2\theta}$?

- (a) 3.7
- (b) 2.9
- (c) 2.6
- (d) 3.4

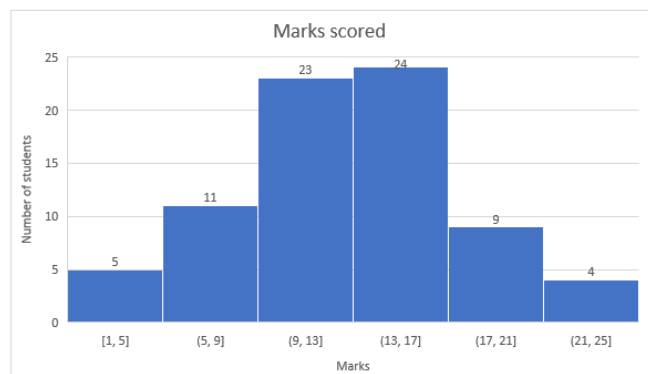
Q103. Three positive numbers are in the ratio of 3 : 2 : 1. The sum of their cubes is 30,758. The average of the last two numbers is:

- (a) 19
- (b) 20.5
- (c) 21
- (d) 18.5

Q104. If a businessman's profit was increased by 35% and subsequently decreased by 35%, by what percent does his profit increased or decreased?

- (a) 16.27%
- (b) 19.27%
- (c) 29.25%
- (d) 12.25%

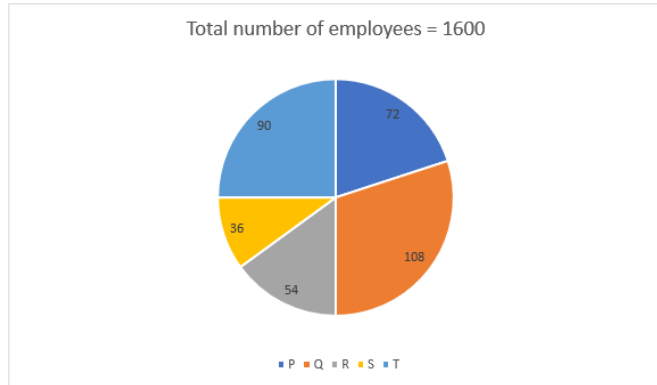
Q105. The following histogram shows the marks scored by 76 students in a test of 25 marks. A student has to score a minimum of 9 marks to pass the test.



What is the percentage of students who passed the test?

- (a) 80%
- (b) 77%
- (c) 79%
- (d) 75%

Q106. The breakup of the total number of employees of a company working in different offices (P to T), in degrees, is given in the pie chart below.



If 35% of the number of the employees of office P are shifted equally to office Q and T, then what will be the sum of the number of employees in Q and T?

- (a) 938
- (b) 728
- (c) 992
- (d) 1000

Q107. Anurag started a business by investing Rs. 65000. After a few months, Bhargav joined him by investing Rs 50000. 3 months after the joining of Bhargav, Chand joined with an investment of Rs. 55000. At the end of the year, Anurag got 50% of the profit as his share. How many months did Anurag finance the business alone?

- (a) 3
- (b) 2
- (c) 4
- (d) 7

Q108. If $(\sqrt{3} \operatorname{cosec}\theta + 2)(\sqrt{3} \operatorname{cosec}\theta - 2) = 0$, $0^\circ < \theta \leq 90^\circ$, then find the value of θ .

- (a) 60°
- (b) 55°
- (c) 67°
- (d) 50°

Q109. In triangle PQR, the bisector of angle QPR meets QR at point T in such a way that PQ = 20cm, PR = 30cm, and QT = 12cm, find the length of QR?

- (a) 40cm
- (b) 25cm
- (c) 18cm
- (d) 30cm

Q110. Adda247 provides two successive discounts of 25% and 35% on the sale of the Mahamock. What is the final selling price of Mahamock if its MRP is Rs. 9650?

- (a) 4704.375
- (b) 2760.826
- (c) 2880.815
- (d) 4527.972

Q111. Find the value of the following expression:

$$\frac{5\frac{1}{4} + 1\frac{3}{4} \times \frac{4}{5} \div 15 \times \left(8\frac{1}{3} \text{ of } \frac{3}{5}\right)}{\frac{5}{3} \div \frac{5}{6} \times \frac{3}{4}}$$

- (a) $\frac{31}{20}$
- (b) $\frac{343}{90}$
- (c) $\frac{30}{20}$
- (d) $\frac{331}{927}$

Q112. Find the value of the following expression:

$$\frac{(5.05)^3 - 0.125}{(5.05)^2 + (0.5)^2 + 2.525}$$

- (a) 8.92
- (b) 6.25
- (c) 4.55
- (d) 5.20

Q113. Ankit lent a sum of Rs 23000 on SI for 12 years in such a way that the rate of interest for the first 3 years be 9% per annum, for the next 5 years interest be 8% per annum and beyond 8 years, the rate of interest be 12% per annum. How much interest will be at the end of the 12 years?

- (a) Rs. 62720
- (b) Rs. 27210
- (c) Rs. 92721
- (d) Rs. 26450

Q114. The radii of two concentric circles with centre O are 32cm and 24cm. Chord BE of the larger circle is tangent to the smaller circle at D and AB is a diameter of larger circle. What is the length of AD?

- (a) $8\sqrt{43}$ cm
- (b) $4\sqrt{43}$ cm
- (c) $5\sqrt{43}$ cm
- (d) $7\sqrt{43}$ cm

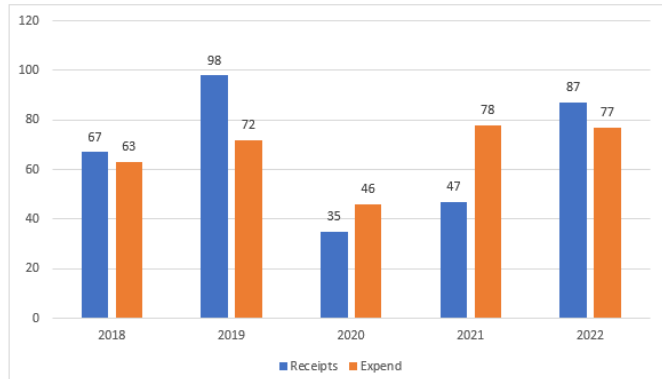
Q115. A shopkeeper bought table fans at the rate of 11 for Rs. 250 and sold them at a rate of 17 for Rs. 430. Find his profit percentage on the sale of table fans.

- (a) 11.29%
- (b) 18.92%
- (c) 20.72%
- (d) 14.25%

Q116. In a ΔPQR , S, T and U are the mid points of side PQ, QR and RP respectively. If $QR = 24.8\text{cm}$, $PR = 15.4\text{cm}$ and $PQ = 21.56\text{cm}$, what is the perimeter of the ΔSTU ?

- (a) 78.78
- (b) 30.88
- (c) 52.90
- (d) 12.92

Q117. The following bar graph shows receipts and expenditures of a firm over 5 years. (Gain = Receipts - expenditure)



In which year did the company gained the maximum amount?

- (a) 2018
- (b) 2019
- (c) 2021
- (d) 2022

Q118. Amit and Abhishek can complete a work in 18 days and 27 days, respectively. They started working together, but Amit left the work 5 days before the completion of the work. In how many days was the work completed?

- (a) $12\frac{4}{5}$ days
- (b) $13\frac{1}{5}$ days
- (c) $12\frac{1}{5}$ days
- (d) $13\frac{4}{5}$ days

Q119.

If $2x - \frac{1}{3x} = 6$, $x > 0$, then find the value of $4x^2 + \frac{1}{9x^2} = ?$

- (a) $33\frac{1}{3}$
- (b) $30\frac{1}{3}$
- (c) $37\frac{1}{3}$
- (d) $40\frac{1}{3}$

Q120. O is the center of a circle of radius 8cm. P is a point outside the circle and PQ is a tangent to the circle. What is the length of PQ if the length OP is 24cm?

- (a) $6\sqrt{2}$
- (b) $18\sqrt{2}$
- (c) $16\sqrt{2}$
- (d) $10\sqrt{2}$

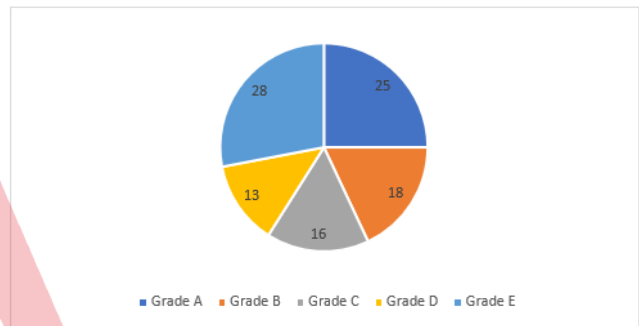
Q121. From the top of a 210m high building, the angle of depression of a car to be observed is 60° . Find the distance of the car from the building.

- (a) $61\sqrt{2}$
- (b) $70\sqrt{3}$
- (c) $27\sqrt{2}$
- (d) $15\sqrt{2}$

Q122. Find the sum of the digit of number which should be added to the smallest number divisible by 8, 15 and 18 to make it a perfect cube.

- (a) 2
- (b) 9
- (c) 8
- (d) 6

Q123. Performance of 2700 students in grades has been shown in the following pie chart.



How many more students have obtained grade B than those who have obtained grade C?

- (a) 90
- (b) 54
- (c) 27
- (d) 67

Q124. The length of the diagonal of a cube is $9\sqrt{3}\text{cm}$, what is the volume of cube?

- (a) 829
- (b) 625
- (c) 721
- (d) 729

Q125. Find the greatest 4-digit number which, when divided by 5, 8, 12 and 15, leaves remainder 4 in each case.

- (a) 9272
- (b) 9964
- (c) 2927
- (d) 9236

Q126. Three friends Ajay, Pushpa and Piyush are working in a steel industry. The income of Ajay is 30% less than the income of Pushpa and the income of Pushpa is 137.5% more than that of Piyush. If the income of Ajay is Rs 2838 more than that of Pushpa, then the income of Piyush is:

- (a) Rs 6760
- (b) Rs 6780
- (c) Rs 6800
- (d) Rs 6880

Q127. In $\triangle ABC, \angle A = 90^\circ, AD \perp BC$ at D. if $AB = 12$ cm and $AC = 16$ cm, then what is the length of BD ?

- (a) 7.5 cm
- (b) 7.2 cm
- (c) 8.2 cm
- (d) 8.5 cm

Q128. The ratio of the present ages of father and daughter is 6 : 5. 27 years later, the ratio of their ages become 3 : 1. What is the ratio of their ages, 10 years later from the present age?

- (a) 13 : 23
- (b) 23 : 21
- (c) 23 : 20
- (d) 23 : 27

Q129.

If $3\sin^2\theta - \sin\theta = 2$, then the value of $1 + 2\sin^2\theta + 3\operatorname{cosec}^2\theta \cdot \cos^2\theta$, $0^\circ < \theta \leq 90^\circ$, is equal to :

- (a) 6
- (b) 4
- (c) 3
- (d) 0

Q130. The given table shows the number of trees planted in four schools from 2010 to 2014.

Years	K.V School	Navodaya School	Sanik School	DPS School
2010	2250	2100	2000	1750
2011	2440	1950	1900	1600
2012	2300	2400	1840	1760
2013	2500	2300	1850	1800
2014	1800	2500	1800	2000

From 2010 to 2014, how many more or less trees were planted in DPS school as compared to Sanik School?

- (a) 1530 less
- (b) 1530 more
- (c) 480 less
- (d) 520 more



Q131.

Angles between the internal bisector of two angles $\angle Q$ and $\angle R$ of $\triangle PQR$ is 129° , then the value of $\angle P$ is :

- (a) 68°
- (b) 78°
- (c) 70°
- (d) 67°

Q132. Number of aspirants who fills the forms of four different competitive exams.

Exam name / Year	2016	2017	2018	2019
IBPS	150	135	128	120
UPSC	100	120	130	140
SSC	125	125	140	135
PSC	120	110	135	145

The ratio of the total number of aspirants of IBPS, UPSC and PSC in 2016 to the total number of aspirants of SSC and IBPS in 2019 is:

- (a) 74 : 51
- (b) 71 : 81
- (c) 41 : 11
- (d) 42 : 55

Q133.

If $x + y + z = 3$ and $xy + yz + zx = -14$, then the value of $x^3 + y^3 + z^3 - 3xyz$ is:

- (a) 154
- (b) 159
- (c) 157
- (d) 153

Q134. Simplify the following expression:

$$16 \div 4 \text{ of } 5 \times 25 + 7 \div 49 \text{ of } 2 \times 6 - 1 \div 4 \times 2$$

- (a) $2\frac{17}{56}$
- (b) $31\frac{17}{19}$
- (c) $2\frac{1}{5}$
- (d) $19\frac{13}{14}$

Q135. The angles of a triangle are in A.P. (Arithmetic progression). If the measure of the smallest angle is 40° less than that of the largest angle, then find the largest angle (in degrees).

- (a) 90°
- (b) 27°
- (c) 54°
- (d) 80°

Q136.

In a circle with center O, AEX and AFY are the tangents to the circle at points E and F, from an external point A. B is any point on the circle such that $\angle XEB = 46^\circ$ and $\angle BFY = 68^\circ$. What is the measure of $\angle EBF$?

- (a) 76°
 (b) 56°
 (c) 67°
 (d) 66°

Q137. By selling a clock watch for Rs 570 a person loses 18% of its selling price. At what price should he sell it to gain 18% on its cost price?

- (a) Rs. 797
 (b) Rs. 794
 (c) Rs. 889
 (d) Rs. 857

Q138. The given table shows the number students enrolled in four schools from 2016 to 2020.

Years	K.V School	Navodaya School	Sanik School	DPS School
2016	2250	2100	2000	1750
2017	2440	1950	1900	1600
2018	2300	2400	1840	1760
2019	2500	2300	1850	1800
2020	1800	2500	1800	2000

The ratio of the total number of students enrolled for K.V. school in 2018, 2019 and 2020 to the total number of students enrolled in Sainik school in 2016, 2017 and 2018 is:

- (a) 345 : 299
 (b) 330 : 287
 (c) 257 : 222
 (d) 300 : 301

Q139. The market price of a luminous inverter is Rs 12500. A whole seller sells it by giving 15% discount on its market price. If the cost price of the article is Rs 7580, then his profit percent is :

- (a) 44.37%
 (b) 47%
 (c) 49%
 (d) 40.17%

Q140. The ratio of the ages of Abhilash and Bipasha, four years ago was 4 : 5. Eight years from now the ratio of the ages of Abhilash and Bipasha will be 11 : 13. What is the sum of their present ages?

- (a) 80 Years
 (b) 87 Years
 (c) 90 Years
 (d) 98 Years

Q141.

$x + y + z = 11$, $x^2 + y^2 + z^2 = 49$ and $x^3 + y^3 + z^3 = 251$, then the value of $\sqrt[3]{xyz}$ is :

- (a) $\sqrt[3]{\frac{143}{3}}$
 (b) 5
 (c) $\sqrt[3]{\frac{123}{5}}$
 (d) 3

Q142. Vasudev takes 14 hours more by bus than the time taken by Balram to cover a distance of 285km by car. If the speed of the bus is doubled, Vasudev takes 4.5 hours more than Balram to cover the same distance. The speed of Balram's car is:

- (a) 50km/hr.
 (b) 57km/hr.
 (c) 67km/hr.
 (d) 56km/hr.

Q143. The curved surface area of cylinder is 9625cm^2 and its base is 962.5cm^2 . what is the volume of the cylinder?

- (a) 84238.75cm^3
 (b) 84898.75cm^3
 (c) 84218.75cm^3
 (d) 84876.75cm^3

Q144.

If the seven-digit number $49x38y2$ is divisible by 36, then what is the value of $\frac{c^{(3x+7y)}}{9}$?

- (a) $\frac{5}{9}$
 (b) $\frac{8}{9}$
 (c) $\frac{7}{9}$
 (d) $\frac{4}{9}$

Q145. The average of 8 consecutive even numbers written in ascending order is 27. What is the average of the last three number, 65 and 45?

- (a) 41.2
 (b) 45.5
 (c) 38.7
 (d) 39

Q146. If $\sin(5\alpha - 15^\circ) = \cos(15^\circ - 2\alpha)$, then the value of $\sec\alpha + \csc 2\alpha + \tan(1.5\alpha)$ is:

- (a) $4 - \sqrt{3}$
 (b) $\frac{4+\sqrt{3}}{\sqrt{3}}$
 (c) $\frac{4-\sqrt{3}}{\sqrt{3}}$
 (d) None of these

Q147. Walking at 33.33% of her usual speed, Nirmala reached her office 3 hour 20 minutes late. Her usual time (in hours) to reach the office is:

- (a) $1\frac{5}{3}$ hrs
 (b) $2\frac{3}{7}$ hrs
 (c) $1\frac{2}{3}$ hrs
 (d) 1 hr

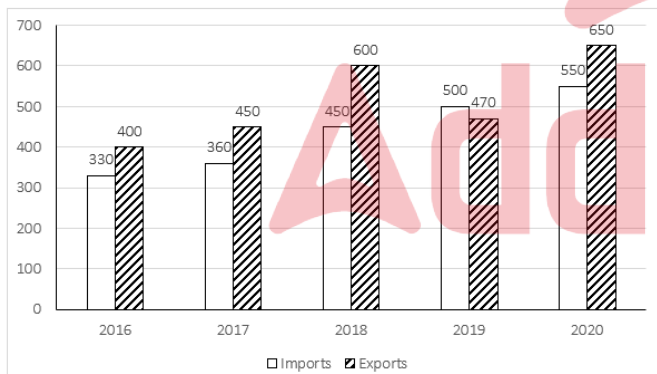
Q148. The data given in the table shows the number of Artists learning four different instruments in 5 Academies study the table and answer the question.

Academics	Guitar	Flute	Drums	Piano
A	36	48	59	57
B	45	54	55	48
C	55	36	56	51
D	45	48	55	53
E	48	44	52	55

Number of artists learning Piano in the academy A and C taken together is what percent of the number of artists learning Guitar in the academy B and D taken together?

- (a) 83.3
 (b) 120
 (c) 200
 (d) 108

Q149. The given bar graph shows the imports and exports (in crores) of solar panel by the China from 2016 to 2020.



What is the ratio of the total imports in 2018 and 2020 to the total exports in 2016 and 2019?

- (a) 11 : 4
 (b) 9 : 8
 (c) 100 : 87
 (d) 9 : 11

Q150. Amar, Akbar and Anthony start a startup Amar invest 33.33% of the total capital, Akbar invest 25% of the remaining and Anthony invests the rest. If total profit at the end of a year is Rs. 324,000 then Amar's share in profit is:

- (a) Rs. 89000
 (b) Rs. 125000
 (c) Rs. 78000
 (d) Rs. 108000

Q151. The average of eight numbers is 45. If one number is excluded, the average becomes 47. What is the excluded number?

- (a) 31
 (b) 42
 (c) 89
 (d) 52

Q152. A child flies kite at a height of 120m with the help of string which makes an angle of 60° with the horizontal. What is the distance between the child and kite?

- (a) $81\sqrt{3}$ m
 (b) $87\sqrt{3}$ m
 (c) $88\sqrt{3}$ m
 (d) $80\sqrt{3}$ m

Q153. In ΔABC , D is a point on side BC such that $\angle ADC = \angle BAC$. If CA = 15 cm, CD = 5 cm, then CB (in cm) = ?

- (a) 67cm
 (b) 90cm
 (c) 45cm
 (d) 56cm

Q154. If the 9 - digit number $2x21237y4$ is divisible by 36, What is the value of $(11x^2 - 5y^2)$ for the largest possible value of y?

- (a) 271
 (b) 265
 (c) 219
 (d) 177

Q155. In a circle of diameter 34 cm, chords AB and CD are parallel to each other. BC is diameter. If perpendicular length of AB from the center of the circle is 8cm then what is the length (in cm) of the chord CD?

- (a) 36cm
 (b) 91cm
 (c) 45cm
 (d) 30cm

Q156.

If $5 \sin \theta - 4 \cos \theta = 0$, $0^\circ < \theta < 90^\circ$, then the value of $\frac{15 \sin \theta + 4 \cos \theta}{15 \sin \theta + 6 \cos \theta}$ is:

- (a) $\frac{2}{9}$
 (b) $\frac{8}{9}$
 (c) $\frac{1}{5}$
 (d) $\frac{4}{5}$

Q157. P, Q and R start a business. P invests 68% of the total capital, Q invests $37\frac{1}{2}\%$ of the remaining and R, the rest. If the total profit at the end of the year is Rs. 65,496, then R's share (in Rs.) is:

- (a) 81289.6
 (b) 62771.7
 (c) 13099.2
 (d) 25271.5

Q158. Abhinav and Babita started their journeys from Delhi to Jaipur and Jaipur to Delhi, respectively. After crossing each other, Abhinav and Babita completed remaining parts of their journeys in $9\frac{4}{5}$ hours and 5 hours, respectively. If the speed of Abhinav is 45 km/h, then the speed of Babita (in km/h) is:

- (a) 65km/h.
- (b) 56km/h.
- (c) 61km/h.
- (d) 63km/h

Q159. The value of $768 \div 8$ of $6 \times [126 \div 9 \times (19 - 5)$ of $26 - (9 - 4)] \div 3$ is:

- (a) 76,281
- (b) 27,152
- (c) 67,162
- (d) 17,620

Q160. Abhinav can complete 35% of a work in 35 days. He works for 35 days and then Babita alone finishes the remaining work in 50 days. In how many days will Abhinav and Babita working together finish 75% of the same work?

- (a) 32.6 days
- (b) 71 days
- (c) 14.2 days
- (d) 81 days

Q161. The simple interest on a certain sum is one-eighth of the sum when the number of years is equal to half of the rate percentage per annum. Find the simple interest (in Rs.) on Rs. 38,480 at the same rate of simple interest for 9 years.

- (a) Rs. 17,820
- (b) Rs. 17,316
- (c) Rs. 19,200
- (d) Rs. 17,673

Q162. The cost prices of two articles Fan and Table are in the ratio 6 : 11. While selling these articles, the shopkeeper gains 15% on article Fan and 25% on article Table and the difference in their selling prices is Rs. 1644. The difference in the cost price (in Rs.) of Fan and Table is:

- (a) 1200
- (b) 1600
- (c) 1700
- (d) 1900

Q163. In a quadrilateral ABCD, the bisectors of $\angle C$ and $\angle D$ meet at point E. If $\angle CED = 67^\circ$ and $\angle A = 45^\circ$, then the measure of $\angle B$ is:

- (a) 67°
- (b) 71°
- (c) 61°
- (d) 89°

Q164. Six bells begin to toll together and toll, respectively, at intervals of 15, 17, 19, 24 and 28 seconds. After how many seconds will they toll together again?

- (a) 176,280
- (b) 271,320
- (c) 167,911
- (d) 172,190

Q165. A Property dealer marks his Villa at a price 35% higher than their cost price and allows 35% discount on every Villa. Find his gain or loss percentage.

- (a) 71.17%
- (b) 12.25%
- (c) 16.72%
- (d) 19.75%

Q166. $\frac{1}{7}$ of a number A is $14\frac{2}{7}\%$ of a number B. The number B is equal to 5% of a third number C. If the value of C is 980, then the sum of 80% of A and 40% of B is:

- (a) 81.7
- (b) 58.8
- (c) 92.5
- (d) 76.6

Q167. If $4a^2 + 9b^2 + 81c^2 + 62 = 2(18b - 45c - 2a)$ then the value of $(a + b - c)$ is:

- (a) $\frac{37}{7}$
- (b) $\frac{37}{18}$
- (c) $\frac{7}{8}$
- (d) $\frac{9}{8}$

Q168. The length of each side of a rhombus is 17cm and one of the diagonals is 30cm. what is the area of the rhombus?

- (a) 165cm^2
- (b) 167cm^2
- (c) 252cm^2
- (d) 240cm^2

Q169. In $\triangle ABC$, $\angle A = 76^\circ$. If I is the incentre of the triangle, then the measure of $\angle BIC$ is:

- (a) 128°
- (b) 229°
- (c) 111°
- (d) 67°

Q170. If the volume of a sphere is equal to that of a cylinder having the 2times radius, then find the ratio of the height of the cylinder to the radius.

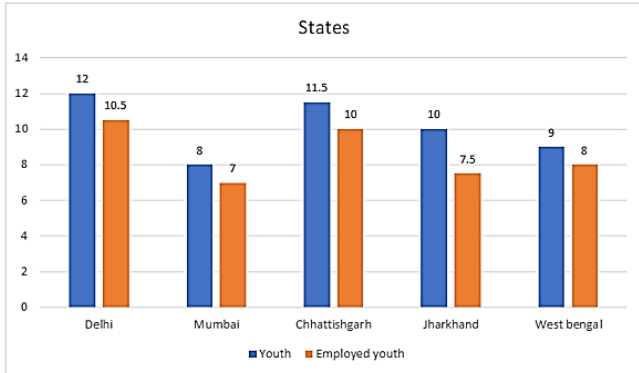
- (a) 5 : 7
- (b) 9 : 1
- (c) 1 : 3
- (d) 8 : 5

Q171. If $a + b + c = 9$, $a^2 + b^2 + c^2 = 31$, and $a^3 + b^3 + c^3 = 267$, then the value of $abc - 3$ is:

- (a) 78
- (b) 90
- (c) 68
- (d) 61

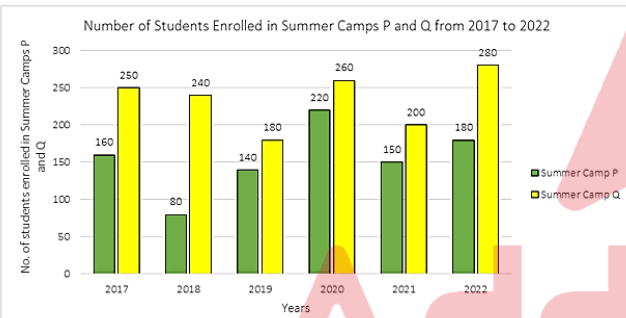
Q172. The following bar graph shows the number of youth (in lakhs) and the number of employed youth (in lakhs) in 5 states Delhi, Mumbai, Chhattisgarh, Jharkhand and West Bengal.

In which state(s) is the number of youths more than the average number of youths in the five states?



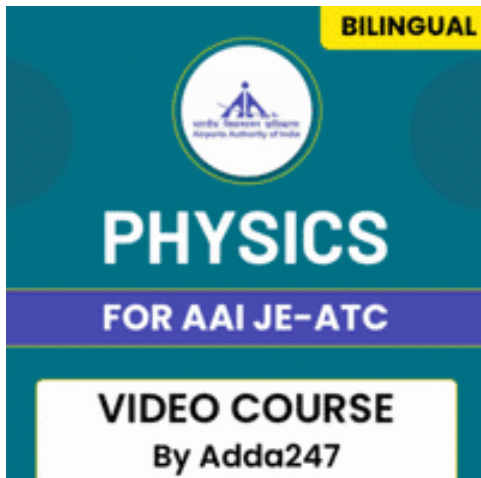
- (a) Mumbai, West Bengal
- (b) Delhi, Chhattisgarh, Jharkhand
- (c) Delhi, Chhattisgarh
- (d) Delhi

Q173. The following bar chart shows the number of students enrolled in two Summer Camps P and Q from 2017 to 2022. Study the chart carefully and answer the question that follows.

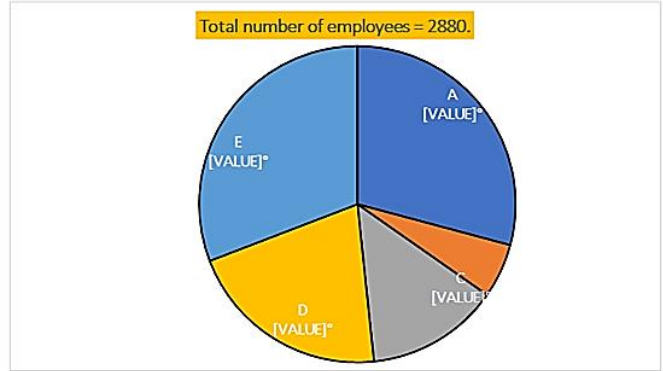


The number of students enrolled in Camp P in 2017 and 2021 together is what percentage of the number of students enrolled in Camp Q in 2018 and 2019 together?

- (a) 16.19%
- (b) 73.80%
- (c) 67.27%
- (d) 76.56%



Q174. The breakup of the total number of employees of a company working in different offices (A to E), in degrees, is given in the pie chart.



In which office is the number of employees 600?

- (a) C
- (b) B
- (c) A
- (d) D

Q175. When x is subtracted from each of the number of 77, 137, 107 and 192, so the numbers obtained in this order are in proportion. What is the value of x ?

- (a) 5
- (b) 9
- (c) 3
- (d) 6

Q176. The average height of some guests in a party is 170cm. If 10 guests of average height 175cm join the group, then the average height of all the guests in the party is increased by 0.2cm. What is the number of guests in the party after arrival of new guests?

- (a) 240
- (b) 250
- (c) 340
- (d) 270

Q177. In ΔPQR , $MN \parallel PR$, where M and N are the points on the side PQ and QR respectively. If $PQ = 3x$, $QM = x-1$, $QR = 3x+4$ and $QN = x$, then what is the value of x ?

- (a) 3
- (b) 2
- (c) 1
- (d) 4

Q178. The given data in the table shows the number of boys and girls enrolled in the three different streams in a school over 4 years.

Years	Arts		Science		Commerce	
	Boys	Girls	Boys	Girls	Boys	Girls
2016	58	34	65	12	78	50
2017	65	54	76	56	42	87
2018	45	78	59	88	34	29
2019	78	98	65	90	28	40

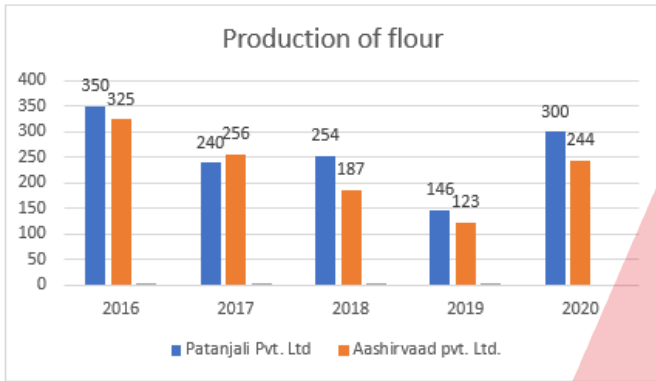
By what percent is the total number of girls in science stream more or less than the total number of boys in commerce stream in the year from 2016 to 2019?

- (a) 26.65%
- (b) 18.57%
- (c) 35.16%
- (d) 10%

Q179. A certain sum amount to Rs 313600 in 3 years and to 341824 in 4 years on compound interest compounded annually. How much would be the simple interest on Rs 36500 at the same rate for 2 years?

- (a) Rs. 6570
- (b) Rs. 7690
- (c) Rs. 6581
- (d) Rs. 2539

Q180. The following bar graph represents the production of flour by company Patanjali and Aashirvaad (in tons) over the year from 2016 to 2020.



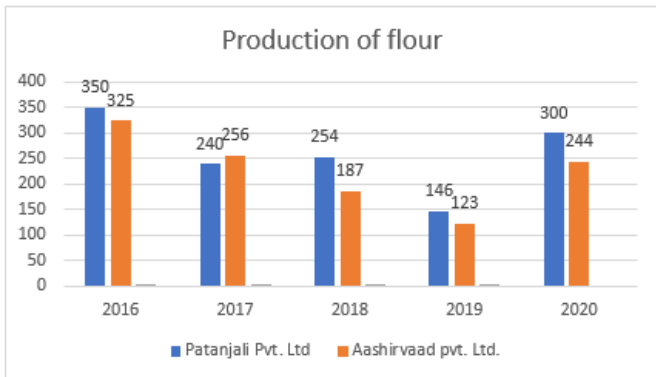
What is the average production of the flour in 2016, 2018 and 2020 of company Patanjali Pvt. Ltd.?

- (a) 208 tons
- (b) 627 tons
- (c) 301 tons
- (d) 203 tons

Q181. Find the distance between the points (-6, 4) and (4, 1)?

- (a) $\sqrt{129}$
- (b) $\sqrt{109}$
- (c) $\sqrt{19}$
- (d) 23

Q182. The following bar graph represents the production of flour by company Patanjali and Aashirvaad (in tonnes) over the year from 2016 to 2020.



What is the ratio of the production of company Patanjali and Aashirvaad Pvt. Ltd respectively in 2016, 2017 and 2019?

- (a) 23 : 22
- (b) 25 : 27
- (c) 21 : 23
- (d) 14 : 17

Q183. The given data in the table shows the number of boys and girls enrolled in the three different streams in a school over 4 years.

Years	Arts		Science		Commerce	
	Boys	Girls	Boys	Girls	Boys	Girls
2016	58	34	65	12	78	50
2017	65	54	76	56	42	87
2018	45	78	59	88	34	29
2019	78	98	65	90	28	40

What is the ratio of total boys and total girls enrolled in commerce stream from year 2017 to 2019?

- (a) 2 : 3
- (b) 3 : 2
- (c) 8 : 9
- (d) 7 : 2

Q184. There is shopkeeper who allows 14% discount on every item. After giving discount, he makes a profit of 10%. If he gives discount of 10% instead of 14% on an item marked for Rs 2000, then what would be his profit percent?

- (a) 15.08%
- (b) 16 %
- (c) 14 %
- (d) 11%

Q185.

If $x + y = 5$ and $\frac{1}{x} + \frac{1}{y} = \frac{25}{7}$, then the value of $(x^3 + y^3)$ is:

- (a) 106
- (b) 118
- (c) 112
- (d) 104

Q186. The value of $24 \div 6$ of $4 \times [8 \div 5 \times (5-3)] - (25 \div 5$ of $7)$ is:

- (a) 77/35
- (b) 87/25
- (c) 87/35
- (d) 77/25

Q187. If $a-3b=8$ and $ab=3$ then what is the value of (a^3-27b^3) ?

- (a) 676
- (b) 728
- (c) 769
- (d) 688

Q188. A boat goes 27 km upstream and 33 km downstream in 6 hours. In the same time, it can go 36km upstream and 22km downstream. How much time will it take to go 45 km upstream and 55 km downstream?

- (a) 20 hours
- (b) 19 hours
- (c) 25 hours
- (d) 10 hours

Q189. In $\triangle ABC$, $AD \perp BC$ at D and AE is the bisector of $\angle A$. If $\angle B = 60^\circ$ and $\angle C = 40^\circ$, then what is the measure of $\angle DAE$?

- (a) 15°
- (b) 10°
- (c) 20°
- (d) 8°

Q190.

$\frac{1}{\operatorname{cosec}\theta} + \frac{1}{\tan\theta + \cot\theta}$ is equal to:

- (a) $\sin\theta(2 + \cos\theta)$
- (b) $\tan\theta(1 + \sin\theta)$
- (c) $\sin\theta(1 + \cos\theta)$
- (d) 1

Q191. The radii of inner and outer of a spherical shell are 4cm and 5cm respectively, then what would be the volume of spherical shell?

- (a) $244\pi/3$
- (b) $144\pi/3$
- (c) π
- (d) $239\pi/5$

Q192. In a rubber factory, the ratio of male to female is 5 : 7. If the average earnings of male and female are Rs 568 and Rs 345 respectively, then what would be the overall average earning of male and female together?

- (a) Rs. 433
- (b) Rs. 490
- (c) Rs. 423
- (d) Rs 438

Q193. Maitri spent 20% of her monthly salary on rent. She spent 25% of the remaining part of the salary on the transport. After which she spent 35% of the balance of the salary on the food. Further, she spent 75% of the balance on various bills. she deposits Rs 4000 in the bank and kept the remaining Rs 1577 for her petty expenditure. Find her monthly salary?

- (a) Rs. 55000
- (b) Rs. 55030
- (c) Rs. 56000
- (d) Rs 57200

Q194. Aditya borrows a sum of Rs 275000 from Sambhita at 20% p.a. simple interest. At the same time, he lent the same sum to Chanakya at the same rate on compound interest, compounded semi-annually for 1 years. What amount is earned by Aditya in the whole transaction?

- (a) Rs. 2750
- (b) Rs. 2570
- (c) Rs. 2500
- (d) Rs. 2700

Q195. A train running at 54km/h crosses a pole in 13 second. How much time (in second) will it take to cross a bridge 405m long?

- (a) 40 sec
- (b) 20 sec
- (c) 45 sec
- (d) 35 sec

Q196. From the foot of a mountain the elevation of its summit is 45° . After ascending 8km up a slop of 30° inclination, the elevation is found to be 60° , then find the height of the tower:

- (a) $4(\sqrt{3}+1)$ km
- (b) $3(\sqrt{3}+1)$ km
- (c) $4(\sqrt{2}+1)$ km
- (d) $2(\sqrt{3}+1)$ km

Q197. There are three water taps, out of which two water taps can fill the tank in 16hours and 12hours respectively whereas third water tap works as a leakage, which can empty the water tank in 24hours. If all the water taps are opened together to fill the water tank and third water tap is closed after 1 hour, then in how much time the remaining tank will completely be filled?

- (a) $7\frac{1}{7}$ hr
- (b) $6\frac{1}{7}$ hr
- (c) 7hr
- (d) 6hr

Q198. What is the difference in the mean proportion between 12 and 48 and the third proportion to 17 and 9.

- (a) 25.23
- (b) 22.24
- (c) 19.24
- (d) 13.28

Q199. Manohar Kumar purchases 25kg of mustard oil at Rs 110 per kg, 21kg of mustard oil at Rs 115 per kg and 39kg of mustard oil at Rs 125 per kg. He also spent a sum of Rs 2000 on transportation. He mixed all three types of the mustard oil and sells all the oil at Rs 160 per kg. What would be his profit percent in the whole transactions?

- (a) 18%
- (b) 25%
- (c) 7%
- (d) 13%

Q200. There is a cyclic quadrilateral PQRS such that PQ is the diameter of the circle and $\angle PSR$ is 139° , then what would be the $\angle QPR$?

- (a) 49°
- (b) 51°
- (c) 41°
- (d) 45°