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4 August 1st shift

Q.1 A solid metallic hemisphere of radius 6.3 cm is melted and recast into a right circular cylinder of radius 9 cm. What is the height (in cm, correct to one decimal place) of the cylinder?

Ans

✗ 1. 1.9

✗ 2. 2.7

✗ 3. 2.5

✓ 4. 2.1

Question ID : **6549789103**
Status : **Answered**
Chosen Option : **4**

Q.2 If $\cos\theta = \frac{4x}{1+4x^2}$, then what is the value of $\sin\theta$?

Ans

✗ 1. $\frac{1+4x^2}{1-4x^2}$

✗ 2. $\frac{1+4x^2}{4x^2}$

✓ 3. $\frac{1-4x^2}{1+4x^2}$

✗ 4. $\frac{1-4x^2}{4x}$

Question ID : **6549789625**
Status : **Answered**
Chosen Option : **3**

Q.3 In a triangle ABC, $\angle BAC = 90°$ and AD is perpendicular to BC. If AD = 8.4 cm and BD = 4.8 cm, then the length of BC is:

Ans

✓ 1. 19.5 cm

✗ 2. 15 cm

✗ 3. 18 cm

✗ 4. 18.5 cm

Question ID : **6549789113**
Status : **Answered**
Chosen Option : **1**

Gagan Pratap Maths

Q.4 Tap P can fill a cistern in 6 hours and tap Q can empty the full cistern in 10 hours. If both taps P and Q are kept open simultaneously, then in how many hours will the empty cistern be completely full?

Ans

✔ 1. 15

✘ 2. 18

✘ 3. 16

✘ 4. 12

Question ID : **6549789101**
Status : **Answered**
Chosen Option : **1**

Q.5 One dozen notebooks quoted at ₹125 are available at 20% discount. How many notebooks can be bought for ₹75?

Ans

✘ 1. 10

✘ 2. 6

✔ 3. 9

✘ 4. 8

Question ID : **6549789105**
Status : **Answered**
Chosen Option : **3**

Q.6 A man invests ₹7,000 at 8% per annum simple interest for 2 years and ₹10,000 at compound interest at the same rate for the same period, compounded annually. What will be the total interest and the total amount (in ₹) respectively, on maturity?

Ans

✘ 1. 19,748 and 2,874

✘ 2. 2,748 and 19,784

✘ 3. 19,784 and 2,784

✔ 4. 2,784 and 19,784

Question ID : **6549789614**
Status : **Answered**
Chosen Option : **4**

Q.7 If $(\sin A - \cos A) = 0$, then what is the value of $\cot A$?

Ans

✘ 1. $\frac{\pi}{6}$

✘ 2. 0

✔ 3. 1

✘ 4. $\frac{\pi}{4}$

Question ID : **6549789119**
Status : **Answered**
Chosen Option : **3**

Gagan Pratap Maths

Q.8 A boat can travel with a speed of 19 km/h in still water. If the speed of the stream is 3 km/h, then what will be the total time (in hours) taken by the boat to go 88 km downstream and 24 km upstream?

Ans

✗ 1. 4.5

✗ 2. 5

✗ 3. 4

✓ 4. 5.5

Question ID : **6549789607**
Status : **Answered**
Chosen Option : **4**

Q.9 A is 150% of B and B is 40% of C. If A + B + C = 20, then the value of 2B + 3C – 4A is equal to:

Ans

✗ 1. 16

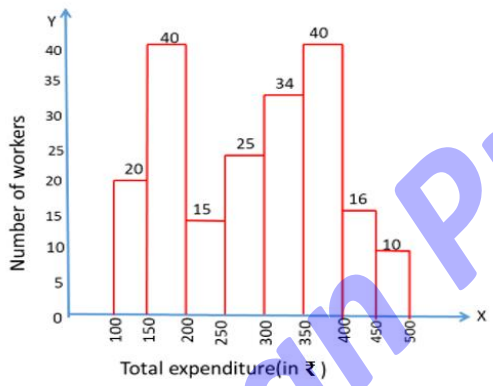
✓ 2. 14

✗ 3. 20

✗ 4. 15

Question ID : **6549789611**
Status : **Answered**
Chosen Option : **2**

Q.10 The following histogram represents the distribution of household expenditure (in ₹) of 200 manual workers in a city.



The ratio of the number of workers whose household expenditure is less than ₹200 to the number of workers whose household expenditure is ₹300 and above is:

Ans

✓ 1. 3 : 5

✗ 2. 2 : 5

✗ 3. 4 : 5

✗ 4. 3 : 4

Question ID : **6549789122**
Status : **Answered**
Chosen Option : **1**

Gagan Pratap Maths

Q.11 Using algebraic identities, simplify the following expression.

$$\frac{(x^4 + x^2 + 1)}{(x^2 + x + 1)}$$

Ans

✗ 1. $(x^2 - 2x + 1)$

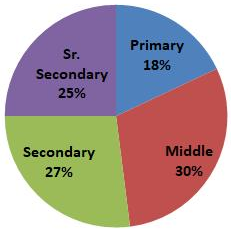
✗ 2. $(x^2 + x + 1)$

✗ 3. $(x^2 + 2x + 1)$

✓ 4. $(x^2 - x + 1)$

Question ID : **6549789116**
Status : **Answered**
Chosen Option : **4**

Q.12 Students of Primary, Middle, Secondary and Sr. Secondary classes collected donation for a Relief Fund as shown in the pie chart. If the donation collected from Middle classes was ₹6,750, then how much money was collected by the Primary classes?



Ans

✓ 1. ₹4,050

✗ 2. ₹4,005

✗ 3. ₹4,500

✗ 4. ₹3,960

Question ID : **6549789427**
Status : **Answered**
Chosen Option : **1**

Q.13 One-quarter of a circular pizza of diameter 28 cm was removed from the whole pizza. What is the perimeter (in cm) of the remaining pizza? (Take $\pi = \frac{22}{7}$.)

Ans

✗ 1. 88

✓ 2. 94

✗ 3. 80

✗ 4. 66

Question ID : **6549789111**
Status : **Answered**
Chosen Option : **4**

Gagan Pratap Maths

Q.14 The inner and outer radii of two concentric circles are 6.7 cm and 9.5 cm, respectively. What is the difference between their circumferences (in cm)? Take $\pi = \frac{22}{7}$.

Ans

✗ 1. 20.5

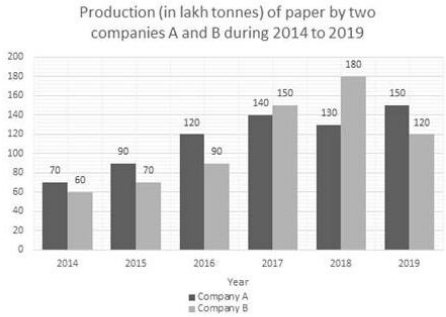
✗ 2. 10.4

✗ 3. 6.5

✓ 4. 17.6

Question ID : **6549789615**
Status : **Answered**
Chosen Option : **4**

Q.15 Study the given graph and answer the question that follows.



The average production of paper by company B in 2014, 2017 and 2018 was $13\frac{1}{3}\%$ less than the production of paper by company A in the year:

Ans

✗ 1. 2016

✗ 2. 2018

✗ 3. 2017

✓ 4. 2019

Question ID : **6549787911**
Status : **Answered**
Chosen Option : **4**

Q.16 What is the perimeter (in cm) of an equilateral triangle whose height is 3.46 cm? Take $\sqrt{3} = 1.73$.

Ans

✗ 1. 10.4

✗ 2. 9

✗ 3. 6

✓ 4. 12

Question ID : **6549789617**
Status : **Answered**
Chosen Option : **3**

Gagan Pratap Maths

Q.17 The value of $[\{(232 \div 29 \text{ of } 2) + 77 \times 10\} \div 18] - \frac{18 \times 8 \div 4 \text{ of } 3 - 4}{2 \times (8-6) + 1 - 2 \times 3 \div 4 \text{ of } \frac{1}{2}}$ is:

Ans

✔ 1. 39

✘ 2. 44

✘ 3. 33

✘ 4. 47

Question ID : **6549789118**
Status : **Answered**
Chosen Option : **1**

Q.18 The string of a kite is 158 m long and it makes an angle of 30° with the horizontal. What is the height (in m) of the kite? Assume there is no slack in the string.

Ans

✘ 1. 100

✘ 2. 99

✔ 3. 79

✘ 4. 80

Question ID : **6549789121**
Status : **Answered**
Chosen Option : **3**

Q.19 If $\left(x + \frac{1}{x}\right)^3 = 27$, then what is the value of $\left(x^2 + \frac{1}{x^2}\right)$? Given that x is real.

Ans

✘ 1. 11

✘ 2. 25

✔ 3. 7

✘ 4. 9

Question ID : **6549789619**
Status : **Answered**
Chosen Option : **3**

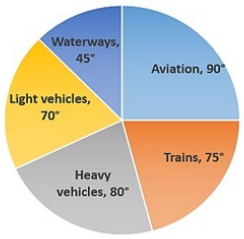
Gagan Pratap Maths

Q.20 Study the given pie-chart and answer the question that follows.

The pie-chart represents the consumption of fuel (in million litres) by various modes of transport of a country X in the year 2015. The total consumption of fuel by various modes of transport of the country is 800 million litres.

(The data shown here is only for mathematical exercise. They do not represent the actual figures of the country.)

Consumption of fuel (in million litres) by various modes of transport of a country X in the year 2015



To obtain fuel, energy is required to run the machinery, which is to be produced by burning coal.

If 1 tonne of coal is burnt to produce 0.4 million litres of oil, then approximately what is the requirement of coal (in tonnes) for the Trains sector?

Ans
✔ 1. 417
✘ 2. 415
✘ 3. 418
✘ 4. 420

Question ID : **6549789630**
Status : **Answered**
Chosen Option : **1**

Q.21 One-fifth of a journey is covered at a speed of 30 km/h, one-fourth of the journey at a speed of 25 km/h and the rest at 60 km/h. What is the average speed (in km/h, correct to one decimal place) for the whole journey?

Ans
✔ 1. 38.7
✘ 2. 30.6
✘ 3. 40.5
✘ 4. 25.4

Question ID : **6549789609**
Status : **Answered**
Chosen Option : **1**

Q.22 If $a + b = p, ab = q$, then $(a^4 + b^4)$ is equal to:

Ans
✘ 1. $p^4 - 2p^2q^2 + q^2$
✘ 2. $p^4 - 4p^2q^2 + 2q^2$
✘ 3. $p^4 - 4p^2q + q^2$
✔ 4. $p^4 - 4p^2q + 2q^2$

Question ID : **6549789115**
Status : **Answered**
Chosen Option : **4**

Gagan Pratap Maths

Q.23 What is the greatest five-digit number that is completely divisible by 8, 15, 16, 21 and 5?

Ans

✗ 1. 92680

✓ 2. 99120

✗ 3. 95760

✗ 4. 98320

Question ID : **6549789622**
Status : **Answered**
Chosen Option : **2**

Q.24 By selling an article for ₹1,170, Elisa suffers as much loss as she would have gained by selling it at a profit of 22%. If she sells it for ₹1,450, then her profit/loss per cent (correct up to one decimal place) is:

Ans

✗ 1. Profit, 3.3

✓ 2. Loss, 3.3

✗ 3. Loss, 26.2

✗ 4. Profit, 26.2

Question ID : **6549789107**
Status : **Answered**
Chosen Option : **2**

Q.25 If A : B = 11 : 7 and B : C = 5 : 19, then what is A : B : C?

Ans

✓ 1. 55 : 35 : 133

✗ 2. 35 : 55 : 133

✗ 3. 35 : 133 : 55

✗ 4. 55 : 133 : 35

Question ID : **6549789613**
Status : **Answered**
Chosen Option : **1**

Gagan Pratap Maths

4 August 2nd shift

Section : **Quantitative Aptitude**

Q.1 A rhombus of side 28 cm has one angle of 60°. What is the length of the larger diagonal?

Ans

✗ 1. $28\left(1+\sqrt{3}\right)$ cm

✗ 2. $28\sqrt{2}$ cm

✗ 3. 28 cm

✓ 4. $28\sqrt{3}$ cm

Question ID : **6549788110**
Status : **Answered**
Chosen Option : **4**

Q.2 If $\sqrt{x}+\frac{1}{\sqrt{x}}=\sqrt{6}$, then the value of $x^6+\frac{1}{x^6}$ will be:

Ans

✗ 1. 2270

✗ 2. 2502

✓ 3. 2702

✗ 4. 2712

Question ID : **6549787399**
Status : **Answered**
Chosen Option : **3**

Q.3 An article was sold for ₹512 after giving two equal successive discounts on the marked price of ₹800. The percentage discount offered is:

Ans

✗ 1. 16%

✓ 2. 20%

✗ 3. 18%

✗ 4. 15%

Question ID : **6549787388**
Status : **Answered**
Chosen Option : **2**

Gagan Pratap Maths

Q.4 Varun and Madhur invested ₹25,000 each in different schemes. Varun earned simple interest at 11% per annum, whereas Madhur earned compound interest at 10% per annum compounded annually. Who received more interest after 2 years and how much?

Ans

✗ 1. Madhur, ₹302.50

✗ 2. Madhur, ₹250

✗ 3. Varun, ₹500

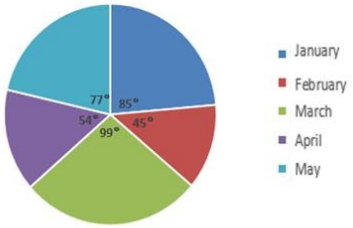
✓ 4. Varun, ₹250

Question ID : **6549788099**
Status : **Answered**
Chosen Option : **4**

Q.5 Study the given pie chart and answer the question that follows.

The pie chart shows the distribution (degree-wise) of the number of computers sold by a shopkeeper during five months.

Total Number of Computers Sold = 5400



In which month was the number of computers sold above 25% of the total number of computers sold in 5 months?

Ans

✓ 1. March

✗ 2. May

✗ 3. February

✗ 4. January

Question ID : **6549787104**
Status : **Answered**
Chosen Option : **1**

Q.6 ABC is a right-angled triangle, right-angled at B. D is a point on AC such that AD = 12 cm and CD = 16 cm. If BD bisects $\angle ABC$, then the perimeter of ΔABC will be:

Ans

✗ 1. 66 cm

✗ 2. 56.2 cm

✗ 3. 66.2 cm

✓ 4. 67.2 cm

Question ID : **6549787396**
Status : **Not Answered**
Chosen Option : **--**

Gagan Pratap Maths

Q.7 The average daily income of Shyam Lal during the month of February 2020 was ₹560. The average income for the first 16 days was ₹590 and for the last 16 days it was ₹500. What was his average income for 14th, 15th and 16th February?

Ans

✗ 1. ₹545

✓ 2. ₹400

✗ 3. ₹590

✗ 4. ₹587

Question ID : **6549788094**
Status : **Answered**
Chosen Option : **2**

Q.8 A train starts running at a uniform speed of 60 km/h from station P towards station Q. At the same time another train starts running from station Q towards station P. If the distance between the stations P and Q is 275 km and the trains meet in two and a half hours, then what is the speed of the train running towards station P in km/h?

Ans

✗ 1. 48

✗ 2. 44

✗ 3. 40

✓ 4. 50

Question ID : **6549788092**
Status : **Answered**
Chosen Option : **4**

Q.9 Two chords AB and CD of a circle intersect at O. If CO = 4 cm, OD = 3.75 cm, and AB = 8 cm, then what is the length (in cm) of the smaller among AO and OB?

Ans

✗ 1. 2.75

✗ 2. 5.25

✗ 3. 5

✓ 4. 3

Question ID : **6549787394**
Status : **Answered**
Chosen Option : **4**

Q.10 A is thrice as efficient as B. A takes 24 days less than B to complete a work. If they work together, in how many days, will the work be completed?

Ans

✓ 1. 9

✗ 2. 12

✗ 3. 15

✗ 4. 8

Question ID : **6549787384**
Status : **Answered**
Chosen Option : **1**

Gagan Pratap Maths

Q.11 If a number 54k31m82 is divisible by 11, what will be the maximum value of (k+m)?

Ans

✗ 1. 23

✓ 2. 13

✗ 3. 12

✗ 4. 11

Question ID : **6549788107**
Status : **Answered**
Chosen Option : **3**

Q.12 If $x-\frac{2}{x}=4$, then what will be the value of $x^2+\frac{4}{x^2}$?

Ans

✓ 1. 20

✗ 2. 18

✗ 3. 12

✗ 4. 8

Question ID : **6549788104**
Status : **Answered**
Chosen Option : **1**

Q.13 In triangle ABC, if BD and CD bisect $\angle B$ and $\angle C$, respectively, and $\angle BDC = 135°$, then find the measure of $\angle BAC$.

Ans

✓ 1. $90°$

✗ 2. $75°$

✗ 3. $45°$

✗ 4. $65°$

Question ID : **6549788102**
Status : **Answered**
Chosen Option : **1**

Q.14 In a circle with centre O, PA and PB are the tangents at A and B, respectively, from an external point P. If $\angle APB = 42°$, then what will be the measure of $\angle AOB$?

Ans

✗ 1. $121°$

✗ 2. $142°$

✗ 3. $159°$

✓ 4. $138°$

Question ID : **6549788100**
Status : **Answered**
Chosen Option : **4**

Gagan Pratap Maths

Q.15 Study the given pie charts and answer the question that follows.

The pie charts represent the distribution of candidates who were enrolled for Bank Clerical Examination Fig (i) and the candidates (out of those enrolled) who passed the examination Fig (ii) in five different institutes P, Q, R, S and T.

(I) Total number of candidates enrolled in five different institutes = 5500

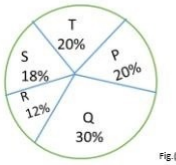


Fig.(i)

(II) Total number of candidates who passed the examination from five institutes = 3300

Fig.(ii)

The ratio of the candidates who passed to the candidates enrolled from institute S is:

Ans

✗ 1. 5 : 6

✗ 2. 3 : 4

✗ 3. 6 : 7

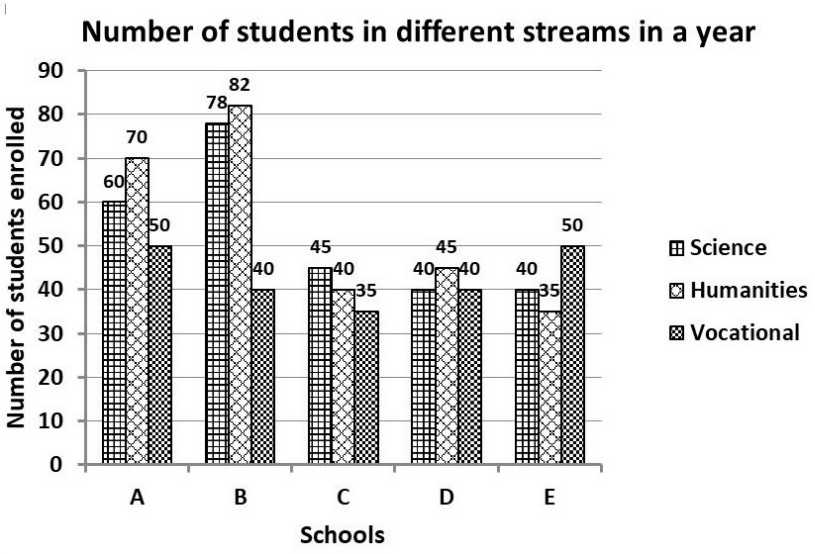
✓ 4. 4 : 5

Question ID : **6549787405**
Status : **Answered**
Chosen Option : **4**

Gagan Pratap Maths

Q.16 The number of students enrolled in different streams at Senior Secondary level in five schools has been shown in the bar graph.

What is the ratio of the number of students enrolled in the vocational stream in schools A, C and E taken together to those enrolled in the humanities stream in the schools B, D and E taken together?



Ans

✔ 1. 5 : 6

✘ 2. 7 : 9

✘ 3. 2 : 3

✘ 4. 9 : 11

Question ID : **6549788115**
Status : **Answered**
Chosen Option : **1**

Q.17 If $x^4 + \frac{1}{x^4} = 3842$, then the positive value of $x + \frac{1}{x}$ will be:

Ans

✘ 1. 12

✔ 2. 8

✘ 3. 10

✘ 4. 6

Question ID : **6549787398**
Status : **Answered**
Chosen Option : **2**

Gagan Pratap Maths

Q.18 The value of $31\frac{2}{5} \div \left[168 \div \frac{3}{7} of\, 28 + \left(33 \div \frac{5}{2}\right) + \left(7\frac{3}{5} - 3\frac{2}{5}\right)\right]$ is:

Ans

✗ 1. 5

✓ 2. 1

✗ 3. 3

✗ 4. 10

Question ID : **6549787401**
Status : **Answered**
Chosen Option : **2**

Q.19 If $cosec\theta = \frac{41}{9}$ and θ is an acute angle, then the value of $5\ tan\theta$ will be:

Ans

✗ 1. $\frac{11}{8}$

✗ 2. $\frac{13}{4}$

✗ 3. $\frac{7}{8}$

✓ 4. $\frac{9}{8}$

Question ID : **6549787402**
Status : **Answered**
Chosen Option : **4**

Q.20 The volume of a metallic cylindrical pipe is 3564 cm^3. If its external radius is 12 cm and thickness is 3 cm, then the length of the pipe will be:

(Take $\pi = \frac{22}{7}$.)

Ans

✗ 1. 22 cm

✗ 2. 20 cm

✓ 3. 18 cm

✗ 4. 16 cm

Question ID : **6549787386**
Status : **Not Answered**
Chosen Option : **--**

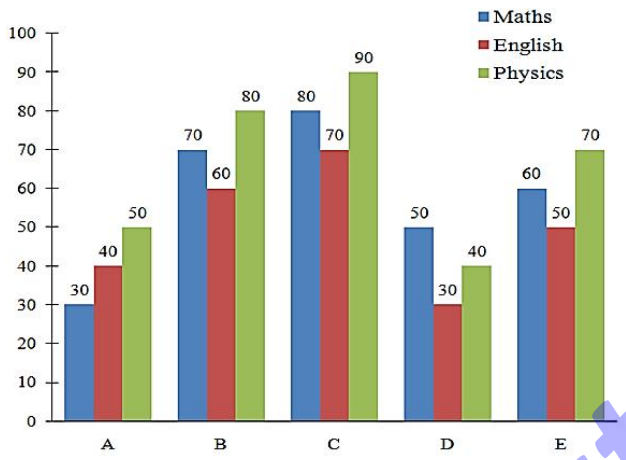
Gagan Pratap Maths

Q.21 A shopkeeper bought pens at the rate of ₹1,350 for 15 dozen pens and sold them at the rate of ₹495 for 5 dozen pens.
His percentage profit or percentage loss is:

Ans
✔ 1. Profit 10%
✘ 2. Profit 15%
✘ 3. Loss 15%
✘ 4. Loss 10%

Question ID : **6549787390**
Status : **Not Answered**
Chosen Option : **--**

Q.22 Study the following graph and answer the question that follows.
Marks scored by five students (A, B, C, D and E) in three subjects (Maths, English and Physics)



What is the ratio of the marks of D's in Maths and Physics together to the marks of B's in English and Physics?

Ans
✘ 1. 14 : 13
✘ 2. 7 : 14
✔ 3. 9 : 14
✘ 4. 2 : 7

Question ID : **6549788618**
Status : **Answered**
Chosen Option : **3**

Q.23 The population of a town increased by 15% in 2018 and 10% in 2019. Due to a pandemic, it decreased by 10% in 2020.
What was the percentage increase in the population of the town in 3 years?

Ans
✘ 1. 12.5%
✘ 2. 17.5%
✔ 3. 13.85%
✘ 4. 15%

Question ID : **6549788096**
Status : **Not Answered**
Chosen Option : **--**

Gagan Pratap Maths

Q.24 If a : b = 2 : 3 and c : d = 5a : 3b, then 2c : 5d is equal to:

Ans

✗ 1. 1 : 1

✗ 2. 10 : 9

✓ 3. 4 : 9

✗ 4. 9 : 10

Question ID : **6549788098**
Status : **Answered**
Chosen Option : **3**

Q.25 Solve the following equation and find the value of θ.

$$3\cot\theta + \tan\theta - 2\sqrt{3} = 0, 0 < \theta < 90^\circ$$

Ans

✗ 1. 30°

✗ 2. 45°

✓ 3. 60°

✗ 4. 15°

Question ID : **6549787404**
Status : **Not Answered**
Chosen Option : **--**

Section : **General Awareness**

Gagan Pratap Maths

4 August 3rd shift

Gagan P aths

Section : **Quantitative Aptitude**

Q.1 When $(2^{24} - 1)$ is divided by 7, the remainder is:

Ans

✗ 1. 2

✓ 2. 0

✗ 3. 4

✗ 4. 1

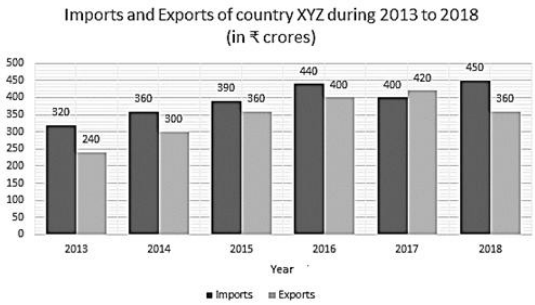
Question ID : **6549787097**
Status : **Answered**
Chosen Option : **2**

Q.2 If $a + b + c = 7$ and $a^3 + b^3 + c^3 - 3abc = 301$, then $ab + bc + ca = ?$

Ans
✗ 1. -4
✗ 2. -2
✗ 3. 3
✓ 4. 2

Question ID : **6549787904**
Status : **Answered**
Chosen Option : **4**

Q.3 Study the given graph and answer the question that follows.



By what percentage is the total exports in 2014 and 2016 less than the total imports in the same two years?

Ans
✓ 1. 12.5
✗ 2. 12.9
✗ 3. 14.3
✗ 4. 11.25

Question ID : **6549786599**
Status : **Answered**
Chosen Option : **1**

Q.4 In a circle with centre O, chord AB and diameter CD intersect each other at point E, inside the circle. If $\angle AOD = 42°$ and $\angle BOC = 104°$, then what is the measure (in degrees) of $\angle AED$?

Ans
✓ 1. 73
✗ 2. 62
✗ 3. 58
✗ 4. 84

Question ID : **6549787899**
Status : **Answered**
Chosen Option : **1**

Q.5 If $x^2 - 3\sqrt{2}x + 1 = 0$, then what is the value of $x^3 + \left(\frac{1}{x^3}\right)$?

Ans
✗ 1. $30\sqrt{6}$
✓ 2. $45\sqrt{2}$
✗ 3. $15\sqrt{6}$
✗ 4. $30\sqrt{2}$

Question ID : **6549787903**
Status : **Answered**
Chosen Option : **2**

Gagan Pratap Maths

Q.6 If $x^2 + 1 - 2x = 0, x > 0$, then $x^2(x^2 - 2) =$ _____.

Ans
✗ 1. 1
✗ 2. $\sqrt{2}$
✓ 3. -1
✗ 4. 0

Question ID : **6549787094**
Status : **Answered**
Chosen Option : **3**

Q.7 Chords AB and CD of a circle intersect externally at P. If CD = 11.6 cm, PD = 6.4 cm and PB = 7.2 cm, then AB (in cm) is equal to:

Ans
✗ 1. 12
✗ 2. 16
✓ 3. 8.8
✗ 4. 4.8

Question ID : **6549787090**
Status : **Answered**
Chosen Option : **3**

Q.8 If $2cos^2\theta = 3(1 - sin\theta)$, $0° < \theta < 90°$, then what is the value of $(tan2\theta + cosec3\theta - sec2\theta)$?

Ans
✗ 1. $\sqrt{3} + 1$
✓ 2. $\sqrt{3} - 1$
✗ 3. $\frac{1+\sqrt{3}}{\sqrt{3}}$
✗ 4. $\frac{1-\sqrt{3}}{\sqrt{3}}$

Question ID : **6549787909**
Status : **Answered**
Chosen Option : **2**

Q.9 The value of $8 \div 2$ of $3 - [56 \div 4$ of $\{4 \times 3 - (9 - 11) \div (2 \div 4$ of $4)\}]$ is:

Ans
✗ 1. $\frac{11}{6}$
✓ 2. $\frac{5}{6}$
✗ 3. $\frac{4}{3}$
✗ 4. $\frac{1}{2}$

Question ID : **6549787906**
Status : **Answered**
Chosen Option : **2**

Gagan Pratap Maths

Q.10 The perimeters of two similar triangles ABC and PQR are 156 cm and 46.8 cm, respectively. If BC = 19.5 cm and QR = x cm, then the value of x is:

Ans
✔ 1. 5.85 cm
✘ 2. 6.75 cm
✘ 3. 3.76 cm
✘ 4. 4.29 cm

Question ID : **6549787092**
Status : **Answered**
Chosen Option : **1**

Q.11 A can complete a certain work in 30 days. He started the work. After 4 days, B joined him and the whole work was completed in 10 days from the beginning. B alone can complete one-third of the same work in:

Ans
✘ 1. 6 days
✔ 2. 3 days
✘ 3. 4 days
✘ 4. 2 days

Question ID : **6549787889**
Status : **Marked For Review**
Chosen Option : **1**

Q.12 If the difference between the compound interest compounded annually and the simple interest on a certain sum of money for three years at 10% per annum is ₹279, then the sum (in ₹) is:

Ans
✘ 1. 10,000
✘ 2. 8,000
✘ 3. 7,500
✔ 4. 9,000

Question ID : **6549787089**
Status : **Answered**
Chosen Option : **4**

Q.13 In $\triangle ABC$, $\angle A = 90°, AB = 20$ cm and $BC = 29$ cm. What is the value of $(sinB - cotC)$?

Ans
✘ 1. $-\frac{9}{29}$
✔ 2. $-\frac{189}{580}$
✘ 3. $\frac{189}{580}$
✘ 4. $\frac{9}{29}$

Question ID : **6549787907**
Status : **Answered**
Chosen Option : **2**

Gagan Pratap Maths

Q.14 In a constituency, 55% of the total number of voters are males and the rest are females. If 40% of the males are illiterate and 40% of the females are literate, then by what percentage is the number of illiterate females more than that of the illiterate males (correct to one decimal place)?

Ans
✔ 1. 22.7%
✘ 2. 16.4%
✘ 3. 21.5%
✘ 4. 20.8%

Question ID : **6549787086**
Status : **Not Answered**
Chosen Option : **--**

Q.15 By selling 3 dozen oranges for ₹405, a trader loses 25%. How many oranges should he sell for ₹288 if he needs to earn a profit of 20% in the transaction?

Ans
✘ 1. 18
✘ 2. 15
✔ 3. 16
✘ 4. 12

Question ID : **6549787895**
Status : **Not Answered**
Chosen Option : **--**

Q.16 X and Y start at the same time to ride from place A to place B, which is 80 km away from A. X travels 4 km per hour slower than Y. Y reaches place B and at once turns back meeting X, 16 km from place B. Y's speed (in km/h) is:

Ans
✘ 1. 9
✘ 2. 15
✘ 3. 8
✔ 4. 12

Question ID : **6549787082**
Status : **Answered**
Chosen Option : **4**

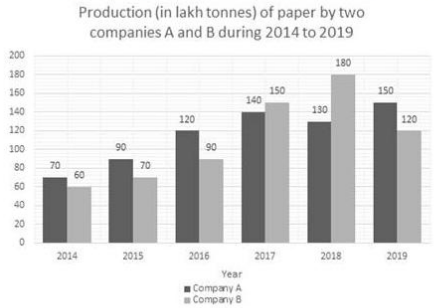
Q.17 There are three numbers. If the ratio of the first to the second number is 2 : 7 and that of the second to the third number is 5 : 8, then the ratio of the first to the third number is:

Ans
✘ 1. 7 : 8
✔ 2. 5 : 28
✘ 3. 1 : 4
✘ 4. 5 : 7

Question ID : **6549787088**
Status : **Answered**
Chosen Option : **2**

Gagan Pratap Maths

Q.18 Study the given graph and answer the question that follows.



What is the ratio of the total production of paper by company A in 2016 and 2019 to the total production of paper by company B in 2014 and 2017?

Ans

✔ 1. 9 : 7

✘ 2. 3 : 2

✘ 3. 5 : 4

✘ 4. 8 : 5

Question ID : **6549787910**
Status : **Answered**
Chosen Option : **1**

Q.19 BD and CE are the medians of $\triangle ABC$, right angled at A. If $CE = \frac{5\sqrt{13}}{2}$ cm, $BC = 10$ cm, then the length of BD is:

Ans

✘ 1. $3\sqrt{7}$ cm

✘ 2. $3\sqrt{5}$ cm

✘ 3. $\sqrt{13}$ cm

✔ 4. $\frac{5}{2}\sqrt{7}$ cm

Question ID : **6549787901**
Status : **Answered**
Chosen Option : **4**

Q.20 The following histogram represents the daily earnings of 50 medical stores in a locality.

The difference between the percentage of medical stores whose daily earnings are less than ₹1,000 and the percentage of medical stores whose daily earnings are ₹1,200 and above is:

Ans

✘ 1. 24%

✔ 2. 16%

✘ 3. 15%

✘ 4. 12%

Question ID : **6549787105**
Status : **Not Answered**
Chosen Option : **--**

Gagan Pratap Maths

Q.21 The marked price of an article is ₹480. A person buys it at two successive discounts of 15% and 10%. He sells it at a profit of 25%. What is his profit (in ₹)?

Ans
1. 95.40
2. 90.60
3. 91.80 ✔
4. 93.20

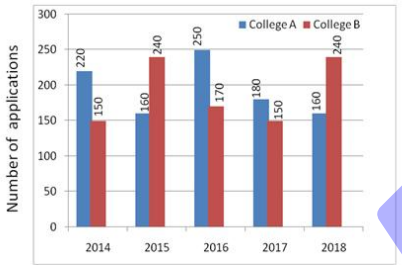
Question ID : **6549787893**
Status : **Answered**
Chosen Option : **3**

Q.22 The average of 19 numbers is 48. The average of the first 7 numbers is 50.6 and that of the last 13 numbers is 47.6. If the 7th number is excluded, then what is the average of the remaining numbers (correct to one decimal place)?

Ans
1. 42.4
2. 49.5
3. 39.6
4. 47.3 ✔

Question ID : **6549787084**
Status : **Answered**
Chosen Option : **4**

Q.23 Study the following bar graph and answer the question given below.
The bar graph represents the total number of applications received for B.Sc. Mathematics by two different colleges A and B in 5 different years.



Find the difference between the average number of applications received by college A from 2014 to 2018 and the average number of applications received by college B from 2014 to 2018?

Ans
1. 5
2. 4 ✔
3. 6
4. 8

Question ID : **6549788821**
Status : **Answered**
Chosen Option : **2**

Gagan Pratap Maths

Q.24 As observed from the top of a lighthouse, 42 m high above sea-level, the angle of depression of a ship sailing directly towards it changes from 30° to 45°. The distance travelled by the ship during the period of observation is:

Ans

✗ 1. $42(1-\sqrt{3})$

✗ 2. $42(\sqrt{3}+1)$

✓ 3. $42(\sqrt{3}-1)$

✗ 4. 42

Question ID : **6549787100**
Status : **Answered**
Chosen Option : **3**

Q.25 What is the cost (in ₹) of levelling a triangular park with sides 60 m , 112 m and 164 m at the rate of ₹10.50 per m^2 ?

Ans

✗ 1. 21,063

✗ 2. 20,160

✓ 3. 21,168

✗ 4. 21,000

Question ID : **6549787891**
Status : **Not Answered**
Chosen Option : **--**

Gagan Pratap Maths

5 August 1st shift

Q.1 The value of $\frac{5}{4} \times 2\frac{2}{3} \div \frac{5}{9} of\ 1\frac{1}{5} + \frac{2}{25} \times 4\frac{1}{6} \div \frac{2}{7} of\ 2\frac{1}{3}$ is:

Ans

✔ 1. $5\frac{1}{2}$

✘ 2. $3\frac{1}{2}$

✘ 3. $2\frac{1}{2}$

✘ 4. $1\frac{1}{2}$

Question ID : **6549786391**
Status : **Not Answered**
Chosen Option : **--**

Q.2 If $x + y + z = 13, x^2 + y^2 + z^2 = 91$ and $xz = y^2$, then the difference between z and x is:

Ans

✘ 1. 3

✔ 2. 8

✘ 3. 5

✘ 4. 9

Question ID : **6549786388**
Status : **Answered**
Chosen Option : **3**

Q.3 If $tanx = \cot(48° + 2x)$, and $0° < x < 90°$, then what is the value of x ?

Ans

✘ 1. $12°$

✔ 2. $14°$

✘ 3. $16°$

✘ 4. $21°$

Question ID : **6549786394**
Status : **Answered**
Chosen Option : **2**

Q.4 The radius of a sphere is 9 cm. It is melted and drawn into a wire of radius 0.3 cm. The length of the wire is:

Ans

✘ 1. 112 m

✔ 2. 108 m

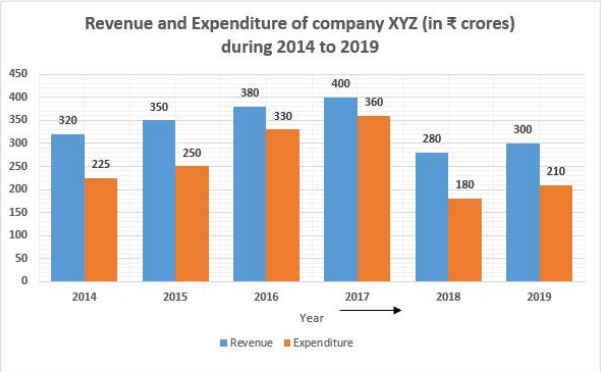
✘ 3. 118 m

✘ 4. 106 m

Question ID : **6549786376**
Status : **Answered**
Chosen Option : **2**

Gagan Pratap Maths

Q.5 Study the given graph and answer the question that follows.



The total revenue of the company in 2014, 2016 and 2018 is what percentage of the total expenditure in 2015 to 2017 and 2019 (correct to one decimal place)?

Ans

✔ 1. 85.2%

✘ 2. 84.3%

✘ 3. 83.4%

✘ 4. 81.6%

Question ID : **6549787812**
Status : **Answered**
Chosen Option : **1**

Q.6 If the five-digit number $672xy$ is divisible by 3, 7 and 11, then what is the value of $(6x + 5y)$?

Ans

✘ 1. 23

✘ 2. 24

✘ 3. 16

✔ 4. 17

Question ID : **6549787804**
Status : **Answered**
Chosen Option : **4**

Q.7 In $\triangle XYZ$, P is the midpoint of side XZ and Q is a point on side XY such that QZ bisects PY. If $XQ = 24$ cm, then what is the length (in cm) of QY?

Ans

✘ 1. 6

✘ 2. 18

✘ 3. 8

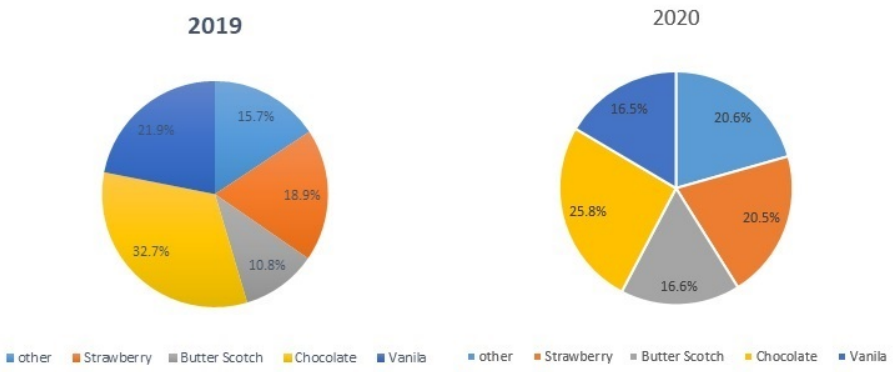
✔ 4. 12

Question ID : **6549787799**
Status : **Answered**
Chosen Option : **4**

Gagan Pratap Maths

Q.8 Study the given pie-charts and answer the question that follows.

The pie charts represent the popularity of ice-cream flavours among families in the years 2019 and 2020.



If 1% increase resulted in annual additional sales of ₹10,000, then how much (in ₹), did the combined Strawberry, other and Butterscotch sales increase from 2019 to 2020?

Ans

✔ 1. 1,23,000

✘ 2. 1,32,000

✘ 3. 3,12,000

✘ 4. 2,13,000

Question ID : **6549787002**
Status : **Not Answered**
Chosen Option : **--**

Q.9 The simple interest on a sum of ₹8,000 at a certain rate per cent per annum for 3 years is ₹3,600. What will be the amount (in ₹) of the same sum after 2 years at the same rate, if the interest is compounded 8-monthly?

Ans

✘ 1. 11,239

✘ 2. 10,450

✘ 3. 10,580

✔ 4. 10,648

Question ID : **6549787796**
Status : **Answered**
Chosen Option : **4**

Q.10 Two successive discounts each of x % on the marked price of an article are equal to a single discount of ₹350. If the marked price of the article is ₹800, then the value of x is:

Ans

✘ 1. 27.5%

✘ 2. 20%

✔ 3. 25%

✘ 4. 22.5%

Question ID : **6549786378**
Status : **Answered**
Chosen Option : **4**

Gagan Pratap Maths

Q.11 The speed of a train is 78 km/h. It crosses a tunnel in 45 s and overtakes a person walking at a speed of 6 km/h, in the same direction, in 15 s. The length (in m) of the tunnel is:

Ans
✔ 1. 675
✘ 2. 650
✘ 3. 975
✘ 4. 780

Question ID : **6549787789**
Status : **Answered**
Chosen Option : **3**

Q.12 A bag contains coins of denomination ₹1, ₹2 and ₹5 in the ratio of 4 : 5 : 8. If the total value of these coins is ₹432, then what is the number of ₹2 coins?

Ans
✔ 1. 40
✘ 2. 30
✘ 3. 50
✘ 4. 60

Question ID : **6549787795**
Status : **Answered**
Chosen Option : **1**

Q.13 A chord PQ of a circle C_1 of radius 9.25 cm touches another circle C_2 that is concentric to C_1, and the radius of C_2 is 3 cm. What is the length (in cm) of PQ?

Ans
✘ 1. 12
✘ 2. 19.5
✔ 3. 17.5
✘ 4. 15

Question ID : **6549787797**
Status : **Answered**
Chosen Option : **3**

Q.14 In an isosceles triangle ABC, AB = AC and AD is perpendicular to BC. If AD = 12 cm and the perimeter of ΔABC is 36 cm, then the length of BC (in cm) is:

Ans
✘ 1. 5
✘ 2. 12
✔ 3. 10
✘ 4. 13

Question ID : **6549786386**
Status : **Answered**
Chosen Option : **3**

Gagan Pratap Maths

Q.15 The price of a commodity increases by 28%. However, the expenditure on it increases by 12%. What is the percentage increase or decrease in its consumption?

Ans

✗ 1. 16% Increase

✓ 2. 12.5% Decrease

✗ 3. 12.5% Increase

✗ 4. 16% Decrease

Question ID : **6549787793**
Status : **Answered**
Chosen Option : **2**

Q.16 The coefficient of x^3y in $(x - 2y) \times (5x + y)^3$ is:

Ans

✗ 1. 75

✗ 2. -150

✗ 3. 250

✓ 4. -175

Question ID : **6549787801**
Status : **Answered**
Chosen Option : **1**

Q.17 A can complete a work in 20 days, while B can complete the same work in 25 days. Both worked together for 10 days and then C alone completed the remaining work in 10 days. In how many days will A, B and C together complete the same work?

Ans

✓ 1. 10 days

✗ 2. 5 days

✗ 3. 8 days

✗ 4. 12 days

Question ID : **6549786374**
Status : **Answered**
Chosen Option : **1**

Q.18 The average height of a certain number of students in a group is 155.6 cm . If 12 students having an average height of 150.5 cm join the group and 7 students having an average height of 159 cm leave the group, the average height of the students in the group will decrease by 34 mm . What is the number of students, initially, in the group?

Ans

✗ 1. 30

✗ 2. 25

✗ 3. 40

✓ 4. 20

Question ID : **6549787791**
Status : **Answered**
Chosen Option : **1**

Gagan Pratap Maths

Q.19 If $cos\theta = \frac{\sqrt{3}}{2}$, then the value of $\frac{2-sin^2\theta}{1-cot^2\theta} + (sec^2\theta + cosec\theta)$ is:

Ans

✗ 1. $\frac{25}{12}$

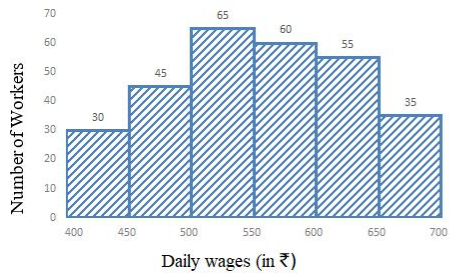
✓ 2. $\frac{59}{24}$

✗ 3. $-\frac{25}{12}$

✗ 4. $-\frac{59}{24}$

Question ID : **6549786392**
Status : **Answered**
Chosen Option : **4**

Q.20 Study the given graph which shows the number of workers with their daily wages and answer the question that follows.



What is the ratio of the total number of workers whose daily wages are ₹450 or above but less than ₹500 to the total number of workers whose daily wages are ₹650 or above?

Ans

✓ 1. 9 : 7

✗ 2. 5 : 2

✗ 3. 2 : 5

✗ 4. 7 : 9

Question ID : **6549786395**
Status : **Not Answered**
Chosen Option : **--**

Gagan Pratap Maths

Q.21 The value of

$$\frac{tan50° + sec50°}{cot40° + cosec40°} + cos^2 65° + sin65° cos25° + tan30° \text{ is:}$$

Ans

✗ 1. $\frac{\sqrt{3}(\sqrt{3}+1)}{3}$

✗ 2. $2 + \sqrt{3}$

✓ 3. $\frac{6+\sqrt{3}}{3}$

✗ 4. $1 + \sqrt{3}$

Question ID : **6549787807**
Status : **Not Answered**
Chosen Option : **--**

Q.22 In a circle, AB and DC are two chords. When AB and DC are produced, they meet at P. If PC = 2.8 cm, PB = 3.15 cm and AB = 3.85 cm, then CD =?

Ans

✓ 1. 5.075 cm

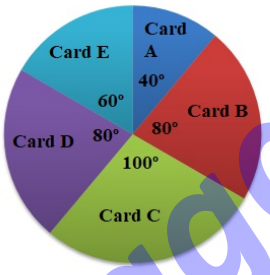
✗ 2. 4.175 cm

✗ 3. 6.975 cm

✗ 4. 7.875 cm

Question ID : **6549786384**
Status : **Not Answered**
Chosen Option : **--**

Q.23 The pie chart shows the money spent by Aditya through credit cards of different banks. The total money spent by him through credit cards in a year is ₹3,60,000.



How much more money was spent through Card C as compared to Card D?

Ans

✗ 1. ₹2,000

✗ 2. ₹40,000

✓ 3. ₹20,000

✗ 4. ₹1,80,000

Question ID : **6549788113**
Status : **Not Answered**
Chosen Option : **--**

Gagan Pratap Maths

Q.24 A person sold an article at a loss of 12%. Had he sold it at a gain of 10.5%, he would have got ₹112.50 more. What is the original selling price (in ₹) of the article?

Ans

✔ 1. 440.00

✘ 2. 560.00

✘ 3. 552.50

✘ 4. 500.00

Question ID : **6549786380**
Status : **Answered**
Chosen Option : **3**

Q.25 If $x^2 + 4y^2 + 3z^2 + \frac{19}{4} = 2\sqrt{3}(x + y + z)$, then the value of $(x - 4y + 3z)$ is:

Ans

✘ 1. $\frac{\sqrt{3}}{3}$

✘ 2. $2\sqrt{3}$

✔ 3. $\sqrt{3}$

✘ 4. $\frac{\sqrt{3}}{2}$

Question ID : **6549786389**
Status : **Not Answered**
Chosen Option : **--**

Gagan Pratap Maths

5 August 2nd shift

Q.25 **Select the combination of letters that when sequentially placed in the blanks of the given series will complete the series.**

O _ E _ O Z _ T _ Z _ T

Ans

✗ 1. O E T Z T

✗ 2. E Z T O E

✓ 3. Z T E O E

✗ 4. T E Z O Z

Question ID : **6549789770**
Status : **Answered**
Chosen Option : **3**

Section : **Quantitative Aptitude**

Q.1 The successive discounts 18 %, 10 % and 15 % are equivalent to a single discount of:

Ans

✗ 1. 39.25%

✓ 2. 37.27%

✗ 3. 45.16%

✗ 4. 41.32%

Question ID : **6549786883**
Status : **Answered**
Chosen Option : **4**

Gagan Pratap Maths

Q.2 If $9x^2 - 6x + 1 = 0$, then the value of $27x^3 + (27x^3)^{-1}$ will be:

Ans

✗ 1. 8

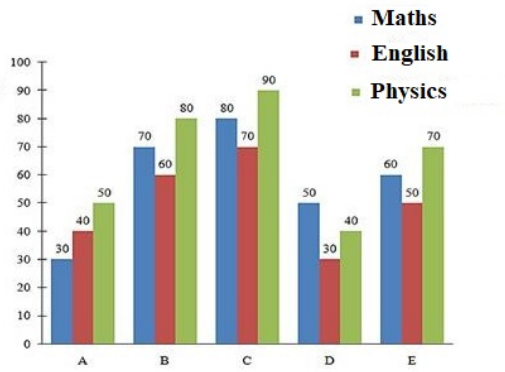
✗ 2. 4

✓ 3. 2

✗ 4. 1

Question ID : **6549786185**
Status : **Answered**
Chosen Option : **3**

Q.3 Study the following graph and answer the question that follows.
Marks scored by five students A, B, C, D and E in three subjects (Maths, English and Physics)



What are the approximate average marks obtained by C?

Ans

✗ 1. 65

✗ 2. 75

✓ 3. 80

✗ 4. 70

Question ID : **6549788316**
Status : **Answered**
Chosen Option : **3**

Q.4 In ΔABC, the length of BC is less than twice the length of AB by 2 cm. The length of AC exceeds the length of AB by 6 cm. The perimeter is 60 cm. The length (in cm) of the largest side of the triangle ABC is:

Ans

✗ 1. 28

✓ 2. 26

✗ 3. 30

✗ 4. 20

Question ID : **6549786183**
Status : **Answered**
Chosen Option : **2**

Gagan Pratap Maths

Q.5 If $\cos\theta = \frac{P^2-1}{P^2+1}$, $0° < \theta < 90°$, then $\operatorname{cosec}\theta$ is equal to:

Ans

✗ 1. $\frac{2P}{1-P^2}$

✗ 2. $\frac{2P}{1+P^2}$

✓ 3. $\frac{1+P^2}{2P}$

✗ 4. $\frac{1-P^2}{2P}$

Question ID : **6549786897**
Status : **Answered**
Chosen Option : **3**

Q.6 What will be the compound interest (in ₹) on a sum of ₹7,200 for 18 months at a rate of 20% per annum, if the interest is compounded half-yearly (nearest to an integer)?

Ans

✗ 1. 3,238

✗ 2. 2,338

✗ 3. 2,833

✓ 4. 2,383

Question ID : **6549786180**
Status : **Answered**
Chosen Option : **4**

Q.7 A circle is inscribed in a triangle ABC. It touches sides AB, BC and AC at points R, P and Q, respectively. If AQ = 6.5 cm, PC = 7.5 cm and BR = 9 cm, then the perimeter (in cm) of the triangle ABC will be:

Ans

✗ 1. 55

✗ 2. 27.5

✓ 3. 46

✗ 4. 23

Question ID : **6549786181**
Status : **Answered**
Chosen Option : **3**

Gagan Pratap Maths

Q.8 If $(4x-5)^3+(x-2)^3+27(2x-5)^3=9(4x-5)(x-2)(2x-5)$,

then the value of $(x+\frac{3}{2})$ will be:

Ans

✗ 1. $\frac{3}{2}$

✗ 2. $\frac{1}{2}$

✓ 3. $\frac{7}{2}$

✗ 4. $\frac{5}{2}$

Question ID : **6549786894**
Status : **Answered**
Chosen Option : **3**

Q.9 If $9a^2+4b^2+49c^2+18=2(2b+28c-3a)$, then the value of $(a+2b-c)$ will be:

Ans

✗ 1. $\frac{11}{21}$

✓ 2. $\frac{2}{21}$

✗ 3. $\frac{26}{21}$

✗ 4. $\frac{5}{21}$

Question ID : **6549786893**
Status : **Answered**
Chosen Option : **3**

Q.10 If $7\sin^2\theta+3\cos^2\theta=4, 0^\circ<\theta<90^\circ$, then the value of θ will be:

Ans

✗ 1. 60°

✗ 2. 45°

✗ 3. 75°

✓ 4. 30°

Question ID : **6549786899**
Status : **Answered**
Chosen Option : **4**

Gagan Pratap Maths

Q.11 The value of $61\frac{3}{5} \div \left[40 \div 2 \text{ of } 5 + 27 \div \frac{1}{3} - \left(78 \div 3\frac{1}{3}\right)\right]$ is:

Ans

✗ 1. $\frac{11}{25}$

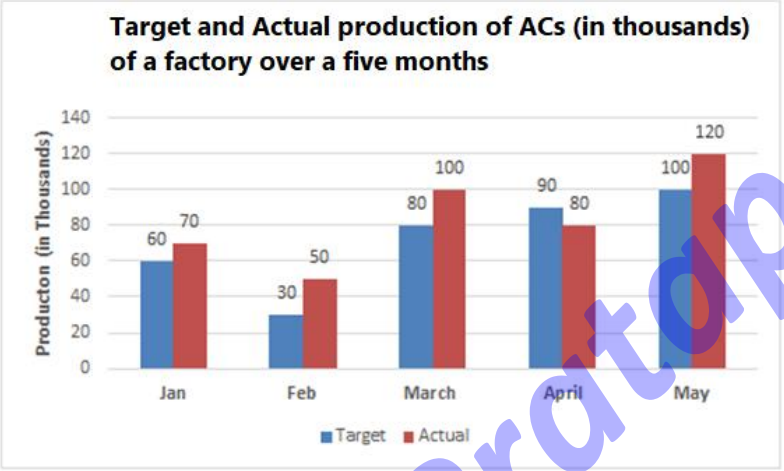
✓ 2. 1

✗ 3. $\frac{41}{25}$

✗ 4. -5

Question ID : **6549786896**
Status : **Answered**
Chosen Option : **2**

Q.12 Study the given graph and answer the question that follows.



In which month is the actual production of ACs 20% more than its target production?

Ans

✗ 1. February

✓ 2. May

✗ 3. January

✗ 4. March

Question ID : **6549786196**
Status : **Answered**
Chosen Option : **2**

Gagan Pratap Maths

Q.13 From a rectangular sheet of dimensions 32 cm × 18 cm, a square of side 3 cm is cut from the four corners of the sheet and a box is made. The volume of the box is:

Ans

✗ 1. $946\ cm^3$

✓ 2. $936\ cm^3$

✗ 3. $1305\ cm^3$

✗ 4. $1300\ cm^3$

Question ID : **6549786881**
Status : **Answered**
Chosen Option : **2**

Q.14 A train travels at a speed of 66 km/h and halts at five junctions for a certain time. It covers a distance of 1485 km in one day. For how long (in minutes) does the train stop at each junction, if it halts for the same period of time at all the junctions?

Ans

✗ 1. 15

✓ 2. 18

✗ 3. 12

✗ 4. 20

Question ID : **6549786173**
Status : **Answered**
Chosen Option : **2**

Q.15 The income of A is 40% less than that of B. If A gets 25% rise in his income and B gets 40% rise in his income, then the percentage increase (correct to two decimal places) in the combined incomes of A and B will be:

Ans

✗ 1. 35.19

✗ 2. 37.86

✗ 3. 31.67

✓ 4. 34.38

Question ID : **6549786177**
Status : **Answered**
Chosen Option : **4**

Q.16 If PA and PB are tangents drawn to a circle with centre O at A and B from external point P such that $\angle APB = 78°$, then $\angle OAB$ is equal to:

Ans

✓ 1. $39°$

✗ 2. $12°$

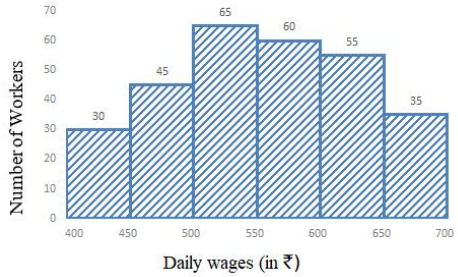
✗ 3. $36°$

✗ 4. $29°$

Question ID : **6549786889**
Status : **Answered**
Chosen Option : **1**

Gagan Pratap Maths

Q.17 Study the graph which shows the daily wages (in ₹) with number of workers and answer the question that follows.



If the ratio of the total number of workers whose daily wages are less than ₹450 to the total number of workers whose daily wages are ₹600 or above is a : b, then what is the difference between b and a?

Ans

✔ 1. 2

✘ 2. 1

✘ 3. 0

✘ 4. 3

Question ID : **6549786094**
Status : **Answered**
Chosen Option : **1**

Q.18 If a nine-digit number $489\,x\,6378\,y$ is divisible by 72, then the value of $\sqrt{8x+6y}$ will be:

Ans

✘ 1. 10

✘ 2. 4

✘ 3. 6

✔ 4. 8

Question ID : **6549786188**
Status : **Answered**
Chosen Option : **4**

Q.19 The value of $\dfrac{3\tan^2 60^\circ + \sec^2 30^\circ - \sin^2 45^\circ}{(\cos 15^\circ + \sin 75^\circ)(\sec 15^\circ + \operatorname{cosec} 75^\circ)}$ is:

Ans

✘ 1. $\frac{5}{12}$

✘ 2. $\frac{65}{24}$

✘ 3. $\frac{13}{12}$

✔ 4. $\frac{59}{24}$

Question ID : **6549786191**
Status : **Answered**
Chosen Option : **4**

Gagan Pratap Maths

Q.20 The average of eighteen numbers is 42. The average of the last ten numbers is 40 and that of the first five numbers is 44. The seventh number is 6 less than the sixth and 7 less than the eighth number. The average of the sixth and the eighth number is:

Ans

✗ 1. 46.5

✓ 2. 47.5

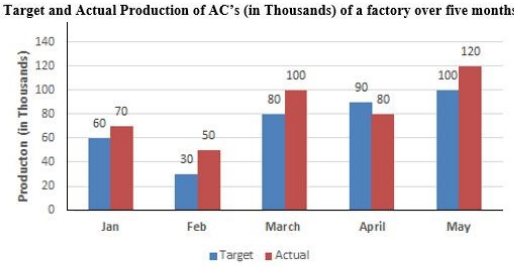
✗ 3. 45

✗ 4. 48

Question ID : **6549786175**
Status : **Answered**
Chosen Option : **2**

Q.21 Study the given graph which shows the Target and Actual production of ACs' (in thousands) of a factory over five months and answer the question that follows.

Target and Actual Production of AC's (in Thousands) of a factory over five months



The ratio of the combined target production of ACs from January to April to that of the actual production of ACs from March to May is:

Ans

✓ 1. 13 : 15

✗ 2. 19 : 15

✗ 3. 15 : 13

✗ 4. 15 : 19

Question ID : **6549786900**
Status : **Answered**
Chosen Option : **1**

Q.22 In ΔABC, $\angle A = 66°$. If I is the incentre of the triangle, then the measure of $\angle BIC$ will be:

Ans

✓ 1. 123°

✗ 2. 109°

✗ 3. 119°

✗ 4. 112°

Question ID : **6549786891**
Status : **Answered**
Chosen Option : **1**

Gagan Pratap Maths

Q.23 A can do 60% of a work in 18 days, while B can do 40% of the same work in 10 days. Both work together for 10 days only. C completed the remaining work in 4 days. In how many days will C complete the same work?

Ans

✗ 1. 12

✓ 2. 15

✗ 3. 25

✗ 4. 18

Question ID : **6549786879**
Status : **Answered**
Chosen Option : **2**

Q.24 A bought an article for ₹4,800 and sold it at a loss of 30%. With this amount, he bought another article and sold it at a gain of 60%. What was his overall gain/loss?

Ans

✗ 1. Loss 18%

✓ 2. Gain 12%

✗ 3. Gain 10%

✗ 4. Loss 15%

Question ID : **6549786885**
Status : **Answered**
Chosen Option : **2**

Q.25 The ratio of the incomes of A and B is 7 : 5. A and B save ₹4,000 and ₹3,500, respectively. If the expenditure of B is half the expenditure of A, then the total income of A and B (in ₹) will be:

Ans

✗ 1. 10,000

✗ 2. 13,500

✓ 3. 12,000

✗ 4. 15,000

Question ID : **6549786179**
Status : **Answered**
Chosen Option : **3**

Gagan Pratap Maths

5 August 3rd shift

Q.1 Sachin alone can complete a piece of work for ₹8,500 in $8\frac{1}{2}$ days. But with the help of Vishnu, the work is completed in 6 days. The share to be paid to Vishnu is:

Ans
1. ₹3,200
2. ₹2,500
3. ₹2,400
4. ₹2,000

Question ID : **6549787586**
Status : **Answered**
Chosen Option : **2**

Q.2 If $x - y = 4$ *and* $x^3 - y^3 = 316$, then the value of $x^4 + y^4$ is:

Ans
1. 2248
2. 2482
3. 2428
4. 2284

Question ID : **6549787601**
Status : **Answered**
Chosen Option : **2**

Q.3 An article was sold at a loss of 24%. If it were sold for ₹1,596 more, then there would have been a gain of 18%. The cost price of the article is:

Ans
1. ₹3,400
2. ₹3,600
3. ₹3,800
4. ₹4,200

Question ID : **6549787592**
Status : **Answered**
Chosen Option : **3**

Q.4 If a : b = 3 : 5, b : c = 7 : 8 and c : d = 2 : 3, then 2a : 3d is equal to:

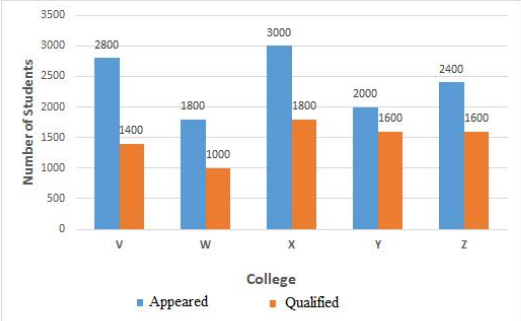
Ans
1. 1 : 2
2. 7 : 30
3. 7 : 15
4. 7 : 20

Question ID : **6549788401**
Status : **Answered**
Chosen Option : **2**

Gagan Pratap Maths

Q.5 Study the following graph and answer the question that follows.

Number of students that appeared and qualified, from various colleges, at a scholarship examination.



What is the difference between the average number of students that appeared for the scholarship examination from all the given colleges, and the average number of students that qualified from all the colleges together?

Ans

✔ 1. 920

✘ 2. 940

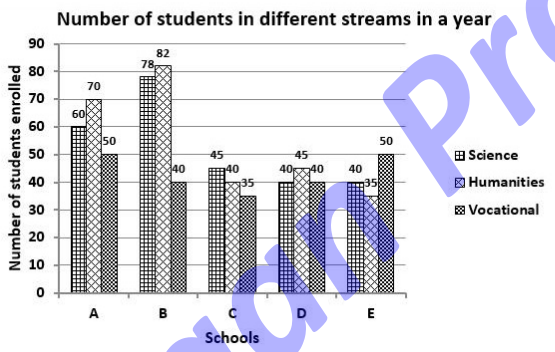
✘ 3. 930

✘ 4. 910

Question ID : **6549788719**
Status : **Marked For Review**
Chosen Option : **1**

Q.6 The number of students enrolled in different streams at Senior Secondary level in five schools is shown in the given bar graph.

The number of students enrolled in the Humanities stream in schools A, C and D is what percentage of the number of students enrolled in the Vocational stream in schools C, D and E?



Ans

✘ 1. 75

✘ 2. 80.64

✘ 3. 115

✔ 4. 124

Question ID : **6549788418**
Status : **Answered**
Chosen Option : **4**

Gagan Pratap Maths

Q.7 The in-radius and circumradius of a right-angled triangle is 3 cm and 12.5 cm, respectively. The area of the triangle is:

Ans

✗ 1. $64\ cm^2$

✗ 2. $48\ cm^2$

✗ 3. $88\ cm^2$

✓ 4. $84\ cm^2$

Question ID : **6549787598**
Status : **Not Answered**
Chosen Option : **--**

Q.8 If $a + b = 24$ *and* $a^2 + b^2 = 306$, where $a > b$, then the value of $4a - 5b$ is:

Ans

✗ 1. 18

✗ 2. 20

✗ 3. 12

✓ 4. 15

Question ID : **6549787600**
Status : **Answered**
Chosen Option : **4**

Q.9 If the number 87m6203m is divisible by 6, then find the sum of all possible values of 'm'.

Ans

✓ 1. 10

✗ 2. 20

✗ 3. 16

✗ 4. 15

Question ID : **6549788410**
Status : **Not Answered**
Chosen Option : **--**

Q.10 What is the coefficient of y^2 in the expansion of $\left(\sqrt{2}y^2 - 5\sqrt{3}\right)^3$?

Ans

✗ 1. $-225\sqrt{2}$

✗ 2. $-30\sqrt{3}$

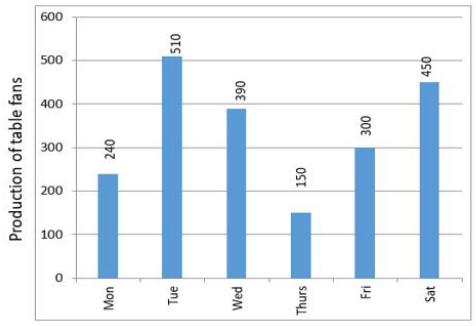
✓ 3. $225\sqrt{2}$

✗ 4. $30\sqrt{3}$

Question ID : **6549788407**
Status : **Marked For Review**
Chosen Option : **2**

Gagan Pratap Maths

Q.11 Study the given bar graph and answer the question that follows.
The bar graph shows the production of table fans in a factory during one week.



The average production of table fans on Friday and Saturday exceeds the average production of table fans during the week by:

Ans
1. 45
2. 30
3. 35
4. 40

Question ID : **6549787305**
Status : **Answered**
Chosen Option : **3**

Q.12 In a triangle ABC, if BD and CD bisect $\angle B$ and $\angle C$, respectively, and $\angle A = 100°$, then find $\angle BDC$.

Ans
1. 130°
2. 100°
3. 110°
4. 140°

Question ID : **6549788405**
Status : **Answered**
Chosen Option : **4**

Q.13 Two circles of radii 4 cm and 3 cm, respectively, touch each other externally. What is the distance (in cm) between their centres?

Ans
1. 5
2. 16
3. 7
4. 9

Question ID : **6549787596**
Status : **Answered**
Chosen Option : **3**

Gagan Pratap Maths

Q.14 A number P is 20% more than a number Q but 10% less than a number R. What percentage is number Q of number R?

Ans

✗ 1. 80

✗ 2. 85

✓ 3. 75

✗ 4. 90

Question ID : **6549788399**
Status : **Answered**
Chosen Option : **4**

Q.15 If $cos\theta = \frac{7}{3\sqrt{6}}$ $and\ \theta$ is an acute angle, then the value of $27\ sin^2\theta - \frac{3}{2}$ is:

Ans

✗ 1. 12

✗ 2. 15

✓ 3. 1

✗ 4. 9

Question ID : **6549787604**
Status : **Answered**
Chosen Option : **3**

Q.16 During his morning walk, Atul walks for 45 minutes at a speed of 8 km/h and takes 15 rounds of a park. Shekhar takes 10 rounds of the same park in 40 minutes. What is the speed of Shekhar in km/h?

Ans

✗ 1. 7.2

✓ 2. 6

✗ 3. 6.75

✗ 4. 7.5

Question ID : **6549788395**
Status : **Answered**
Chosen Option : **2**

Q.17 For A = 30°, find the value of: $\frac{-3\sin^2 2A + 2\sec^2 A - \tan\frac{3A}{2}}{\frac{1}{3}\sin 3A}$

Ans

✓ 1. $-\frac{7}{4}$

✗ 2. $-\frac{7}{36}$

✗ 3. $\frac{57}{4}$

✗ 4. $\frac{11}{4}$

Question ID : **6549788413**
Status : **Answered**
Chosen Option : **1**

Gagan Pratap Maths

Q.18 Find the value of θ, if $sec^2\,\theta + (1-\sqrt{3})\,tan\,\theta - (1+\sqrt{3}) = 0$, where θ is an acute angle.

Ans

✔ 1. 60°

✘ 2. 30°

✘ 3. 45°

✘ 4. 15°

Question ID : **6549787606**
Status : **Not Answered**
Chosen Option : **--**

Q.19 How many spherical bullets, each bullet being 7 cm in diameter, can be made out of a cube of lead whose edge measures 77 cm?

(Take $\pi = \frac{22}{7}$)

Ans

✘ 1. 1452

✘ 2. 4521

✘ 3. 2451

✔ 4. 2541

Question ID : **6549787588**
Status : **Answered**
Chosen Option : **4**

Q.20 The distance between two equal parallel chords of a circle is 10 cm. If the chords are 24 cm long, then what is the length of the radius?

Ans

✘ 1. $2\sqrt{61}$ cm

✘ 2. 17 cm

✘ 3. 26 cm

✔ 4. 13 cm

Question ID : **6549788403**
Status : **Answered**
Chosen Option : **4**

Q.21 The numbers 2, 3, 4 and 5 occur (2 + 5k), (5k – 7), (2k – 3) and (k + 2) times, respectively. The average of the numbers is 2.85. Later on, the number 2 was replaced by 6 in all the places. What is the average of the new numbers?

Ans

✘ 1. 2.4

✔ 2. 5.25

✘ 3. 3.85

✘ 4. 4.75

Question ID : **6549788397**
Status : **Not Answered**
Chosen Option : **--**

Gagan Pratap Maths

Q.22 Krishan invested a sum of ₹25,000 in two parts. He earned 11% p.a. simple interest on part 1 and 10% p.a. compound interest compounded annually on part 2. If the total interest received by him after 2 years is ₹5,370, then find the sum invested on simple interest.

Ans

✗ 1. ₹11,000

✓ 2. ₹12,000

✗ 3. ₹12,500

✗ 4. ₹13,000

Question ID : **6549788402**
Status : **Not Answered**
Chosen Option : **--**

Q.23 The value of $18\frac{2}{11} \div \left[\frac{7}{33} + \left\{\frac{29}{6} - \frac{3}{11} \times \left(5\frac{1}{6} - 3\frac{1}{3}\right)\right\}\right]$ is:

Ans

✓ 1. 4

✗ 2. 5

✗ 3. 2

✗ 4. 8

Question ID : **6549787603**
Status : **Not Answered**
Chosen Option : **--**

Q.24 An article is listed at ₹5,000 and two successive discounts of 12% and 12% are given on it. How much will the seller gain or lose if he gives a single discount of 24%?

Ans

✓ 1. Loss ₹72

✗ 2. Loss ₹64

✗ 3. Profit ₹64

✗ 4. Profit ₹72

Question ID : **6549787590**
Status : **Not Answered**
Chosen Option : **--**

Gagan Pratap Maths

Q.25 The given pie charts show the distribution of students of graduate and postgraduate levels in five different institutes, P, Q, R, S and T, in a town. Study the pie charts and answer the question that follows.

(i) Total number of students of graduate level in five different institutes = 12400

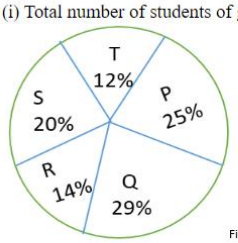


Fig.(i)

(ii) Total number of students of postgraduate level in five different institutes = 8000

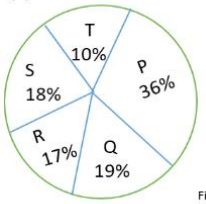


Fig.(ii)

The total number of graduate and post graduate level students in institute Q is:

Ans

1. 5216
2. 5126
3. 5116
4. 4116

Question ID : **6549787607**
Status : **Not Answered**
Chosen Option : **--**

Gagan Pratap Maths

6 August 1st shift

Q.25 **Select the option in which the words share the same relationship as that shared by the given pair of words.**

Necklace : Gold

Ans

✗ 1. Ocean : River

✓ 2. Paper : Wood pulp

✗ 3. Potter : Clay

✗ 4. Grass : Lawn

Question ID : **6549789191**
Status : **Answered**
Chosen Option : **2**

Section : **Quantitative Aptitude**

Q.1 A sum of money lent at simple interest amounts to ₹9,920 after 2 years and to ₹12,800 after 5 years. Find the rate of interest per annum.

Ans

✗ 1. 6.57%

✓ 2. 12%

✗ 3. 18%

✗ 4. 9.68%

Question ID : **6549789210**
Status : **Answered**
Chosen Option : **2**

Gagan Pratap Maths

Q.2 If $a + b - c = 0$, then what is the value of $\frac{(b-c)^2}{4bc}\frac{(c-a)^2}{4ca}\frac{(a+b)^2}{4ab}$?

Ans

✗ 1. $\frac{1}{2}$

✓ 2. $-\frac{3}{4}$

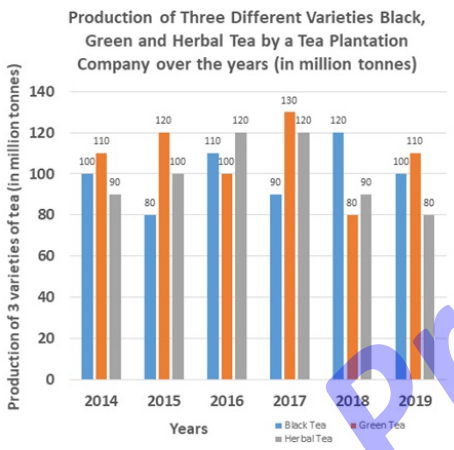
✗ 3. $-\frac{1}{2}$

✗ 4. $\frac{3}{4}$

Question ID : **6549788409**
Status : **Not Answered**
Chosen Option : **--**

Q.3 Study the given bar graph and answer the question that follows.

A tea plantation company produces three varieties of tea—black tea, green tea and herbal tea. The production of three varieties (in million tonnes) over a period of six years from 2014 to 2019, has been shown in the bar graph here. The X-axis represents the years and the Y-axis displays the production of the three varieties in million tonnes.



The total production of green tea in 2016 and 2018 is what per cent of the total production of herbal tea in 2015 and 2017?

Ans

✗ 1. 83.4

✗ 2. 85.6

✗ 3. 79.7

✓ 4. 81.8

Question ID : **6549789123**
Status : **Answered**
Chosen Option : **4**

Gagan Pratap Maths

Q.4 A reduction of 20% in the rate of sugar enables Sudhir to get 6 kg more sugar for ₹960. What is the reduced rate of sugar per kg?

Ans

✗ 1. ₹35

✗ 2. ₹36

✓ 3. ₹32

✗ 4. ₹40

Question ID : **6549789207**
Status : **Answered**
Chosen Option : **3**

Q.5 D, E and F are the feet of the perpendiculars from the vertices A, B and C, respectively, of a triangle ABC. If angle BED and angle BFE (in degrees) are 24 and 110, respectively, what is the measure (in degrees) of angle EBF?

Ans

✗ 1. 55

✗ 2. 67

✗ 3. 86

✓ 4. 46

Question ID : **6549788406**
Status : **Not Answered**
Chosen Option : **--**

Q.6 In ΔPQR, points T and S are on PQ and PR, respectively, such that TS is parallel to QR. If TQ = 7.2 cm, PS = 1.8 cm and SR = 5.4 cm, then find the length of PT.

Ans

✗ 1. 2 cm

✓ 2. 2.4 cm

✗ 3. 1.35 cm

✗ 4. 3.6 cm

Question ID : **6549789213**
Status : **Answered**
Chosen Option : **2**

Q.7 A pair of jeans marked at ₹960 is offered in a departmental store for ₹816. What is the percentage of discount given by the shopkeeper?

Ans

✗ 1. 17.64

✗ 2. 17

✓ 3. 15

✗ 4. 16

Question ID : **6549788398**
Status : **Answered**
Chosen Option : **3**

Gagan Pratap Maths

Q.8 If a : b = 5 : 7, b : c = 8 : 15, then find the value of 8c : 5a.

Ans

✗ 1. 24 : 5

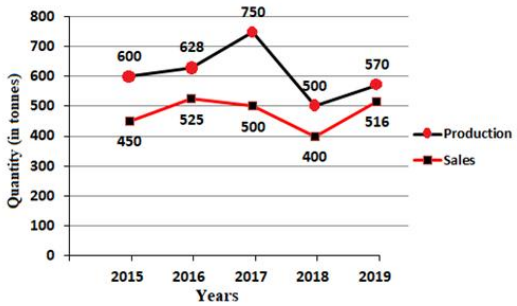
✓ 2. 21 : 5

✗ 3. 176 : 65

✗ 4. 8 : 21

Question ID : **6549789209**
Status : **Answered**
Chosen Option : **2**

Q.9 The line graph shows the production (in tonnes) and the sales (in tonnes) of a company.



What is the percentage of maximum increase or reduction in the production of the company in comparison to the previous year?

Ans

✗ 1. 46.67% reduction

✓ 2. 33.33% reduction

✗ 3. 50% increase

✗ 4. 29% increase

Question ID : **6549789226**
Status : **Answered**
Chosen Option : **2**

Q.10 Ravi can row a boat in still water at the speed of 14 km/h. If a river is flowing at the speed of 2 km/h and Ravi takes 3 hours to cover a certain distance upstream, then how much time will he take to cover the same distance downstream?

Ans

✗ 1. 2 h 20 m

✗ 2. 2 h

✓ 3. 2 h 15 m

✗ 4. 2 h 30 m

Question ID : **6549789203**
Status : **Answered**
Chosen Option : **3**

Gagan Pratap Maths

Q.11 Simplify the following expression.

$$\frac{3}{5}+2\frac{2}{5}\div\left[\left(\frac{7}{8}-\frac{3}{4}\right)\times 4-6\frac{2}{3}\div\frac{4}{3}\right]\times\frac{1}{3}$$

Ans

✔ 1. $\frac{19}{45}$

✘ 2. $-\frac{2}{9}$

✘ 3. $-\frac{13}{5}$

✘ 4. $\frac{17}{15}$

Question ID : **6549788411**
Status : **Answered**
Chosen Option : **1**

Q.12 PA and PB are tangents drawn to a circle with centre O from an external point P. If A and B are points on the circle and $\angle OBA = 42°$, then $\angle APB$ is:

Ans

✘ 1. $78°$

✔ 2. $84°$

✘ 3. $76°$

✘ 4. $86°$

Question ID : **6549789211**
Status : **Answered**
Chosen Option : **2**

Q.13 Simplify the following expression.

$$(2a-b-3c)(4a^2+b^2+9c^2+2ab+6ac-3bc)$$

Ans

✘ 1. $-8a^3+b^3+27c^3$

✘ 2. $8a^3+b^3+27c^3$

✔ 3. $8a^3-b^3-27c^3-18abc$

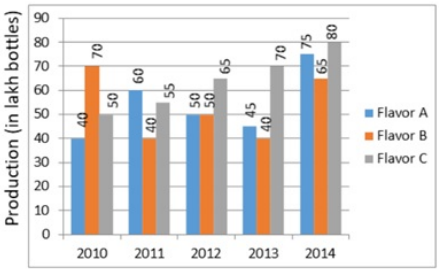
✘ 4. $8a^3-b^3-27c^3+18abc$

Question ID : **6549789215**
Status : **Answered**
Chosen Option : **3**

Gagan Pratap Maths

Q.14 A soft drink company prepares drinks of three different flavours — A, B and C. The production of the three flavours over a period of five years from 2010 to 2014 has been expressed in the given bar graph. Study the graph and answer the question that follows.

Production of three different flavours A, B and C (in lakh bottles) by a company over five years.



The difference between the average production of flavour A in 2012, 2013 and 2014 and the average production of flavour C in 2012, 2013 and 2014 is:

Ans
1. 10 lakh bottles
2. 12 lakh bottles
3. 18 lakh bottles
4. 15 lakh bottles ✔

Question ID : **6549787709**
Status : **Not Answered**
Chosen Option : **--**

Q.15 If $x - y = 4$ and $xy = 3$, then what is the value of $x^3 - y^3$?

Ans
1. 88
2. 28
3. 100 ✔
4. 64

Question ID : **6549788408**
Status : **Answered**
Chosen Option : **3**

Q.16 In a rectangular park having dimensions 60 m × 40 m, two circular flower beds with radius 7 m are developed. What is the area of the remaining portion of the park? $\left(Use\ \pi = \frac{22}{7}\right)$

Ans
1. $1196\ m^2$
2. $1749\ m^2$
3. $2092\ m^2$ ✔
4. $2246\ m^2$

Question ID : **6549788396**
Status : **Answered**
Chosen Option : **3**

Gagan Pratap Maths

Q.17 Joseph bought two woollen jackets for ₹2,100 and ₹3,150, respectively. By selling the first at a gain of k% and the second at a loss of k%, he found that the selling price of both is the same. What is the value of k?

Ans
✔ 1. 20
✘ 2. 22.64
✘ 3. 15
✘ 4. 25

Question ID : **6549788400**
Status : **Not Answered**
Chosen Option : **--**

Q.18 If the number 34k56k is divisible by 6, then what will be the largest value of k?

Ans
✔ 1. 6
✘ 2. 8
✘ 3. 9
✘ 4. 4

Question ID : **6549789218**
Status : **Answered**
Chosen Option : **1**

Q.19 Evaluate the following expression.

$$\frac{\tan^2 60° + \text{cosec}30° \sin 90° + 3\sec^2 30°}{4\sin^2 45° + \sec^2 60° - \cot^2 30° - 5\cos^2 90°}$$

Ans
✘ 1. $\frac{7}{3}$
✔ 2. 3
✘ 3. $\frac{19}{17}$
✘ 4. -12

Question ID : **6549789221**
Status : **Answered**
Chosen Option : **2**

Q.20 Two chords PQ and RS of a circle meet at A when produced. AT is a tangent to the circle meeting it at T. The ratio PA : SA is equal to which of the following?

Ans
✘ 1. RQ : QT
✘ 2. AQ : AT
✘ 3. AQ : QR
✔ 4. RA : AQ

Question ID : **6549788404**
Status : **Not Answered**
Chosen Option : **--**

Gagan Pratap Maths

Q.21 The average weight of 3 persons A, B and C is 60 kg. When D joins the group, the average weight becomes 65 kg. When another person E whose weight is 3 kg less than that of D replaces A, the average weight of B, C, D and E becomes 67 kg. What is the weight of A?

Ans

✗ 1. 60 kg

✓ 2. 69 kg

✗ 3. 72 kg

✗ 4. 65 kg

Question ID : **6549789205**
Status : **Answered**
Chosen Option : **2**

Q.22 In a triangle ABC, right-angled at C, if $\sec A = \frac{13}{5}$, then find the value of $\frac{1+\sin A}{\cos B}$.

Ans

✓ 1. $\frac{25}{12}$

✗ 2. $\frac{3}{2}$

✗ 3. $\frac{18}{5}$

✗ 4. 5

Question ID : **6549788412**
Status : **Answered**
Chosen Option : **1**

Q.23 Geeta can assemble a toy in 10 minutes, whereas Sudha can assemble the same toy in 15 minutes. If they work together, how much time will they take to assemble 60 toys?

Ans

✓ 1. 6 hours

✗ 2. 5 hours

✗ 3. 7 hours

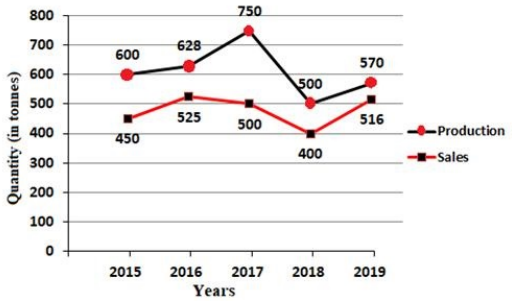
✗ 4. 7 hours 30 minutes

Question ID : **6549788394**
Status : **Not Answered**
Chosen Option : **--**

Gagan Pratap Maths

Q.24 The given line graph shows the production (in tonnes) and the sales (in tonnes) of a company.

How much more is the production in 2015 and 2017 taken together than the sales in 2016 and 2018 taken together (in tonnes)?



Ans

✔ 1. 425

✘ 2. 328

✘ 3. 434

✘ 4. 178

Question ID : **6549788415**
Status : **Not Answered**
Chosen Option : **--**

Q.25 If $\operatorname{cosec}^2\theta(\cos\theta - 1)(1 + \cos\theta) = k$, then what is the value of k?

Ans

✘ 1. 1

✔ 2. -1

✘ 3. $\frac{1}{2}$

✘ 4. 0

Question ID : **6549788414**
Status : **Answered**
Chosen Option : **1**

Gagan Pratap Maths

6 august 2nd shift

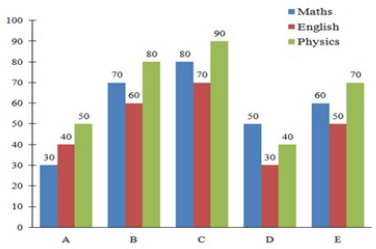
Section : **Quantitative Aptitude**

Q.1 A train is running at a speed of 99 km/h. If the train is 565 m long, then what will be the time (in seconds) taken by it to cross a 975 m long tunnel?

Ans
1. 54
2. 56 ✔
3. 40
4. 42

Question ID : **6549789708**
Status : **Answered**
Chosen Option : **2**

Q.2 Study the following graph and answer the question that follows.
Marks scored by five students in three subjects (Maths, English and Physics). Total marks for each subject are 100.



What is the difference between the total marks obtained by B and the total marks obtained by C?

Ans
1. 35
2. 25
3. 20
4. 30 ✔

Question ID : **6549789325**
Status : **Answered**
Chosen Option : **4**

Q.3 What is the area (in cm^2, correct to one decimal place) of a triangle whose base is 21.4 cm and height is 15.5 cm?

Ans
1. 165.9 ✔
2. 156.6
3. 165.6
4. 156.9

Question ID : **6549789718**
Status : **Answered**
Chosen Option : **1**

Gagan Pratap Maths

Q.4 A ladder 10 m long rests against a vertical wall making an angle of 30° with the wall. How high up (in m) does it reach the wall from the ground? (Take $\sqrt{3} = 1.73$.)

Ans
✔ 1. 8.65
✘ 2. 5.88
✘ 3. 5
✘ 4. 8.56

Question ID : **6549789726**
Status : **Answered**
Chosen Option : **1**

Q.5 Two numbers are in the ratio of 9 : 7. If the larger number is 56 more than one-seventh of the smaller, then what is the sum of the two numbers?

Ans
✘ 1. 72
✘ 2. 130
✔ 3. 112
✘ 4. 96

Question ID : **6549789714**
Status : **Answered**
Chosen Option : **3**

Q.6 What is the value of x if it is given that

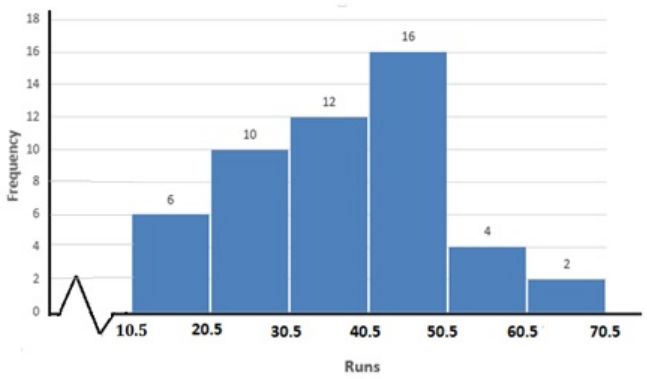
$$4\left\{2\left(\frac{3}{4} of\ 24 - 1\right) + 3(7 \div x) - 5 \times 8 + 1\right\} = 20^2\ ?$$

Ans
✘ 1. 0.625
✔ 2. 0.2
✘ 3. 0.75
✘ 4. 0.4

Question ID : **6549788815**
Status : **Answered**
Chosen Option : **2**

Gagan Pratap Maths

Q.7 The histogram given below presents the frequency distribution of average runs scored by 50 selected players from a district in local cricket tournament. Study the histogram and answer the question that follows.



How many players scored 30.5 runs or less?

Ans
1. 28
2. 34
3. 12
4. 16 ✔

Question ID : **6549788819**
Status : **Answered**
Chosen Option : **4**

Q.8 If the nine-digit number 87605x31y is divisible by 72, then the value of 2x−3y is:

Ans
1. 2 ✔
2. 1
3. 0
4. −1

Question ID : **6549789723**
Status : **Answered**
Chosen Option : **1**

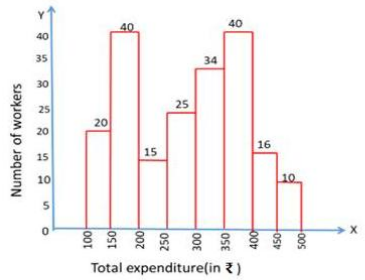
Q.9 One side of a rectangular field is 39 m and its diagonal is 89 m. What is the area of the field?

Ans
1. 2160 m^2
2. 3120 m^2 ✔
3. 3140 m^2
4. 2100 m^2

Question ID : **6549788800**
Status : **Answered**
Chosen Option : **2**

Gagan Pratap Maths

Q.10 The following histogram represents the distribution of total household expenditure (in ₹) of 200 manual workers in a city.



The number of workers whose total expenditure is ₹350 and above is what percentage less than the number of workers whose total expenditure is less than ₹250?

Ans

✗ 1. 15%

✓ 2. 12%

✗ 3. 14%

✗ 4. 10%

Question ID : **6549787912**
Status : **Answered**
Chosen Option : **2**

Q.11 The base of a triangle is equal to the perimeter of a square whose diagonal is $7\sqrt{2}$ cm and its height is equal to the side of a square whose area is 169 cm^2. The area (in cm^2) of the triangle is:

Ans

✓ 1. 182

✗ 2. 175

✗ 3. 156

✗ 4. 130

Question ID : **6549788810**
Status : **Answered**
Chosen Option : **1**

Q.12 A can do a piece of work in 12 days. He worked for 6 days and left, and then B finished it in 10 days. If both work together, then in how many days will they finish the same work?

Ans

✗ 1. 9.5

✗ 2. 9

✓ 3. 7.5

✗ 4. 7

Question ID : **6549788798**
Status : **Answered**
Chosen Option : **3**

Gagan Pratap Maths

Q.13 The 12% interest earned on a sum of money of ₹2,60,000 is to be used for awarding 24 scholarships of equal value every year in a school. What is the value (in ₹) of each scholarship?

Ans
✔ 1. 1,300
✘ 2. 1,150
✘ 3. 1,200
✘ 4. 1,250

Question ID : **6549789715**
Status : **Answered**
Chosen Option : **1**

Q.14 Two numbers are less than a third number by 37% and 30%, respectively. By what percentage is the second number more than the first?

Ans
✔ 1. $\frac{100}{9}$
✘ 2. $\frac{10}{9}$
✘ 3. 10
✘ 4. $\frac{100}{3}$

Question ID : **6549789712**
Status : **Answered**
Chosen Option : **1**

Q.15 If a person sells a ceiling fan for ₹557.75, then he gets a 15% profit. To get a 20% profit, at what amount should he sell the fan?

Ans
✘ 1. ₹572
✘ 2. ₹589
✘ 3. ₹596
✔ 4. ₹582

Question ID : **6549788804**
Status : **Answered**
Chosen Option : **4**

Q.16 If $\left(x^2 + \frac{1}{49x^2}\right) = 15\frac{5}{7}$, then what is the value of $\left(x + \frac{1}{7x}\right)$?

Ans
✘ 1. 7
✘ 2. ± 7
✔ 3. ± 4
✘ 4. 4

Question ID : **6549789720**
Status : **Answered**
Chosen Option : **3**

Gagan Pratap Maths

Q.17 If $\sin\theta + cosec\,\theta = 7$, then what is the value of $sin^3\theta + cosec^3\theta$?

Ans
1. 350
2. 382
3. 322 ✔
4. 367

Question ID : **6549788818**
Status : **Answered**
Chosen Option : **3**

Q.18 If $a + b + c = 2$ and $ab + bc + ca = -1$, then the value of $a^3 + b^3 + c^3 - 3abc$ is:

Ans
1. 14 ✔
2. 2
3. 5
4. 10

Question ID : **6549788813**
Status : **Answered**
Chosen Option : **1**

Q.19 By selling a pen for ₹26, a man loses one-fourteenth of what it costs him. The cost price of the pen is:

Ans
1. ₹27
2. ₹39
3. ₹38
4. ₹28 ✔

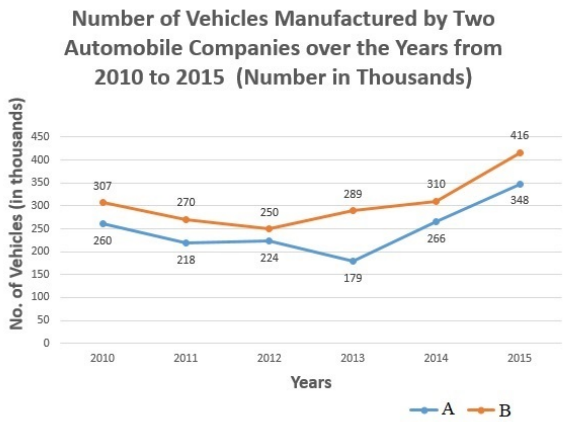
Question ID : **6549788802**
Status : **Answered**
Chosen Option : **4**

Gagan Pratap Maths

Q.20 Study the line graph and answer the question that follows.

The line graph represents the number of vehicles (in thousands) manufactured by two automobile companies A and B over the years from 2010 to 2015. The X-axis represents the years and the Y-axis represents number of vehicles in thousands.

(The data shown here is only for mathematical exercise. They do not represent the actual figures of the country.)



Company B is projecting an increase in the number of vehicles to be manufactured in 2016 by 70% with respect to its average number of vehicles from 2010 to 2015. What should be the approximate percentage increase in the number of vehicles (in thousands) to be manufactured by Company A in 2016 with respect to the number of vehicles in 2015, so that it is at par with Company B?

Ans

✗ 1. 57

✗ 2. 42

✓ 3. 50

✗ 4. 45

Question ID : **6549789731**
Status : **Not Answered**
Chosen Option : **--**

Q.21 Points A, B, C and D are concyclic points of a circle with centre O, such that $\angle DOC = 73°$. The measure of $\angle ABC$ is 215°. What is the measure of $\angle AOD$?

Ans

✗ 1. 145°

✗ 2. 273°

✗ 3. 87°

✓ 4. 72°

Question ID : **6549789716**
Status : **Not Answered**
Chosen Option : **--**

Gagan Pratap Maths

Q.22 There are 90 students in a hostel. Due to new admissions, 30 new students join the mess and the daily expenses of the mess increases by ₹560, while the average expenditure per head diminishes by ₹10. What was the original daily expenditure (in ₹) of the mess?

Ans
✗ 1. 4,280
✓ 2. 5,280
✗ 3. 3,680
✗ 4. 4,980

Question ID : **6549789710**
Status : **Answered**
Chosen Option : **2**

Q.23 The angle of elevation of a ladder against a wall is 45°. The length of the ladder is 12 m. What is the distance between the wall and the foot of the ladder?

Ans
✗ 1. $4\sqrt{3}$ m
✓ 2. $6\sqrt{2}$ m
✗ 3. $3\sqrt{2}$ m
✗ 4. $5\sqrt{3}$ m

Question ID : **6549788816**
Status : **Answered**
Chosen Option : **2**

Q.24 In a circle with center O, APB is a tangent at P. If MN is a diameter such that $\angle BPN = 52°$, then what is the measure of $\angle PNM$?

Ans
✓ 1. 38°
✗ 2. 48°
✗ 3. 52°
✗ 4. 90°

Question ID : **6549788808**
Status : **Answered**
Chosen Option : **1**

Q.25 If $(2a+3b)(2c-3d) = (2a-3b)(2c+3d)$, then:

Ans
✗ 1. $\frac{a}{b} = \frac{d}{c}$
✓ 2. $\frac{a}{b} = \frac{c}{d}$
✗ 3. $\frac{a}{d} = \frac{c}{b}$
✗ 4. $\frac{b}{a} = \frac{c}{d}$

Question ID : **6549788812**
Status : **Answered**
Chosen Option : **2**

Gagan Pratap Maths

6 August 3rd shift

Q.1 If the simple interest on a certain sum of money borrowed for 4 years at 9.5% per annum exceeds the simple interest on the same sum for 3 years at 12.5% per annum by ₹225, then the sum borrowed is:

Ans
1. ₹35,000
2. ₹45,000
3. ₹48,000
4. ₹42,000

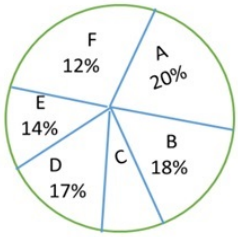
Question ID : **6549787695**
Status : **Answered**
Chosen Option : **3**

Q.2 Suman and Lata working together can complete a task in 8 days. If Lata can complete the same task in 12 days, then how many days will Suman take to complete the same task?

Ans
1. 18
2. 15
3. 10
4. 24

Question ID : **6549789404**
Status : **Answered**
Chosen Option : **4**

Q.3 The following pie chart represents the percentage-wise distribution of 300 students of class X in a school in six different sections A, B, C, D, E and F.



The given table shows the number of boys of class X in six different sections A, B, C, D, E and F.

Section	A	B	C	D	E	F
No. of boys	36	26	34	28	------	20

The total number of boys in sections A, B and D together is what percentage more than the total number of girls in sections A, B and D together?

Ans
1. 18%
2. 30%
3. 15%
4. 20%

Question ID : **6549787711**
Status : **Answered**
Chosen Option : **4**

Gagan Pratap Maths

Q.4 If the adjacent sides of a rectangle whose perimeter is 60 cm are in the ratio 3 : 2, then what will be the area of the rectangle?

Ans

✗ 1. $300\ cm^2$

✓ 2. $216\ cm^2$

✗ 3. $60\ cm^2$

✗ 4. $864\ cm^2$

Question ID : **6549789406**
Status : **Answered**
Chosen Option : **2**

Q.5 The circumference of a circle is 'aπ' units and the area of the circle is 'bπ' square units. If a : b is equal to 4 : 5, then the radius of the circle is:

Ans

✗ 1. 3 cm

✓ 2. 2.5 cm

✗ 3. 5 cm

✗ 4. 2 cm

Question ID : **6549787696**
Status : **Answered**
Chosen Option : **2**

Q.6 If $x + \frac{81}{x} = 18$ where $x > 0$, then the value of $x^2 + \frac{162}{x^2}$ is:

Ans

✗ 1. 78

✓ 2. 83

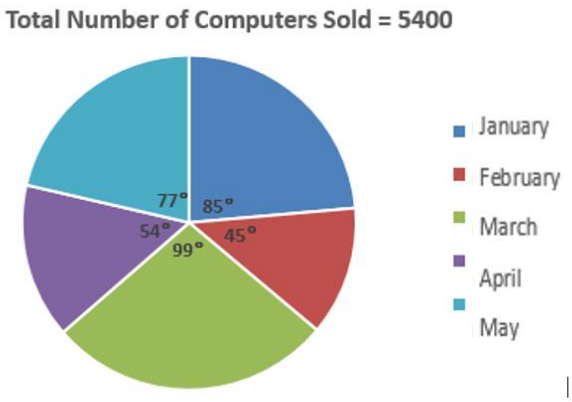
✗ 3. 85

✗ 4. 81

Question ID : **6549787700**
Status : **Not Answered**
Chosen Option : **--**

Gagan Pratap Maths

Q.7 Study the given pie chart and answer the question that follows.
The pie chart shows the distribution (degree wise) of the number of computers sold by a shopkeeper during five months.



By what percentage is the total number of computers sold in February and March more than the number of computers sold in April and May (correct to one decimal place)?

Ans
✗ 1. 11.5%
✓ 2. 9.9%
✗ 3. 10.6%
✗ 4. 8.8%

Question ID : **6549786902**
Status : **Answered**
Chosen Option : **2**

Q.8 Mohan takes 2 hours more than Kishore to walk 63 km. If Mohan increases his speed by 50%, then he can make it in 1 hour less than Kishore. How much time does Kishore take to walk 63 km?

Ans
✓ 1. 7 hours
✗ 2. 9 hours
✗ 3. 6 hours
✗ 4. 5 hours

Question ID : **6549787688**
Status : **Answered**
Chosen Option : **1**

Q.9 Points D, E and F are on the sides AB, BC and AC, respectively, of triangle ABC such that AE, BF and CD bisect $\angle A$, $\angle B$ and $\angle C$, respectively. If AB = 6 cm, BC = 7 cm and AC = 8 cm, then what will be the length of BE?

Ans
✗ 1. 4 cm
✓ 2. 3 cm
✗ 3. 3.6 cm
✗ 4. 3.5 cm

Question ID : **6549789416**
Status : **Answered**
Chosen Option : **3**

Gagan Pratap Maths

Q.10 If the angle between the internal bisectors of two angles $\angle B$ and $\angle C$ of a triangle ABC is $125°$, then the value of $\angle A$ is:

Ans

✗ 1. $65°$

✓ 2. $70°$

✗ 3. $72°$

✗ 4. $62°$

Question ID : **6549787698**
Status : **Not Answered**
Chosen Option : **--**

Q.11 If $3\cot A = 4\tan A$ and A is an acute angle, then what will be the value of $\sec A$?

Ans

✓ 1. $\frac{\sqrt{7}}{2}$

✗ 2. $\frac{\sqrt{21}}{3}$

✗ 3. $\frac{1}{\sqrt{3}}$

✗ 4. $\frac{1}{2}$

Question ID : **6549789424**
Status : **Answered**
Chosen Option : **1**

Q.12 The present population of a village (males and females) is 7640. If the number of males increases by 25% and the number of females increases by 15%, then the population will become 9214. The difference between the present population of males and females in the village is:

Ans

✗ 1. 820

✗ 2. 960

✗ 3. 940

✓ 4. 920

Question ID : **6549787692**
Status : **Not Answered**
Chosen Option : **--**

Q.13 What is the value of $\frac{\cos^2 20° + \cos^2 70°}{\sin^2 90°} - \tan^2 45°$?

Ans

✓ 1. 0

✗ 2. 1

✗ 3. -2

✗ 4. -1

Question ID : **6549789422**
Status : **Answered**
Chosen Option : **1**

Gagan Pratap Maths

Q.14 Two positive numbers are in the ratio 8 : 13. If the sum of their squares is 2097, then the sum of the two numbers is:

Ans

✗ 1. 65

✓ 2. 63

✗ 3. 64

✗ 4. 60

Question ID : **6549787694**
Status : **Answered**
Chosen Option : **2**

Q.15 When a positive integer $'n'$ is divided by 12, the remainder is 5. What will be the remainder if $8n^2 + 7$ is divided by 12?

Ans

✗ 1. 2

✗ 2. 5

✓ 3. 3

✗ 4. 4

Question ID : **6549787703**
Status : **Answered**
Chosen Option : **3**

Q.16 Simplify the following expression.

$$\frac{3\frac{2}{3} - 5\frac{7}{9} \div \frac{1}{3} \times 1\frac{2}{13}}{\frac{2}{3} of\ 1\frac{1}{3} \div \frac{1}{3}}$$

Ans

✗ 1. $-2\frac{77}{104}$

✗ 2. $-29\frac{2}{5}$

✓ 3. $-6\frac{1}{8}$

✗ 4. $-14\frac{1}{4}$

Question ID : **6549789421**
Status : **Answered**
Chosen Option : **4**

Gagan Pratap Maths

Q.17 A customer availed a 10% discount on the purchase of a table and paid ₹4,950 for it. How much money would he have saved if he had bargained to get 12% discount?

Ans

✗ 1. ₹660

✗ 2. ₹99

✗ 3. ₹108.90

✓ 4. ₹110

Question ID : **6549789408**
Status : **Answered**
Chosen Option : **4**

Q.18 If $x - \frac{1}{x} = 2\sqrt{2}$, then what will be the value of $x^3 - \frac{1}{x^3}$?

Ans

✓ 1. $22\sqrt{2}$

✗ 2. $12\sqrt{2}$

✗ 3. $10\sqrt{2}$

✗ 4. $20\sqrt{2}$

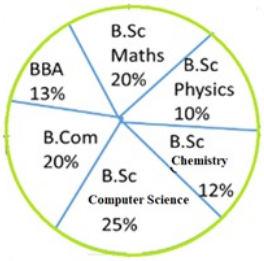
Question ID : **6549789418**
Status : **Answered**
Chosen Option : **1**

Gagan Pratap Maths

Q.19 Study the given pie chart and answer the question that follows.

Total number of students admitted in a college = 700.

Distribution of the percentage of students in various courses.



Percentage-wise distribution of the number of boys.

Course	Number of boys
B.Sc. Maths	40%
B.Sc. Physics	68%
B.Sc. Chemistry	58%
B.Sc. Computer Science	80%
B.Com.	75%
BBA	65%

The difference between the number of boys and the number of girls admitted in B.Com. is:

Ans

✗ 1. 65

✓ 2. 70

✗ 3. 75

✗ 4. 60

Question ID : **6549789628**
Status : **Not Answered**
Chosen Option : **--**

Q.20 If $x^4 - 12x^2 + 1 = 0$, then what will be the value of $x^4 + \frac{1}{x^4}$?

Ans

✓ 1. 142

✗ 2. 146

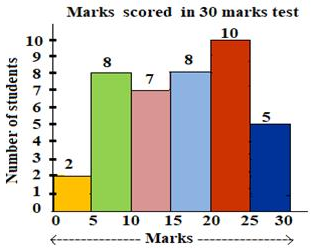
✗ 3. 10

✗ 4. 144

Question ID : **6549789419**
Status : **Answered**
Chosen Option : **1**

Gagan Pratap Maths

Q.21 The histogram shows the marks scored by 40 students in a test with maximum 30 marks. How many students scored 10 or more marks?



Ans

✗ 1. 10

✓ 2. 30

✗ 3. 38

✗ 4. 23

Question ID : **6549789425**
Status : **Not Answered**
Chosen Option : **--**

Q.22 Amit purchased stationery marked for ₹8,000 at 12% discount and spent ₹160 on transportation. He sold the stationery at the marked price. Find his profit percentage.

Ans

✗ 1. 10

✗ 2. 12

✗ 3. $12\frac{1}{2}$

✓ 4. $11\frac{1}{9}$

Question ID : **6549789410**
Status : **Answered**
Chosen Option : **3**

Q.23 Chord AB of a circle with radius 5 cm is at a distance of 4 cm from the centre O. If tangents drawn at A and B intersect at P, then find the length of the tangent AP.

Ans

✗ 1. 7.5 cm

✓ 2. 3.75 cm

✗ 3. 3 cm

✗ 4. 2.4 cm

Question ID : **6549789414**
Status : **Not Answered**
Chosen Option : **--**

Gagan Pratap Maths

Q.24 If $\frac{\sin^2\theta}{\tan^2\theta-\sin^2\theta}=5$, then the value of $\frac{24\cos^2\theta-15\sec^2\theta}{6\operatorname{cosec}^2\theta-7\cot^2\theta}$ is:

Ans

✗ 1. 6

✓ 2. 2

✗ 3. 4

✗ 4. 1

Question ID : **6549787706**
Status : **Not Answered**
Chosen Option : **--**

Q.25 The average of the squares of four consecutive odd natural numbers is 201. The average of 7 times of the largest number and 3 times of the smallest number is:

Ans

✗ 1. 72

✗ 2. 78

✓ 3. 76

✗ 4. 66

Question ID : **6549787690**
Status : **Not Answered**
Chosen Option : **--**

Gagan Pratap Maths

9 August 1st shift

Gagan Pratap M

Section : **Quantitative Aptitude**

Q.1 If $71^{83} + 73^{83}$ is divided by 36, the remainder is:

Ans
✔ 1. 0
✘ 2. 8
✘ 3. 9
✘ 4. 13

Question ID : **6549788612**
Status : **Answered**
Chosen Option : **1**

Q.2 A shopkeeper marks his goods at a price such that after giving a discount of 20 % , he gains 25 % . If the cost price of the article is ₹560, what will be its marked price (in ₹)?

Ans
✘ 1. 914
✔ 2. 875
✘ 3. 856
✘ 4. 765

Question ID : **6549786176**
Status : **Answered**
Chosen Option : **2**

Q.3 If $\frac{cot\theta+cos\theta}{cot\theta-cos\theta}=\frac{k+1}{1-k}, k \neq 1$, then k is equal to:

Ans

✔ 1. $sin\theta$

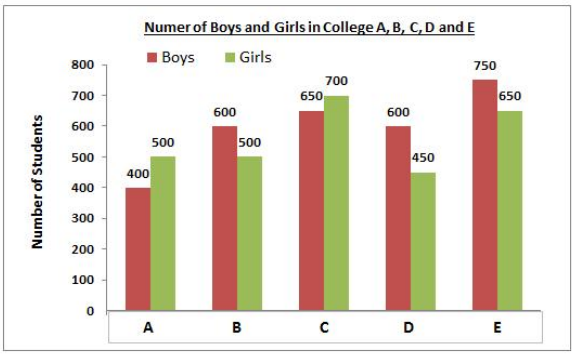
✘ 2. $cosec\theta$

✘ 3. $cos\theta$

✘ 4. $sec\theta$

Question ID : **6549786190**
Status : **Not Answered**
Chosen Option : **--**

Q.4 Study the given bargraph and answer the question that follows.



What is the ratio of the boys taken together in colleges A, B and C to the girls taken together in all 5 colleges?

Ans

✘ 1. 35 : 61

✔ 2. 33 : 56

✘ 3. 37 : 59

✘ 4. 31 : 56

Question ID : **6549786193**
Status : **Answered**
Chosen Option : **2**

Q.5 40 persons take 6 days to complete a certain task, working 10 hours a day. How many hours a day will be sufficient for 30 persons to complete the same task in 10 days?

Ans

✘ 1. 9

✔ 2. 8

✘ 3. 10

✘ 4. 6

Question ID : **6549786172**
Status : **Answered**
Chosen Option : **2**

Gagan Pratap Maths

Q.6 If $\sqrt{13}\sin\theta = 2$, then the value of $\frac{3\tan\theta + \sqrt{13}\sin\theta}{\sqrt{13}\cos\theta - 3\tan\theta}$ is:

Ans
1. 5 ✗
2. 4 ✓
3. 3 ✗
4. $\frac{1}{2}$ ✗

Question ID : **6549788615**
Status : **Answered**
Chosen Option : **2**

Q.7 If $cos^2\theta - sin^2\theta - 3cos\theta + 2 = 0$, $0° < \theta < 90°$, then what will be the value of $sec\theta - cos\theta$?

Ans
1. $\frac{4}{3}$ ✗
2. $\frac{1}{2}$ ✗
3. $\frac{3}{2}$ ✓
4. $\frac{2}{3}$ ✗

Question ID : **6549786192**
Status : **Answered**
Chosen Option : **3**

Q.8 If $x + 2y = 19$ and $x^3 + 8y^3 = 361$, then xy is equal to:

Ans
1. 57 ✓
2. 56 ✗
3. 55 ✗
4. 58 ✗

Question ID : **6549788609**
Status : **Answered**
Chosen Option : **1**

Q.9 The perimeter of a right-angled triangle whose sides that make right angles are 15 cm and 20 cm is:

Ans
1. 60 cm ✓
2. 50 cm ✗
3. 70 cm ✗
4. 40 cm ✗

Question ID : **6549788607**
Status : **Answered**
Chosen Option : **1**

Gagan Pratap Maths

Q.10 The compound interest on a certain sum of money for 3 years, compounded annually, at a rate of interest of 10% per annum is ₹1,324. The sum is:

Ans

✗ 1. ₹5,500

✗ 2. ₹4,500

✓ 3. ₹4,000

✗ 4. ₹5,000

Question ID : **6549788604**
Status : **Not Answered**
Chosen Option : **--**

Q.11 Study the given pie charts and answer the question that follows.
The pie charts represent the distribution of candidates who were enrolled for Bank Clerical Examination Fig (i) and the candidates (out of those enrolled) who passed the examination Fig (ii) in five different institutes P, Q, R, S and T.
(I) Total number of candidates enrolled in five different institutes = 5500

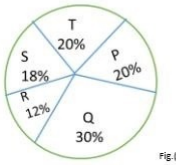


Fig.(i)

(II) Total number of candidates who passed the examination from five institutes = 3300

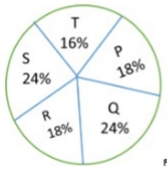


Fig.(ii)

The percentage of the candidates who passed to the number of candidates enrolled for institutes P and T together is:

Ans

✗ 1. 54%

✓ 2. 51%

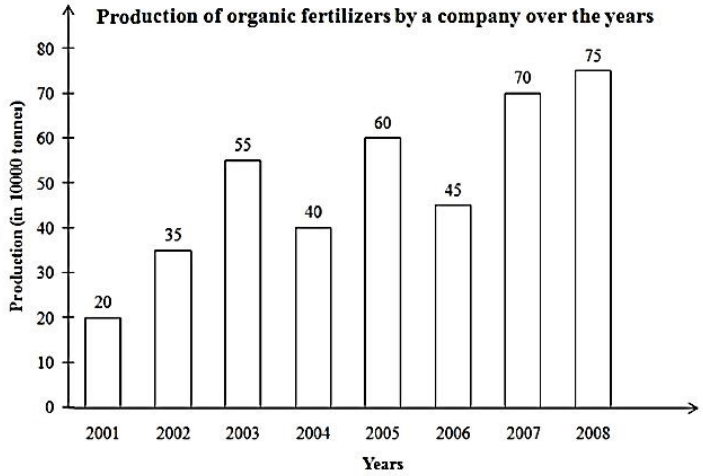
✗ 3. 50%

✗ 4. 52%

Question ID : **6549787406**
Status : **Answered**
Chosen Option : **2**

Gagan Pratap Maths

Q.12 Study the given bar graph and answer the question that follows.



In which year was the percentage increase in production as compared to the previous year, the maximum?

Ans

✔ 1. 2002

✘ 2. 2005

✘ 3. 2007

✘ 4. 2008

Question ID : **6549788620**
Status : **Answered**
Chosen Option : **1**

Q.13 X sells an article to Y at 12% loss. Y sells it to Z at 9% profit. If Z pays ₹21,582 for it, then at what price (in ₹) was the article purchased by X?

Ans

✘ 1. 19,800

✘ 2. 23,275

✔ 3. 22,500

✘ 4. 21,000

Question ID : **6549786178**
Status : **Answered**
Chosen Option : **3**

Q.14 If $(3x+2y)^3+(3x-2y)^3=3kx(3x^2+4y^2)$, then the value of k will be:

Ans

✘ 1. 18

✘ 2. 9

✘ 3. 3

✔ 4. 6

Question ID : **6549786186**
Status : **Not Answered**
Chosen Option : **--**

Gagan Pratap Maths

Q.15 The value of $42 \div 10 - \left(\frac{7}{4} \times \frac{1}{3}\right) of \frac{6}{5} + \frac{16}{3} \times \frac{9}{10} - \left(\frac{1}{6} \div \frac{1}{36}\right)$ is:

Ans
1. 1.7
2. 2.9
3. 1.5
4. 2.3 ✔

Question ID : **6549786189**
Status : **Answered**
Chosen Option : **4**

Q.16 A solid cube having volume 46656 cm^3 is cut into 27 cubes of equal volume. The surface area (in cm^2) of the smaller cubes is:

Ans
1. 864 ✔
2. 756
3. 936
4. 921

Question ID : **6549786174**
Status : **Not Answered**
Chosen Option : **--**

Q.17 If $27x^3 - 64y^3 = (Ax + By)(Cx^2 + Dy^2 - Exy)$, then value of $(A - B + C - D + E)$ will be:

Ans
1. -12 ✔
2. 18
3. 15
4. -20

Question ID : **6549786187**
Status : **Answered**
Chosen Option : **1**

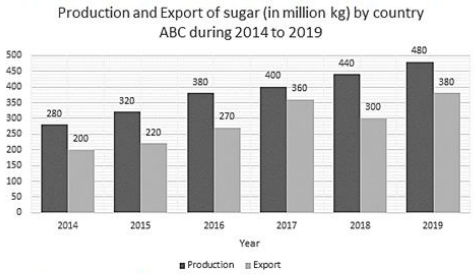
Q.18 A circle touches the side BC of ΔABC at P and also touches AB and AC produced at Q and R, respectively. If the perimeter of $\Delta ABC = 14.1$ cm, then the length (in cm) of AQ will be:

Ans
1. 10.3
2. 7.05 ✔
3. 6.25
4. 9.15

Question ID : **6549786182**
Status : **Not Answered**
Chosen Option : **--**

Gagan Pratap Maths

Q.19 Study the given graph and answer the question that follows.



For which of the following years was the increase in the production of sugar as compared to that in its preceding year between 8% and 10%?

Ans

✗ 1. 2018

✗ 2. 2017

✓ 3. 2019

✗ 4. 2015

Question ID : **6549788013**
Status : **Not Answered**
Chosen Option : **--**

Q.20 In a proportion, the product of the first and fourth terms is 70 and that of the second and third terms is 3.5y. The value of y is:

Ans

✗ 1. 17

✓ 2. 20

✗ 3. 15

✗ 4. 22

Question ID : **6549788603**
Status : **Answered**
Chosen Option : **2**

Q.21 Two circles touch each other externally. The distance between their centres is 14 cm. If the radius of one circle is 8 cm, then the radius of the other circle is:

Ans

✗ 1. 7 cm

✓ 2. 6 cm

✗ 3. 5 cm

✗ 4. 8 cm

Question ID : **6549788605**
Status : **Answered**
Chosen Option : **2**

Gagan Pratap Maths

Q.22 The average of 42 numbers is 37. The average of the first 26 numbers is 32, and the average of the last 17 numbers is 44. The 26th number is:

Ans
1. 28
2. 27
3. 26 ✔
4. 25

Question ID : **6549788599**
Status : **Not Answered**
Chosen Option : **--**

Q.23 Dimple is travelling at a speed of 90 km per hour on a highway, while Sachin is travelling at a speed of 108 km per hour. What is the difference in their speeds, in metres per second?

Ans
1. 5 ✔
2. 3
3. 4
4. 6

Question ID : **6549788597**
Status : **Not Answered**
Chosen Option : **--**

Q.24 In $\Delta ABC, D$ and E are the points on the sides AB and AC, respectively such that $\angle AED = \angle ABC$. If $AE = 6$ cm, $BD = 2$ cm, $DE = 3$ cm and $BC = 5$ cm, then $(AB + AC)$ is equal to:

Ans
1. $\frac{86}{3}$ cm
2. $\frac{49}{3}$ cm
3. $\frac{50}{3}$ cm
4. $\frac{70}{3}$ cm ✔

Question ID : **6549786184**
Status : **Not Answered**
Chosen Option : **--**

Q.25 Gaurav earns ₹800 per day. After some weeks, he earns ₹960 per day. What is the percentage increase in his daily earnings?

Ans
1. 18%
2. 20% ✔
3. 16%
4. 14%

Question ID : **6549788601**
Status : **Not Answered**
Chosen Option : **--**

Section : **General Awareness**

Gagan Pratap Maths

9 August 2nd shift

Section : **Quantitative Aptitude**

Q.1 Suresh purchased a computer table for ₹9,000 and a centre table for ₹4,000. He sold the computer table with 8% profit. With what profit percentage should he sell the centre table so as to gain 10% on the whole transaction?

Ans

✗ 1. 15

✗ 2. 12

✗ 3. 14

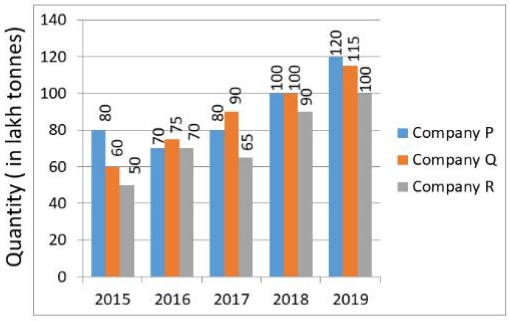
✓ 4. 14.5

Question ID : **6549789208**
Status : **Answered**
Chosen Option : **4**

Gagan Pratap Maths

Q.2 Study the given bar graph and answer the question that follows.

The bar graph indicates the production of sugar (in lakh tonnes) by three different sugar companies P, Q and R over the years 2015 to 2019.



The percentage rise in the production of sugar by company Q as compared to the previous year is the maximum in the year:

Ans

✗ 1. 2017

✗ 2. 2019

✓ 3. 2016

✗ 4. 2018

Question ID : **6549787206**
Status : **Answered**
Chosen Option : **3**

Q.3 The simple interest on a certain sum of money for 5 years at the rate of 10% per annum is half the compound interest on ₹5,000 for 2 years at the rate of 10% per annum, interest compounded yearly. The sum placed on simple interest is:

Ans

✗ 1. ₹1,450

✓ 2. ₹1,050

✗ 3. ₹1,500

✗ 4. ₹1,540

Question ID : **6549787190**
Status : **Answered**
Chosen Option : **2**

Q.4 If the number 645A2879B8 is divisible by both 8 and 9, then the smallest possible values of A and B will be:

Ans

✗ 1. A = 3, B = 4

✗ 2. A = 4, B = 3

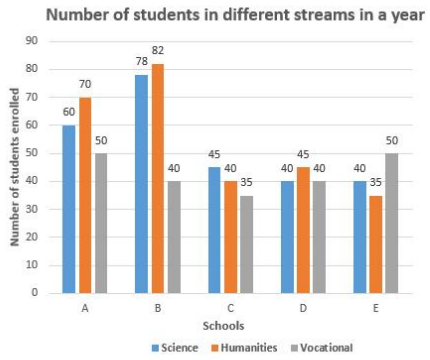
✗ 3. A = 2, B = 3

✓ 4. A = 3, B = 2

Question ID : **6549787198**
Status : **Answered**
Chosen Option : **4**

Gagan Pratap Maths

Q.5 The number of students enrolled in different streams at Senior Secondary level in five schools is shown in the bar graph.



In which school is the number of students the least?

Ans

✔ 1. C

✘ 2. E

✘ 3. D

✘ 4. A

Question ID : **6549789223**
Status : **Answered**
Chosen Option : **1**

Q.6 If $(40\sqrt{5}x^3 - 2\sqrt{2}y^3) \div (2\sqrt{5}x - \sqrt{2}y) = Ax^2 + By^2 - Cxy$, then find the value of $A + 3B - \sqrt{10}C$.

Ans

✘ 1. 34

✔ 2. 46

✘ 3. 6

✘ 4. 28

Question ID : **6549789217**
Status : **Answered**
Chosen Option : **2**

Q.7 A shopkeeper offers successive discounts of 35%, 10% and 6% on every item. At what price (nearest to a rupee) customers can get an item marked for ₹1,000?

Ans

✘ 1. ₹562

✔ 2. ₹550

✘ 3. ₹450

✘ 4. ₹645

Question ID : **6549789206**
Status : **Not Attempted and Marked For Review**
Chosen Option : **--**

Gagan Pratap Maths

Q.8 If $x^4 + \frac{1}{x^4} = 1154$, $x > 0$, then what will be the value of $x + \frac{1}{x}$?

Ans

✗ 1. $\sqrt{34}$

✗ 2. 18

✗ 3. $\sqrt{32}$

✓ 4. 6

Question ID : **6549789216**
Status : **Answered**
Chosen Option : **4**

Q.9 If $\frac{\operatorname{cosec}^2\theta}{\operatorname{cosec}^2\theta - \cot^2\theta} = \frac{13}{4}$, $0° < \theta < 90°$, then the value of $\frac{52\cos^2\theta - 9\tan^2\theta}{18\sec^2\theta + 8\cot^2\theta}$ will be:

Ans

✗ 1. $\frac{4}{11}$

✓ 2. $\frac{8}{11}$

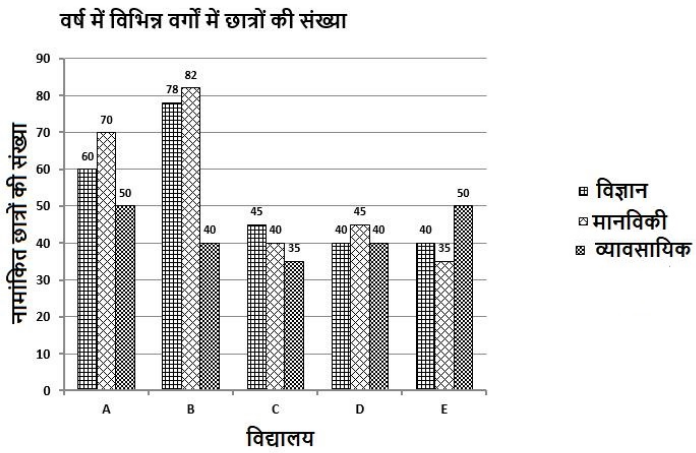
✗ 3. $\frac{8}{13}$

✗ 4. $\frac{5}{11}$

Question ID : **6549787201**
Status : **Answered**
Chosen Option : **2**

Gagan Pratap Maths

Q.10 पांच स्कूलों में उच्चतर माध्यमिक स्तर की विभिन्न शाखाओं में नामांकित छात्रों की संख्या को दंड आलेख (bar graph) में दर्शाया गया है।



स्कूल A में विज्ञान शाखा में नामांकित छात्रों की संख्या, सभी पांच स्कूलों में सभी शाखाओं में छात्रों की कुल संख्या का कितना प्रतिशत है?

Ans

✗ 1. 8.57

✓ 2. 8

✗ 3. 7.5

✗ 4. 6

Question ID : **6549789527**
Status : **Answered**
Chosen Option : **2**

Q.11 Simplify the following expression.

$$\frac{52 + 1170 \div 26 + 13 \times 2}{2 + 1\frac{1}{8} \text{ of } 2 - 1\frac{1}{4}}$$

Ans

✗ 1. $61\frac{1}{2}$

✗ 2. $24\frac{5}{6}$

✗ 3. $37\frac{1}{3}$

✓ 4. 41

Question ID : **6549789219**
Status : **Answered**
Chosen Option : **4**

Gagan Pratap Maths

Q.12 If $5\cos\theta = 4\sin\theta, 0° \leq \theta \leq 90°$, then what will be the value of $\sec\theta$?

Ans

✗ 1. $\frac{\sqrt{41}}{5}$

✗ 2. $\frac{3}{5}$

✗ 3. $\frac{\sqrt{41}}{16}$

✓ 4. $\frac{\sqrt{41}}{4}$

Question ID : **6549789222**
Status : **Answered**
Chosen Option : **4**

Q.13 If $x + y = 27$ and $x^2 + y^2 = 425$, then the value of $(x - y)^2$ will be:

Ans

✗ 1. 225

✗ 2. 169

✓ 3. 121

✗ 4. 144

Question ID : **6549787195**
Status : **Answered**
Chosen Option : **3**

Q.14 AB is the diameter of a circle of radius 9 cm. PQ is a chord (not a diameter) that intersects AB at M perpendicularly. If AM : BM = 5 : 4, then the length of chord PQ will be:

Ans

✗ 1. $5\sqrt{5}$ cm

✗ 2. $6\sqrt{5}$ cm

✗ 3. $6\sqrt{3}$ cm

✓ 4. $8\sqrt{5}$ cm

Question ID : **6549787191**
Status : **Not Answered**
Chosen Option : **--**

Gagan Pratap Maths

Q.15 The speed of a car is 40% more than that of a bus. A train covers 1020 km in $8\frac{1}{2}$ hours. How much distance will the car cover in $1\frac{3}{4}$ hours if the speed of the bus is half the speed of the train?

Ans

✗ 1. 164 km

✗ 2. 145 km

✓ 3. 147 km

✗ 4. 174 km

Question ID : **6549787183**
Status : **Answered**
Chosen Option : **3**

Q.16 In a right-angled triangle ABC right angled at C, sin A = sin B. What is the value of cos A?

Ans

✗ 1. $\frac{\sqrt{3}}{2}$

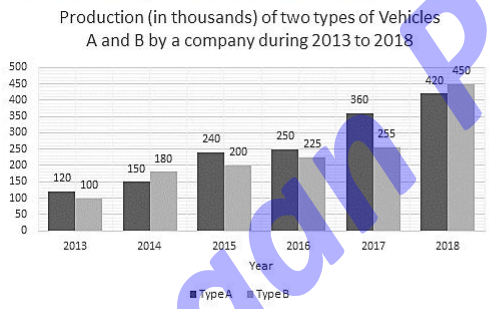
✗ 2. 1

✓ 3. $\frac{1}{\sqrt{2}}$

✗ 4. $\frac{1}{2}$

Question ID : **6549789220**
Status : **Answered**
Chosen Option : **3**

Q.17 Study the given graph and answer the question that follows.



By what percentage (approximately) is the average number of vehicles of type B produced in 2014, 2016 and 2018 less than the number of vehicles of type A produced in 2017?

Ans

✗ 1. 21.4

✗ 2. 18.6

✓ 3. 20.8

✗ 4. 23.6

Question ID : **6549786699**
Status : **Answered**
Chosen Option : **1**

Gagan Pratap Maths

Q.18 If two numbers are in the ratio 4 : 7 and the sum of their cubes is 407000, then the greater number will be:

Ans
✔ 1. 70
✘ 2. 63
✘ 3. 84
✘ 4. 77

Question ID : **6549787189**
Status : **Answered**
Chosen Option : **1**

Q.19 The average pass percentage of girls in class X examination in a school is 85% and that of boys is 83%. The average pass percentage of all boys and girls in class X of that school is 83.7%. Find the percentage of the number of girls in class X of that school.

Ans
✔ 1. 35%
✘ 2. 30%
✘ 3. 45%
✘ 4. 40%

Question ID : **6549787185**
Status : **Answered**
Chosen Option : **1**

Q.20 AB is 12 cm long chord of a circle with centre O and radius 10 cm. The tangents at A and B intersect at P. What is the length of OP?

Ans
✔ 1. 12.5 cm
✘ 2. 12 cm
✘ 3. 10 cm
✘ 4. $2\sqrt{61}$ cm

Question ID : **6549789212**
Status : **Not Answered**
Chosen Option : **--**

Q.21 A square park has been divided into two rectangles of equal area. If the perimeter of each of these rectangles is 39 m, then what will be the perimeter of the square park?

Ans
✘ 1. 104 m
✘ 2. 39 m
✘ 3. 78 m
✔ 4. 52 m

Question ID : **6549789204**
Status : **Not Answered**
Chosen Option : **--**

Gagan Pratap Maths

Q.22 If the perimeter of an isosceles right triangle is $15(\sqrt{2}+1)$ cm, then the area of the triangle will be:

Ans

✗ 1. $46.5\ cm^2$

✗ 2. $45\ cm^2$

✓ 3. $56.25\ cm^2$

✗ 4. $55\ cm^2$

Question ID : **6549787193**
Status : **Not Answered**
Chosen Option : **--**

Q.23 A circle is inscribed in a right-angled triangle. The lengths of the two sides containing the right angle are 15 cm and 8 cm. What is the radius of the in-circle?

Ans

✗ 1. 4.5 cm

✓ 2. 3 cm

✗ 3. 3.75 cm

✗ 4. 4 cm

Question ID : **6549789214**
Status : **Not Answered**
Chosen Option : **--**

Q.24 A can complete a task in 6 days, while B can complete the same task in 12 days. How many days will they take to complete the same task if they work together?

Ans

✗ 1. 5

✓ 2. 4

✗ 3. $4\frac{1}{2}$

✗ 4. 3

Question ID : **6549789202**
Status : **Answered**
Chosen Option : **2**

Q.25 Ramesh saves $26\frac{2}{3}\%$ of his monthly salary. When his expenses are increased by 20%, he is able to save ₹4,080 per month. His monthly salary is:

Ans

✗ 1. ₹35,000

✗ 2. ₹38,000

✓ 3. ₹34,000

✗ 4. ₹30,000

Question ID : **6549787187**
Status : **Answered**
Chosen Option : **3**

Section : **General Awareness**

Gagan Pratap Maths

9 August 3rd shift

Section : **Quantitative Aptitude**

Q.1 For what value of θ (in degrees) is the following equation true?

$$\sin 3\theta \cos \theta - \cos 3\theta \sin \theta = \frac{1}{2}, 0 < \theta < \frac{\pi}{2}$$

Ans

✗ 1. 45

✗ 2. 30

✗ 3. 60

✓ 4. 15

Question ID : **6549786798**
Status : **Not Answered**
Chosen Option : **--**

Q.2 If $a^2 + b^2 + c^2 = 576$ and $(ab + bc + ca) = 50$, then what is the value of $(a + b + c)$, if $(a + b + c) < 0$?

Ans

✗ 1. ± 26

✗ 2. -24

✓ 3. -26

✗ 4. ± 24

Question ID : **6549786793**
Status : **Answered**
Chosen Option : **1**

Gagan Pratap Maths

Q.3 A ₹900 में एक वस्तु खरीदकर 25% के लाभ पर B को बेचता है। B इसे C को बेचता है, जो इसे 10% की हानि पर ₹1,350 में बेचता है। B का लाभ प्रतिशत (निकटतम पूर्णांक तक) क्या होगा?

Ans

✔ 1. 33

✘ 2. 30

✘ 3. 35

✘ 4. 34

Question ID : **6549786784**
Status : **Not Answered**
Chosen Option : **--**

Q.4 The list price of coconut oil is 15% more than its cost price. At what per cent less should it be sold for no profit and no loss?

Ans

✘ 1. $13\frac{3}{23}\%$

✔ 2. $13\frac{1}{23}\%$

✘ 3. $13\frac{2}{23}\%$

✘ 4. $13\frac{4}{23}\%$

Question ID : **6549788702**
Status : **Answered**
Chosen Option : **2**

Gagan Pratap Maths

Q.5 Study the given bar graphs and answer the question that follows.

The bar graphs represent the amount invested in raw materials (in ₹ crore) and the sale of the products, by a textile company in the years 2007– 2012. The X-axis represents the years. The Y-axis represents the amount invested in raw materials (in ₹ crore) in figure 1 and sale of products in figure 2, respectively.

Figure 1

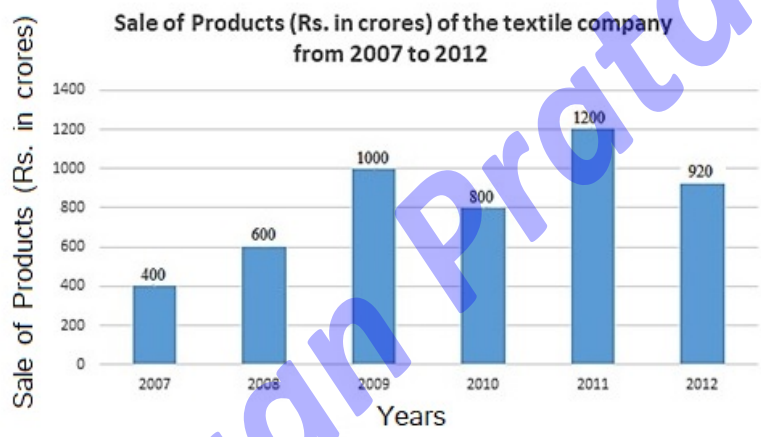


Figure 2

In which two years was the difference of the amount invested and the sales of products the same?

Ans

✗ 1. 2009 and 2012

✗ 2. 2010 and 2011

✗ 3. 2007 and 2009

✓ 4. 2008 and 2011

Question ID : **6549786799**
Status : **Answered**
Chosen Option : **2**

Gaggan Pratap Maths

Q.6 The value of

$$28 \div [25 + 8 \div 4 - \{25 + (25\ of\ 8 \div 20) - (125 \div 5\ of\ 25)\}] + (25 \times 5)$$ is:

Ans

✗ 1. 129

✗ 2. −121

✗ 3. −4

✓ 4. 121

Question ID : **6549786795**
Status : **Not Answered**
Chosen Option : **--**

Q.7 If $\left(2x + \frac{1}{2x}\right) = 5$, then what is the value of $\left(8x^3 + \frac{1}{8x^3}\right)$?

Ans

✓ 1. 110

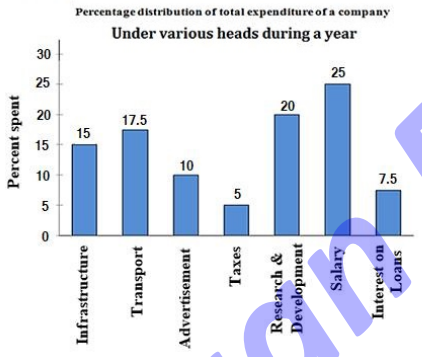
✗ 2. 120

✗ 3. 100

✗ 4. 125

Question ID : **6549786792**
Status : **Answered**
Chosen Option : **2**

Q.8 Study the given graph and answer the question that follows.



What is the ratio of the total expenditure on Infrastructure and Transport to the total expenditure on Taxes and Interest on Loans?

Ans

✓ 1. 13 : 5

✗ 2. 13 : 6

✗ 3. 13 : 7

✗ 4. 13 : 8

Question ID : **6549788315**
Status : **Answered**
Chosen Option : **1**

Gagan Pratap Maths

Q.9 A can complete one-sixth of a work in 5 days and B can complete one-fourth of the same work in 15 days. In how many days, will both working together complete the work?

Ans

✔ 1. 20 days

✘ 2. 10 days

✘ 3. 25 days

✘ 4. 12 days

Question ID : **6549786778**
Status : **Answered**
Chosen Option : **1**

Q.10 Chords AB and CD of a circle intersect externally at P. If AB = 8.8 cm, PB = 7.2 cm, PD = 6.4 cm, then CD is equal to:

Ans

✘ 1. 10.8 cm

✘ 2. 10.6 cm

✘ 3. 11.4 cm

✔ 4. 11.6 cm

Question ID : **6549786788**
Status : **Not Answered**
Chosen Option : **--**

Q.11 The total surface area of a solid cube is 4.86 m^2. It is melted and recast into a right circular cylinder of radius 0.3 m. What is the height (in m) of the cylinder (correct to one decimal place)? Take $\pi = \frac{22}{7}$.

Ans

✘ 1. 1.8

✔ 2. 2.6

✘ 3. 2.8

✘ 4. 3.5

Question ID : **6549786780**
Status : **Not Answered**
Chosen Option : **--**

Q.12 In what time will a sum of ₹1,25,000 amount to ₹1,48,877 at 12% per annum, if interest is being compounded half-yearly?

Ans

✔ 1. $1\frac{1}{2}$ year

✘ 2. $2\frac{1}{2}$ years

✘ 3. 1 year

✘ 4. 3 years

Question ID : **6549788705**
Status : **Answered**
Chosen Option : **1**

Gagan Pratap Maths

Q.13 If $\sin B = \frac{9}{41}$, then what is the value of cot B, where $0° < B < 90°$?

Ans

✗ 1. $\frac{41}{9}$

✓ 2. $\frac{40}{9}$

✗ 3. $\frac{9}{41}$

✗ 4. $\frac{9}{40}$

Question ID : **6549786796**
Status : **Answered**
Chosen Option : **2**

Q.14 Two trains X and Y of lengths 450 meters and 550 meters, respectively, are running in the same direction on parallel tracks. If the speeds of X and Y are 58 km/h and 86 km/h, respectively, then what will be the time taken by them to cross each other?
(correct to one decimal place)

Ans

✗ 1. 122.6 seconds

✓ 2. 128.6 seconds

✗ 3. 126.6 seconds

✗ 4. 124.6 seconds

Question ID : **6549788698**
Status : **Not Answered**
Chosen Option : **--**

Q.15 The value of $\frac{\cos 8° \cos 24° \cos 60° \cos 66° \cos 82°}{\sin 82° \sin 66° \sin 60° \sin 8° \sin 24°}$ is:

Ans

✗ 1. 1

✗ 2. $\frac{1}{\sqrt{2}}$

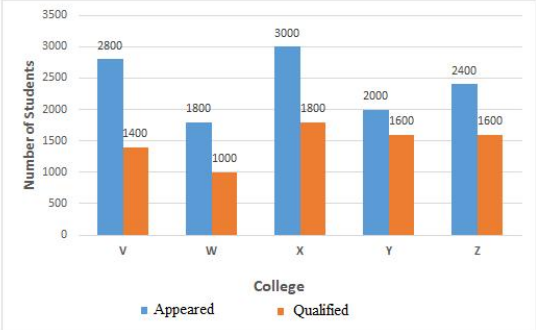
✓ 3. $\frac{1}{\sqrt{3}}$

✗ 4. 0

Question ID : **6549788716**
Status : **Not Answered**
Chosen Option : **--**

Gagan Pratap Maths

Q.16 Study the following graph and answer the question that follows.
Number of students that appeared and qualified, from various colleges, at a scholarship examination.



The average number of students that qualified in the examination from Colleges X and Y is what percentage of the average number of students that appeared for the examination from the same colleges?

Ans
✗ 1. 66
✓ 2. 68
✗ 3. 62
✗ 4. 64

Question ID : **6549788721**
Status : **Answered**
Chosen Option : **2**

Q.17 If $3x + y = 12$ and $xy = 9$, then the value of $(3x - y)$ is:

Ans
✗ 1. 4
✗ 2. 5
✓ 3. 6
✗ 4. 3

Question ID : **6549788710**
Status : **Answered**
Chosen Option : **3**

Q.18 The difference between the two perpendicular sides of a right-angled triangle is 17 cm and its area is 84 cm^2. What is the perimeter (in cm) of the triangle?

Ans
✓ 1. 56
✗ 2. 65
✗ 3. 72
✗ 4. 49

Question ID : **6549786790**
Status : **Not Answered**
Chosen Option : **--**

Gagan Pratap Maths

Q.19 The perimeter of an isosceles triangle is 220 cm. If the base is 40 cm, then the length of each of the other sides is:

Ans
✗ 1. 85 cm
✓ 2. 90 cm
✗ 3. 80 cm
✗ 4. 95 cm

Question ID : **6549788708**
Status : **Not Answered**
Chosen Option : **--**

Q.20 If $x : y = 4 : 5$, then the value of $(8x - 6y) : (9x - 7y)$ is:

Ans
✓ 1. $2 : 1$
✗ 2. $1 : 2$
✗ 3. $2 : 3$
✗ 4. $1 : 3$

Question ID : **6549788704**
Status : **Answered**
Chosen Option : **1**

Q.21 If $31^{47} + 43^{47}$ is divided by 37, the remainder is:

Ans
✗ 1. 2
✗ 2. 3
✓ 3. 0
✗ 4. 1

Question ID : **6549788713**
Status : **Not Answered**
Chosen Option : **--**

Q.22 A dealer allows his customers a discount of 35% and still gains 30%. If the cost price of an article is ₹950, then what is its marked price (in ₹)?

Ans
✓ 1. 1,900
✗ 2. 1,750
✗ 3. 1,800
✗ 4. 1,500

Question ID : **6549786782**
Status : **Not Answered**
Chosen Option : **--**

Gagan Pratap Maths

Q.23 In a circle, two chords UV and WX intersect each other at a point Z within the circle. If $UV = 18$ cm, $ZV = 6$ cm and $WZ = 9$ cm, then the length of ZX is:

Ans

✗ 1. 6 cm

✓ 2. 8 cm

✗ 3. 4 cm

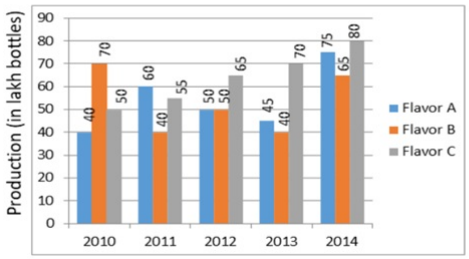
✗ 4. 10 cm

Question ID : **6549788706**
Status : **Not Answered**
Chosen Option : **--**

Q.24 Study the given bar graph and answer the question that follows.

A soft drink company prepares drinks of three different flavours A, B and C. The bar graph shows the production of three flavours over a period of five years from 2010 to 2014.

Production of three different flavours A, B and C by a company over the five years (in lakh bottles).



What percentage of the total production of soft drink of flavour A in 2013 and 2014 is the total production of soft drink of flavour B in 2011 and 2012?

Ans

✗ 1. 60 %

✗ 2. 70 %

✗ 3. 55 %

✓ 4. 75 %

Question ID : **6549787407**
Status : **Answered**
Chosen Option : **4**

Q.25 The average of 29 numbers is 38. The average of the first 19 numbers is 34 and that of the last 9 numbers is 48. The 20th number is:

Ans

✗ 1. 28

✗ 2. 26

✓ 3. 24

✗ 4. 22

Question ID : **6549788700**
Status : **Answered**
Chosen Option : **3**

Gagan Pratap Maths

10 August 1st shift

Q.25 Select the option that is related to the third number in the same way as the second number is related to the first number.

6 : 27 : : 9 : ?

Ans
1. 66
2. 74
3. 110
4. 95

Question ID : **6549789381**

Status : **Not Attempted and Marked For Review**

Chosen Option : **–**

Section : **Quantitative Aptitude**

Gagan Pratap Maths

Q.1 A solid metallic sphere of radius 10 cm is melted and recast into spheres of radius 2 cm each. How many such spheres can be made?

Ans

✗ 1. 64

✗ 2. 216

✗ 3. 100

✓ 4. 125

Question ID : **6549786982**
Status : **Answered**
Chosen Option : **4**

Q.2 There are 3 groups of persons – male, female and children. There are 20 males and the number of females and children taken together is 4 more than that of the males. The average weight of males is 54 kg, that of females is 49 kg and that of children is 30 kg. If the average weight of the whole group is 48.25 kg, then what is the difference between the number of females and the number of children?

Ans

✗ 1. 17

✓ 2. 10

✗ 3. 7

✗ 4. 14

Question ID : **6549789407**
Status : **Not Attempted and Marked For Review**
Chosen Option : **–**

Q.3 If $x + \frac{1}{15x} = 3$, then the value of $9x^3 + \frac{1}{375x^3}$ will be:

Ans

✓ 1. 237.6

✗ 2. 376.2

✗ 3. 273.6

✗ 4. 367.2

Question ID : **6549786994**
Status : **Answered**
Chosen Option : **1**

Gagan Pratap Maths

Q.4 Simplify the given expression.

$$\left(x-\frac{2}{x}\right)^3-\left(x+\frac{2}{x}\right)^3$$

Ans

✔ 1. $-4\left(3x+\frac{4}{x^3}\right)$

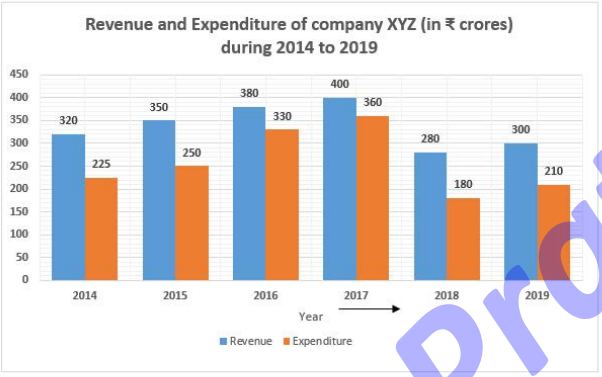
✘ 2. $4\left(3x-\frac{4}{x^3}\right)$

✘ 3. $-4\left(x+\frac{4}{x^3}\right)$

✘ 4. $2\left(x-\frac{4}{x^3}\right)$

Question ID : **6549789417**
Status : **Answered**
Chosen Option : **1**

Q.5 Study the given graph and answer the question that follows.



By what percentage is the average expenditure of the company in 2014, 2016 and 2018 less than the revenue in 2017?

Ans

✘ 1. 37.5%

✘ 2. 56.25%

✘ 3. 63.27%

✔ 4. 38.75%

Question ID : **6549787810**
Status : **Answered**
Chosen Option : **4**

Gagan Pratap Maths

Q.6 Evaluate the following expression.

$$\frac{3(cot^2 46° - sec^2 44°)}{2(sin^2 28° + sin^2 62°)} + \frac{2cos^2 60° tan^2 33° tan^2 57°}{sec^2(90° - \theta) - cot^2\theta}$$

Ans
✔ 1. -1
✘ 2. 1
✘ 3. -2
✘ 4. 2

Question ID : **6549789423**
Status : **Answered**
Chosen Option : **1**

Q.7 Nalini's younger brother is 12 years old. If the ratio of the age of Nalini to that of her brother is 7 : 6, then what will be ratio in their ages 6 years hence?

Ans
✔ 1. $10 : 9$
✘ 2. $13 : 12$
✘ 3. $17 : 15$
✘ 4. $10 : 6$

Question ID : **6549789411**
Status : **Answered**
Chosen Option : **1**

Q.8 $16\frac{1}{4} \div [2\frac{1}{6} + \{4\frac{1}{3} - (2\frac{1}{2} + \frac{3}{4})\}]$ is equal to:

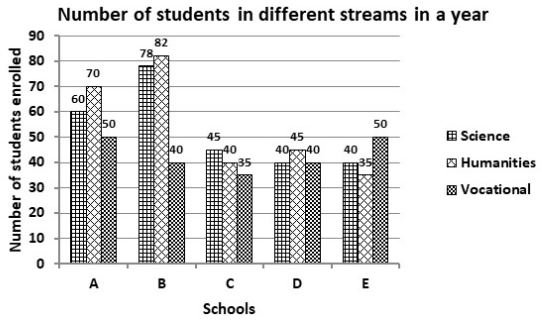
Ans
✘ 1. 6
✘ 2. 4
✔ 3. 5
✘ 4. 3

Question ID : **6549786997**
Status : **Answered**
Chosen Option : **3**

Gagan Pratap Maths

Q.9 The number of students enrolled in different streams at Senior Secondary level in five schools is shown in the bar graph.

What is the ratio of the number of students of science stream of schools A, B and D taken together to the number of students of vocational stream in schools B, D and E taken together?



Ans
1. 94 : 65
2. 178 : 125
3. 7 : 5
4. 89 : 65

Question ID : **6549789428**
Status : **Answered**
Chosen Option : **4**

Q.10 ABC is a triangle inscribed in a circle and ∠ACB is equal to 35°. P is a point on the circle on the side AB, opposite to C. What is the value of ∠APB in degrees?

Ans
1. 72.5
2. 145
3. 175
4. 70

Question ID : **6549789413**
Status : **Answered**
Chosen Option : **2**

Q.11 Let O be the centre of a circle and AC be the diameter. BD is a chord intersecting AC at E. AD and AB are joined. If $\angle BOC = 40°$ and $\angle AOD = 120°$, then $\angle BEC$ is equal to:

Ans
1. 55°
2. 80°
3. 90°
4. 70°

Question ID : **6549786990**
Status : **Answered**
Chosen Option : **2**

Gagan Pratap Maths

Q.12 The simple interest on a sum of ₹12,000 at the end of 5 years is ₹6,000. What would have been the compound interest on the same sum at the same rate for 3 years when compounded annually?

Ans

✗ 1. ₹3,970

✓ 2. ₹3,972

✗ 3. ₹3,600

✗ 4. ₹2,520

Question ID : **6549789412**
Status : **Answered**
Chosen Option : **2**

Q.13 10 men or 15 women can complete a work in 30 days. In how many days can 15 men and 27 women complete the work?

Ans

✗ 1. $6\frac{1}{11}$

✗ 2. $5\frac{1}{11}$

✗ 3. $11\frac{1}{11}$

✓ 4. $9\frac{1}{11}$

Question ID : **6549786980**
Status : **Answered**
Chosen Option : **4**

Q.14 A person saves 25% of his income. If his income increases by 20% and his saving remains the same, then what will be the increased percentage of his expenditure?

Ans

✗ 1. 20

✗ 2. 26

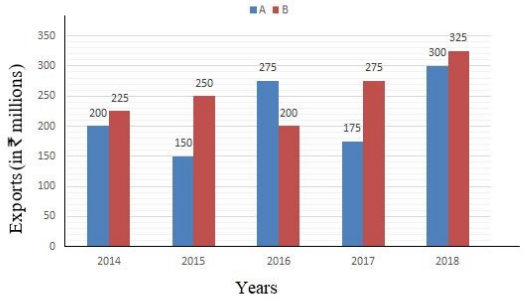
✗ 3. 30

✓ 4. $26\frac{2}{3}$

Question ID : **6549789409**
Status : **Answered**
Chosen Option : **4**

Gagan Pratap Maths

Q.15 Study the given bar graph and answer the question that follows.
The bar graph shows the exports of cars of types A and B (in ₹ million).



What is the ratio of the total exports of cars of type A in 2016 and 2018 to the total exports of cars of type B in 2015 and 2017?

Ans
✔ 1. 23 : 21
✘ 2. 15 : 29
✘ 3. 18 : 23
✘ 4. 21 : 23

Question ID : **6549787001**
Status : **Answered**
Chosen Option : **1**

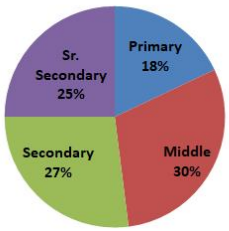
Q.16 If $x^6 - 6\sqrt{6}y^6 = (x^2 + Ay^2)(x^4 + Bx^2y^2 + Cy^4)$, then what will be the value of $(A^2 - B^2 + C^2)$?

Ans
✘ 1. 27
✘ 2. 42
✔ 3. 36
✘ 4. 18

Question ID : **6549786995**
Status : **Not Attempted and Marked For Review**
Chosen Option : **–**

Gagan Pratap Maths

Q.17 Students of Primary, Middle, Secondary and Sr. Secondary classes collected donation for a Relief Fund as shown in the given pie chart. If the donation collected from Middle classes was ₹6,750, then how much more money was collected by Middle classes as compared to Secondary classes?



Ans

✗ 1. ₹6,075

✗ 2. ₹1,125

✓ 3. ₹675

✗ 4. ₹2,025

Question ID : **6549788416**
Status : **Answered**
Chosen Option : **2**

Q.18 For θ : $0° < \theta < 90°$

$3 \sec\theta + 4\cos\theta = 4\sqrt{3}$, find the value of $(1 - \sin\theta + \cos\theta)$.

Ans

✗ 1. $\frac{1+2\sqrt{3}}{2}$

✓ 2. $\frac{1+\sqrt{3}}{2}$

✗ 3. $\frac{1-\sqrt{3}}{2}$

✗ 4. $\frac{1-2\sqrt{3}}{2}$

Question ID : **6549787000**
Status : **Not Attempted and Marked For Review**
Chosen Option : **–**

Q.19 An article is sold at a certain price. If it is sold at $33\frac{1}{3}$% of this price, there is a loss of $33\frac{1}{3}$%. What is the percentage profit or percentage loss when it is sold at 40% of the original selling price?

Ans

✗ 1. Loss 12%

✗ 2. Profit 18%

✓ 3. Loss 20%

✗ 4. Profit 15%

Question ID : **6549786986**
Status : **Answered**
Chosen Option : **3**

Gagan Pratap Maths

Q.20 In triangle ABC, AD is the internal bisector of $\angle A$ meeting BC at D. If $BD = 3.6$ cm and $BC = 8$ cm, then the ratio of AB to AC will be:

Ans
1. 11 : 9
2. 7 : 13
3. 13 : 7
4. 9 : 11 ✔

Question ID : **6549786992**
Status : **Answered**
Chosen Option : **4**

Q.21 In ΔABC, points D and E are on AB and AC, respectively, such that DE is parallel to BC. If AD = 3 cm, BD = 6 cm and AE = 2 cm, then find the length of CE.

Ans
1. 6 cm
2. 16 cm
3. 8 cm
4. 4 cm ✔

Question ID : **6549789415**
Status : **Answered**
Chosen Option : **4**

Q.22 After allowing a discount of 15% on the marked price of an article, it was sold for ₹425. Had the discount not been given, the profit would have been 25%. What was the cost price (in₹) of the article?

Ans
1. 325
2. 450
3. 500
4. 400 ✔

Question ID : **6549786984**
Status : **Answered**
Chosen Option : **3**

Q.23 What is the sum of all the possible values of k for which a seven-digit number 23k567k is divisible by 3?

Ans
1. 15 ✔
2. 3
3. 109
4. 16

Question ID : **6549789420**
Status : **Answered**
Chosen Option : **1**

Gagan Pratap Maths

Q.24 Sunil can row a boat 20 km upstream in 1 hour 15 minutes. If the speed of the current of the river is 2 km/h, then how much time will he take to row the boat 30 km downstream?

Ans
1. 1 h 10 m
2. 1 h 45 m
3. 1 h 30 m
4. 1 h 20 m

Question ID : **6549789405**
Status : **Answered**
Chosen Option : **3**

Q.25 If $tan\theta = \frac{4}{3}$, then the value of $\frac{9\sin\theta + 12\cos\theta}{27\cos\theta - 20\sin\theta}$ will be equal to:

Ans
1. 72
2. 36
3. 18
4. 100

Question ID : **6549786998**
Status : **Answered**
Chosen Option : **1**

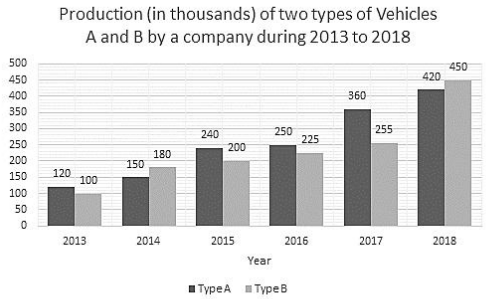
Section : **General Awareness**

ratap Maths

10 August 2nd shift

Gagan Pratap M

Q.1 Study the given graph and answer the question that follows.



$31\frac{1}{4}\%$ of the total number of vehicles of type A produced in 2013, 2015 and 2017 is equal to the number of vehicles of type B produced in the year:

Ans

✗ 1. 2017

✗ 2. 2018

✗ 3. 2015

✓ 4. 2016

Question ID : **6549786700**
Status : **Answered**
Chosen Option : **4**

Q.2 If S is a point on side QR of a triangle PQR such that $QS = 10$ cm, $QR = 18$ cm and $\angle PSR = \angle QPR$, then the length of PR will be:

Ans

✗ 1. 16 cm

✓ 2. 12 cm

✗ 3. 15 cm

✗ 4. 14 cm

Question ID : **6549787294**
Status : **Answered**
Chosen Option : **3**

Q.3 The marked price of a juicer mixer is ₹5,500, and three successive discounts of 40%, 30% and 20% are given on this marked price. The selling price of the juicer mixer is:

Ans

✗ 1. ₹1,835

✗ 2. ₹1,868

✓ 3. ₹1,848

✗ 4. ₹1,858

Question ID : **6549788701**
Status : **Answered**
Chosen Option : **3**

Gagan Pratap Maths

Q.4 In any triangle, if the angles are in the ratio 1 : 2 : 3, then what will be the ratio of the sides opposite to them?

Ans

✗ 1. $1 : \sqrt{3} : 1$

✓ 2. $1 : \sqrt{3} : 2$

✗ 3. $2 : 2 : \sqrt{3}$

✗ 4. $2 : \sqrt{3} : 1$

Question ID : **6549788709**
Status : **Answered**
Chosen Option : **1**

Q.5 If $sin^2 x - 3cos^2 x = 0$, then the value of x ($0 < x < 90°$) is:

Ans

✗ 1. $45°$

✗ 2. $30°$

✓ 3. $60°$

✗ 4. $15°$

Question ID : **6549788717**
Status : **Answered**
Chosen Option : **3**

Q.6 The value of $\sqrt{\cos 60° \cos 30° - \sin 60° \sin 30°}$ is:

Ans

✗ 1. $\frac{\sqrt{3}}{2}$

✗ 2. $\frac{1}{\sqrt{2}}$

✓ 3. 0

✗ 4. 1

Question ID : **6549788715**
Status : **Answered**
Chosen Option : **3**

Q.7 In a workshop with 80 students and 10 resource persons, sweets were distributed at the end of the workshop. The amount spent for distributing sweets to each student was 30% of the total number of students and amount spent towards each resource person was 40% of the total number of students. The total amount spent for sweets distribution in the workshop was:

Ans

✗ 1. ₹2,400

✗ 2. ₹2,440

✗ 3. ₹2,420

✓ 4. ₹2,240

Question ID : **6549787288**
Status : **Answered**
Chosen Option : **4**

Gagan Pratap Maths

Q.8 In a circle with center O, PA and PB are tangents to the circle at A and B, respectively, from an external point P. If, $\angle AOB = 116°$ then what is the measure of $\angle OPB$?

Ans

✔ 1. $32°$

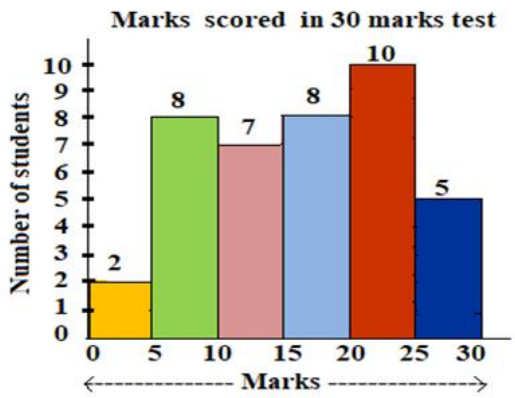
✘ 2. $90°$

✘ 3. $58°$

✘ 4. $30°$

Question ID : **6549788707**
Status : **Answered**
Chosen Option : **1**

Q.9 The histogram shows the marks scored by 40 students in a test with maximum 30 marks.



What is the percentage of the students who scored less than 20 marks?

Ans

✘ 1. 50

✘ 2. 25

✘ 3. 87.5

✔ 4. 62.5

Question ID : **6549789225**
Status : **Answered**
Chosen Option : **4**

Q.10 If $x + \frac{1}{3x} = 5$, then the value of $27x^3 + \frac{1}{x^3}$ will be:

Ans

✔ 1. 3240

✘ 2. 3024

✘ 3. 3042

✘ 4. 3420

Question ID : **6549787296**
Status : **Answered**
Chosen Option : **1**

Gagan Pratap Maths

Q.11 Find the compound interest (in ₹) on a sum of ₹7,500 for 4 years if the rate of interest is 20% per annum for the first two years and 10% per annum for the next two years. (The interest is compounded annually.)

Ans

✗ 1. 5,658

✗ 2. 5,586

✗ 3. 6,558

✓ 4. 5,568

Question ID : **6549787291**
Status : **Answered**
Chosen Option : **4**

Q.12 Study the given pie charts and answer the question that follows.

The pie charts show the distribution of students of graduate and postgraduate levels in five different institutes P, Q, R, S and T in a town.

(i) Total number of students of graduate level in five different institutes = 12400

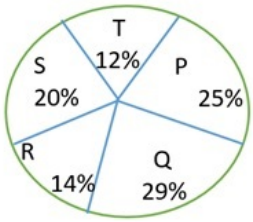


Fig.(i)

(ii) Total number of students of postgraduate level in five different institutes = 8000

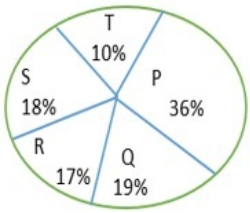


Fig.(ii)

The difference between the average number of students of graduate level in institutes P, R and T to the average number of students of postgraduate level in institutes P, R and T is:

Ans

✗ 1. 425

✗ 2. 426

✗ 3. 328

✓ 4. 428

Question ID : **6549787307**
Status : **Answered**
Chosen Option : **4**

Gagan Pratap Maths

Q.13 15 persons working 6 hours per day earn ₹900. How much money will 20 persons earn, working 10 hours per day?

Ans

✗ 1. ₹1,800

✗ 2. ₹1,500

✓ 3. ₹2,000

✗ 4. ₹2,100

Question ID : **6549788697**
Status : **Answered**
Chosen Option : **3**

Q.14 x, y and z are three positive numbers such that y is $\frac{4}{5}$ times of x and z is $\frac{5}{8}$ times of y. If the average of reciprocals of the numbers x, y and z is $\frac{17}{240}$, then the average of 3 times of x and 5 times of y will be:

Ans

✓ 1. 70

✗ 2. 60

✗ 3. 40

✗ 4. 45

Question ID : **6549787286**
Status : **Not Answered**
Chosen Option : **--**

Q.15 If $2x + 3y + 4z = 11$, $8x^3 + 27y^3 + 64z^3 = 105$ and $xyz = 1$, then the value $4x^2 + 9y^2 + 16z^2 - 6xy - 12yz - 8xz$ is:

Ans

✓ 1. 3

✗ 2. 4

✗ 3. 5

✗ 4. 6

Question ID : **6549788712**
Status : **Not Answered**
Chosen Option : **--**

Q.16 If $1 + 4x^2 + 16x^4 = 512$, and $1 - 2x + 4x^2 = 64$, then the value of $1 + 2x + 4x^2$ is:

Ans

✗ 1. 6

✓ 2. 8

✗ 3. 12

✗ 4. 10

Question ID : **6549788711**
Status : **Answered**
Chosen Option : **2**

Gagan Pratap Maths

Q.17 With a speed of 48 km/h, Raghu is able to complete his journey in 2 hours 28 minutes. If he wants to cover the same distance in 1 hour 36 minutes, then what should be his new speed?

Ans

✗ 1. 72 km/h

✗ 2. 64 km/h

✗ 3. 66 km/h

✓ 4. 74 km/h

Question ID : **6549787284**
Status : **Answered**
Chosen Option : **4**

Q.18 The sum of the squares of the sides of a rhombus is 1600 cm^2. What is the side of the rhombus?

Ans

✗ 1. 15 cm

✓ 2. 20 cm

✗ 3. 25 cm

✗ 4. 10 cm

Question ID : **6549788699**
Status : **Answered**
Chosen Option : **2**

Q.19 If the length of a chord of a circle, that makes an angle of 60° with the tangent drawn at one end point of the chord, is $8\sqrt{3}$ cm, then the radius of the circle will be:

Ans

✓ 1. 8 cm

✗ 2. 5 cm

✗ 3. 6 cm

✗ 4. 7 cm

Question ID : **6549787292**
Status : **Answered**
Chosen Option : **1**

Q.20 The sides of a triangle are in the ratio $\frac{1}{3}:\frac{1}{5}:\frac{1}{4}$ and its perimeter is 141 cm. The difference between the greatest side and the smallest side is:

Ans

✗ 1. 18 cm

✗ 2. 15 cm

✗ 3. 12 cm

✓ 4. 24 cm

Question ID : **6549787290**
Status : **Answered**
Chosen Option : **2**

Gagan Pratap Maths

Q.21 If $\frac{5\cot\theta+\sqrt{3}\,cosec\theta}{2\sqrt{3}\,cosec\theta+3\cot\theta}=1,\ 0^\circ<\theta<90^\circ$, then the value of $\frac{\frac{7}{2}cot^2\theta-\frac{3}{4}cosec^2\theta}{4\,sin^2\theta+\frac{3}{2}tan^2\theta}$ will be:

Ans

✗ 1. 7

✗ 2. 2

✗ 3. 3

✓ 4. 5

Question ID : **6549787302**
Status : **Not Answered**
Chosen Option : **--**

Q.22 Gaurav bought some articles at 5 for ₹6 and sold them at 10 for ₹11. His loss percentage is:

Ans

✓ 1. $8\frac{1}{3}\%$

✗ 2. $7\frac{1}{3}\%$

✗ 3. $7\frac{2}{3}\%$

✗ 4. $8\frac{2}{3}\%$

Question ID : **6549788703**
Status : **Answered**
Chosen Option : **1**

Q.23 If the number 4A306768B2 is divisible by both 8 and 11, then the smallest possible values of A and B will be:

Ans

✓ 1. $A=5, B=3$

✗ 2. $A=3, B=5$

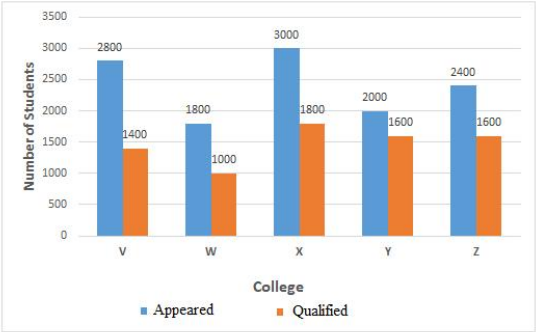
✗ 3. $A=5, B=2$

✗ 4. $A=5, B=4$

Question ID : **6549787299**
Status : **Answered**
Chosen Option : **1**

Gagan Pratap Maths

Q.24 Study the following graph and answer the question that follows.
Number of students that appeared and qualified, from various colleges, at a scholarship examination.



What is the ratio of the number of students that appeared to the number of students that qualified at the scholarship examination from College X?

Ans
✗ 1. 5 : 4
✗ 2. 5 : 2
✗ 3. 4 : 3
✓ 4. 5 : 3

Question ID : **6549788718**
Status : **Answered**
Chosen Option : **4**

Q.25 The value of $\frac{284}{5} \div [\left(\frac{4}{5}\right) \times (15+35) - 11\frac{3}{5}]$ is:

Ans
✓ 1. 2
✗ 2. 1
✗ 3. 0
✗ 4. 3

Question ID : **6549788714**
Status : **Answered**
Chosen Option : **1**

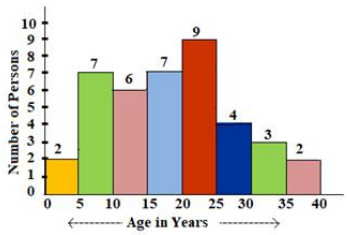
Gagan Pratap Maths

10 August 3rd shift

Section : **Quantitative Aptitude**

Q.1 Some families went on an outstation tour. The given histogram shows their ages.

What is the ratio of the number of persons of age less than 15 years to that of persons of age less than 30 years?



Ans

✗ 1. 15 : 38

✗ 2. 15 : 31

✓ 3. 3 : 7

✗ 4. 11 : 19

Question ID : **6549788417**
Status : **Answered**
Chosen Option : **3**

Q.2 When the price of an item was reduced by 20%, its sales increased by $x\%$. If there is an increase of 25% in the receipt of the revenue, then the value of x is :

Ans

✗ 1. 53.84%

✗ 2. 55.75%

✓ 3. 56.25%

✗ 4. 61.5%

Question ID : **6549786076**
Status : **Not Answered**
Chosen Option : **--**

Gagan Pratap Maths

Q.3 In a trapezium $ABCD$, $DC \parallel AB$, $AB = 16\ cm$ and $DC = 11.2\ cm$. What is the length (in cm) of the line segment joining the mid points of its diagonals?

Ans

✔ 1. 2.4

✘ 2. 1.8

✘ 3. 1.2

✘ 4. 2.8

Question ID : **6549787093**
Status : **Answered**
Chosen Option : **1**

Q.4 In a class of 80 students (boys and girls) there are 60 % girls. The average weight of the boys is 58 kg and that of the girls is 52 kg. What is the average weight (in kg) of the whole class?

Ans

✘ 1. 56.2

✔ 2. 54.4

✘ 3. 53.6

✘ 4. 55

Question ID : **6549786074**
Status : **Answered**
Chosen Option : **2**

Q.5 $\dfrac{775 \times 775 \times 775 + 225 \times 225 \times 225}{77.5 \times 77.5 + 22.5 \times 22.5 - 77.5 \times 22.5}$ is equal to:

Ans

✘ 1. 100

✘ 2. 10000

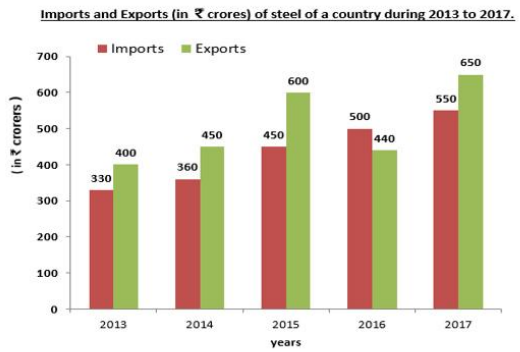
✔ 3. 100000

✘ 4. 0.1

Question ID : **6549787098**
Status : **Answered**
Chosen Option : **1**

Gagan Pratap Maths

Q.6 Study the bar graph which shows the imports and exports (in ₹) of steel of a country during 2013 to 2017 and answer the question that follows.



For how many year(s) were the imports less than 80% of the average exports (per year) of the country during the five years?

Ans

✗ 1. 4

✗ 2. 1

✗ 3. 3

✓ 4. 2

Question ID : **6549787102**
Status : **Answered**
Chosen Option : **2**

Q.7 If $a + b + c = 5$, $a^2 + b^2 + c^2 = 27$, and $a^3 + b^3 + c^3 = 125$, then the value of $\frac{abc}{5}$ is:

Ans

✓ 1. -1

✗ 2. 5

✗ 3. -5

✗ 4. 1

Question ID : **6549787095**
Status : **Not Answered**
Chosen Option : **--**

Q.8 A sum lent at simple interest amounts to ₹6,240.80 in one year and to ₹7,563.20 in 4 years. The sum (in ₹) and the rate of interest per annum, respectively, are:

Ans

✗ 1. 6,200, 8.5%

✗ 2. 5,800, 8.5%

✓ 3. 5,800, 7.6%

✗ 4. 6,200, 7.6%

Question ID : **6549786079**
Status : **Answered**
Chosen Option : **2**

Gagan Pratap Maths

Q.9 If the 11-digit number $4y6884805x6$ is divisible by 72, and $x \neq y$, then the value of $\sqrt{xy}$ is:

Ans

✗ 1. $\sqrt{12}$

✓ 2. $\sqrt{6}$

✗ 3. $\sqrt{5}$

✗ 4. $\sqrt{8}$

Question ID : **6549786087**
Status : **Answered**
Chosen Option : **3**

Q.10 In $\Delta PQR, QT \perp PR$ and S is a point on QR such that $\angle PSQ = p°$. If $\angle TQR = 44°$ and $\angle SPR = 32°$, then the value of p is:

Ans

✗ 1. $72°$

✗ 2. $82°$

✗ 3. $76°$

✓ 4. $78°$

Question ID : **6549786082**
Status : **Not Answered**
Chosen Option : **--**

Q.11 Two circles of radii 18 cm and 12 cm intersect each other and the length of their common chord is 16 cm. What is the distance (in cm) between their centres?

Ans

✓ 1. $2\sqrt{5}(2+\sqrt{13})$

✗ 2. $2\sqrt{5}(4-\sqrt{13})$

✗ 3. $2\sqrt{5}(4+\sqrt{13})$

✗ 4. $2\sqrt{5}(-2+\sqrt{13})$

Question ID : **6549786080**
Status : **Not Answered**
Chosen Option : **--**

Q.12 The value of $cot^2 46° - sec^2 44° + (sin^2 1° + sin^2 3° + sin^2 5° + \cdots + sin^2 89°)$ is:

Ans

✗ 1. 23.5

✗ 2. 20.5

✗ 3. 22.5

✓ 4. 21.5

Question ID : **6549787099**
Status : **Answered**
Chosen Option : **4**

Gagan Pratap Maths

Q.13 If $(1+\cot^2\theta)+(1+(cot^2\theta)^{-1})$ is equal to k, then $\sqrt{k}=?$

Ans

✗ 1. $\sin\theta\sec\theta$

✗ 2. $\operatorname{cosec}\theta\cos\theta$

✓ 3. $\operatorname{cosec}\theta\sec\theta$

✗ 4. $\sin\theta\cos\theta$

Question ID : **6549787101**
Status : **Not Answered**
Chosen Option : **--**

Q.14 The sides AB, BC and AC of ΔABC are 12 cm, 8 cm and 10 cm, respectively. A circle is inscribed in the triangle touching AB, BC and AC at D, E and F, respectively. The ratio of the lengths of AD to CE is:

Ans

✗ 1. 5 : 7

✗ 2. 3 : 5

✗ 3. 10 : 7

✓ 4. 7 : 3

Question ID : **6549787091**
Status : **Answered**
Chosen Option : **4**

Q.15 By selling a car for ₹6,32,500, a showroom owner makes a profit of 15%. If he sold the car at ₹8,10,000, then what would be the profit percentage (correct to one decimal place)?

Ans

✓ 1. 47.3%

✗ 2. 44.8%

✗ 3. 41.5%

✗ 4. 51.4%

Question ID : **6549787087**
Status : **Answered**
Chosen Option : **1**

Q.16 If $(x-1.5)^3+(x-4)^3+(x-3.5)^3=3(x-1.5)(x-4)(x-3.5)$, then what is the value of x?

Ans

✗ 1. 1

✓ 2. 3

✗ 3. 6

✗ 4. 9

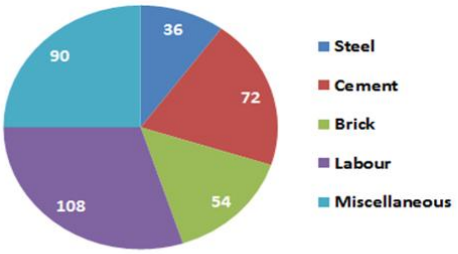
Question ID : **6549786084**
Status : **Answered**
Chosen Option : **2**

Gagan Pratap Maths

Q.17 Study the pie chart and answer the question that follows.

The given pie chart shows the degree of cost incurred in different expenditure on the construction of a house. The total expenditure is ₹31,50,000.

Degree of cost incurred in different expenditure



What is the percentage of expenditure on cement?

Ans

✗ 1. 30%

✗ 2. 25%

✗ 3. 15%

✓ 4. 20%

Question ID : **6549786093**
Status : **Answered**
Chosen Option : **4**

Q.18 A marks her goods 25% above the cost price. She sells 25% of the goods at the marked price, 60% at 25% discount and the remaining at 10% discount. What is her overall gain or loss per cent?

Ans

✗ 1. Gain 15.124%

✗ 2. Loss 18.175%

✗ 3. Loss 3.125%

✓ 4. Gain 4.375%

Question ID : **6549787085**
Status : **Not Answered**
Chosen Option : **--**

Q.19 Working together A, B and C can complete a piece of work in 3 days. A completes the same work in 24 days and B completes it in 6 days. How many days will C alone take to complete the same work?

Ans

✗ 1. 18

✓ 2. 8

✗ 3. 12

✗ 4. 6

Question ID : **6549787081**
Status : **Answered**
Chosen Option : **2**

Gagan Pratap Maths

Q.20 A man covers $\frac{5}{12}$ of a total journey by train, $\frac{7}{18}$ of the journey by bus and the remaining 7 km on foot. His total journey (in km) is:

Ans

✔ 1. 36 km

✘ 2. 35 km

✘ 3. 32 km

✘ 4. 40 km

Question ID : **6549786072**
Status : **Answered**
Chosen Option : **1**

Q.21 If $3cos\theta = 2sin^2\theta, 0° < \theta < 90°$, then what is the value of ($tan^2\theta + sec^2\theta - cosec^2\theta$)?

Ans

✔ 1. $\frac{17}{3}$

✘ 2. $-\frac{7}{3}$

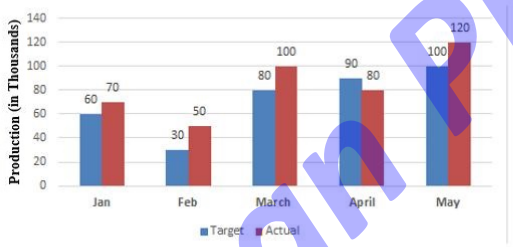
✘ 3. $-\frac{17}{3}$

✘ 4. $\frac{7}{3}$

Question ID : **6549786090**
Status : **Answered**
Chosen Option : **4**

Q.22 Study the graph which shows the target and actual production of ACs, (in thousands) of a factory over five months and answer the question that follows.

Target and Actual Production of AC's (in Thousands) of a factory over five months



The total target production of ACs in February, March, April and May is what percent less than the total actual production of ACs over five months? (correct to one decimal place)

Ans

✘ 1. 27.9%

✘ 2. 26.8%

✘ 3. 29.7%

✔ 4. 28.6%

Question ID : **6549786095**
Status : **Not Answered**
Chosen Option : **--**

Gagan Pratap Maths

Q.23 The volume of a right circular cone is 462 cm^3. If its height is 12 cm, then the area of its base (in cm^2) is:

Ans

✗ 1. 124.5

✗ 2. 103.5

✓ 3. 115.5

✗ 4. 98.5

Question ID : **6549787083**
Status : **Answered**
Chosen Option : **3**

Q.24 What is the ratio of the mean proportional between 1.2 and 10.8 to the third proportional to 0.2 and 1.2?

Ans

✗ 1. 1 : 3

✓ 2. 1 : 2

✗ 3. 2 : 1

✗ 4. 3 : 1

Question ID : **6549786078**
Status : **Not Answered**
Chosen Option : **--**

Q.25 If $a + b + c = 11$ and $ab + bc + ca = 15$, then what is the value of $a^3 + b^3 + c^3 - 3abc$?

Ans

✗ 1. 368

✓ 2. 836

✗ 3. 386

✗ 4. 638

Question ID : **6549787096**
Status : **Answered**
Chosen Option : **2**

Gagan Pratap Maths

11 August 1st shift

Gagan Pratap Maths

Section : **Quantitative Aptitude**

Q.1 If $x^4 + x^{-4} = 47$, $x > 0$, then the value of $(2x-3)^2$ is:

Ans

✗ 1. 9

✗ 2. 3

✓ 3. 5

✗ 4. 7

Question ID : **6549786085**
Status : **Answered**
Chosen Option : **3**

Q.2 The value of $\frac{\sec\theta \operatorname{cosec}\theta}{2+\tan^2\theta+\cot^2\theta}$ is equal to:

Ans

✗ 1. $\sec\theta \operatorname{cosec}\theta$

✗ 2. $\sec\theta \sin\theta$

✓ 3. $\sin\theta \cos\theta$

✗ 4. $\cos\theta \operatorname{cosec}\theta$

Question ID : **6549786089**
Status : **Answered**
Chosen Option : **3**

Q.3 A 9-cm-long perpendicular is drawn from the centre of circle to a chord of length 24 cm. The radius of the circle is:

Ans

✗ 1. 20 cm

✓ 2. 15 cm

✗ 3. 12 cm

✗ 4. 18 cm

Question ID : **6549788302**
Status : **Answered**
Chosen Option : **2**

Q.4 If O is the centroid and RP is the median with length 24 cm of ΔRST, where P is a point on ST, then the value of RO is:

Ans

✗ 1. 18 cm

✗ 2. 14 cm

✗ 3. 20 cm

✓ 4. 16 cm

Question ID : **6549788304**
Status : **Answered**
Chosen Option : **4**

Q.5 When an article is sold for ₹438, there is a loss of 27%. To gain 23%, it should be sold for ₹ x. What is the value of x ?

Ans

✗ 1. ₹600

✗ 2. ₹837

✗ 3. ₹678

✓ 4. ₹738

Question ID : **6549786077**
Status : **Answered**
Chosen Option : **4**

Gagan Pratap Maths

Q.6 How many bricks each measuring 64 cm × 11.25 cm × 6 cm, will be needed to build a wall measuring 8 m × 3 m × 22.5 m?

Ans

✗ 1. 200000

✗ 2. 250000

✗ 3. 67500

✓ 4. 125000

Question ID : **6549786073**
Status : **Answered**
Chosen Option : **4**

Q.7 Study the table and answer the question that follows:

In the given table, production of five different types of machines (A, B, C, D, E) in the years from 2016 to 2020 (in thousands) is given.

Machines	Years				
	2016	2017	2018	2019	2020
A	46	53	56	58	67
B	50	65	67	66	72
C	43	54	55	47	51
D	47	52	61	65	74
E	48	58	63	64	67

What is the ratio of the total production of type A machines in 2018 and type E machines in 2019 to the total production of type C and type D machines in 2016?

Ans

✗ 1. 2 : 5

✗ 2. 5 : 2

✓ 3. 4 : 3

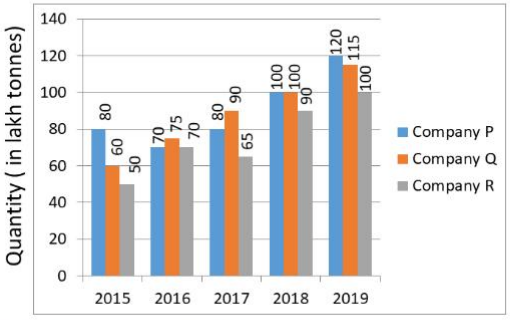
✗ 4. 3 : 4

Question ID : **6549786092**
Status : **Answered**
Chosen Option : **3**

Gagan Pratap Maths

Q.8 Study the given bar graph and answer the question that follows.

The bar graph indicates the production of sugar (in lakh tonnes) by three different sugar companies P, Q and R over the years 2015 to 2019.



By what percentage is the total production of sugar by company P from the year 2015 to 2019 more than the total production of sugar by company R from the year 2015 to 2019?

Ans

✗ 1. 18%

✗ 2. 18.5%

✓ 3. 20%

✗ 4. 15%

Question ID : **6549787205**
Status : **Answered**
Chosen Option : **3**

Q.9 If $a^2 + b^2 + c^2 + 48 = 8(a + b + c)$, then what is the value of $\sqrt[3]{a^3 - b^3 + c^3}$?

Ans

✗ 1. 6

✓ 2. 4

✗ 3. 3

✗ 4. 2

Question ID : **6549786086**
Status : **Answered**
Chosen Option : **2**

Q.10 The difference between the simple interest on a fixed amount for 7 years and on the same amount for 12 years is ₹2,500. If the rate of interest is 10% p.a., then the amount is:

Ans

✗ 1. ₹6,000

✓ 2. ₹5,000

✗ 3. ₹4,500

✗ 4. ₹5,500

Question ID : **6549788301**
Status : **Answered**
Chosen Option : **2**

Gagan Pratap Maths

Q.11 If $3\sin^2 A + 4\cos^2 A - 3 = 0$, then the value of $\cot A$ (where $0 \le A \le 90°$) is:

Ans

✗ 1. ∞

✓ 2. 0

✗ 3. 1

✗ 4. not defined

Question ID : **6549788312**
Status : **Answered**
Chosen Option : **4**

Q.12 A bus covered 360 km in 6 hours. If it travels at one-fourth of its usual speed, then how much more time will it take to cover the same distance?

Ans

✓ 1. 18 hours

✗ 2. 14 hours

✗ 3. 12 hours

✗ 4. 16 hours

Question ID : **6549788294**
Status : **Answered**
Chosen Option : **1**

Q.13 Mohan's income is 40% more than Shyam's income. Shyam's income is what percentage less than Mohan's income?

Ans

✗ 1. $28\frac{2}{7}\%$

✗ 2. $28\frac{5}{7}\%$

✗ 3. $28\frac{3}{7}\%$

✓ 4. $28\frac{4}{7}\%$

Question ID : **6549788298**
Status : **Answered**
Chosen Option : **4**

Q.14 From a point P, which is at a distance of 13 cm from the centre O of a circle, a pair of tangents PQ and PR of length 12 cm are drawn to the circle. The area of the quadrilateral PQOR (in cm^2) is:

Ans

✗ 1. 50

✗ 2. 76

✗ 3. 80

✓ 4. 60

Question ID : **6549786081**
Status : **Answered**
Chosen Option : **4**

Gagan Pratap Maths

Q.15 X can complete half of the work in 20 days and Y can do one-fifth of the same work in 10 days. X started the work and left after 8 days. Then Y took over to complete the remaining work. The total number of days taken by them to complete the work is:

Ans

✗ 1. 60 days

✗ 2. 40 days

✗ 3. 50 days

✓ 4. 48 days

Question ID : **6549786071**
Status : **Answered**
Chosen Option : **4**

Q.16 If $3x + 5y = 14$ and $xy = 6$, then what is the value of $9x^2 + 25y^2$?

Ans

✓ 1. 16

✗ 2. 14

✗ 3. 20

✗ 4. 182

Question ID : **6549788306**
Status : **Answered**
Chosen Option : **1**

Q.17 A batsman in his 13th inning makes a score of 97 runs, thereby increasing his average score by 5. What is his average score after the 13th inning?

Ans

✓ 1. 37

✗ 2. 77

✗ 3. 67

✗ 4. 57

Question ID : **6549788296**
Status : **Answered**
Chosen Option : **1**

Q.18 Two numbers are in the ratio of 7 : 4. If each number is increased by 12, then the ratio becomes 3 : 2. The sum of the numbers is:

Ans

✗ 1. 60

✓ 2. 66

✗ 3. 68

✗ 4. 56

Question ID : **6549788300**
Status : **Answered**
Chosen Option : **2**

Gagan Pratap Maths

Q.19 The marked price of an article is ₹660. A shopkeeper allows a discount of 20% and still gets a profit of 10%. If he sells it for ₹470, his profit or loss per cent, correct to two decimal places will be:

Ans

✗ 1. Profit 3.06%

✗ 2. Loss 5.43%

✗ 3. Profit 7.59%

✓ 4. Loss 2.08%

Question ID : **6549786075**
Status : **Answered**
Chosen Option : **4**

Q.20 If $\Delta ABC \sim \Delta QPR$, $\frac{ar(\Delta ABC)}{ar(\Delta PQR)} = \frac{4}{9}$, $AC = 12\ cm, AB = 18\ cm$ and $BC = 10\ cm$, then PR (in cm) is equal to:

Ans

✗ 1. 8

✗ 2. 10

✓ 3. 15

✗ 4. 18

Question ID : **6549786083**
Status : **Answered**
Chosen Option : **3**

Q.21 The value of $\left[\frac{\sin^2 27° + \sin^2 63°}{\cos^2 24° + \cos^2 66°} - \sin^2 69° - \cos 69° \sin 21°\right]$ is:

Ans

✗ 1. 3

✗ 2. 2

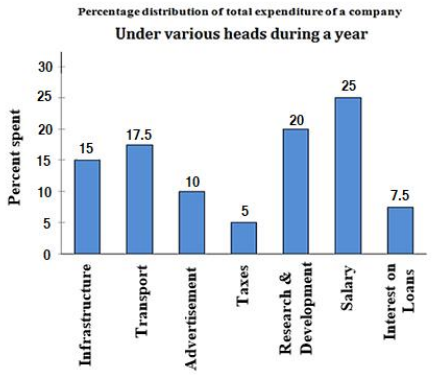
✓ 3. 0

✗ 4. 1

Question ID : **6549786091**
Status : **Answered**
Chosen Option : **3**

Gagan Pratap Maths

Q.22 Study the given graph and answer the question that follows.



If the Interest on Loans amounted to ₹4.50 crores, then the total expenditure on Advertisement, Taxes, Research & Development and Salary is:

Ans
1. ₹34 crores
2. ₹30 crores
3. ₹32 crores
4. ₹36 crores ✔

Question ID : **6549788317**
Status : **Answered**
Chosen Option : **4**

Q.23 The value of $4 \times 3 \div 2\ of\ 3 \times 2 \div (4 + 5 \times 4 \div 4\ of\ 5 - 4 \div 4 \times 4)$ is:

Ans
1. 4 ✔
2. 3
3. 6
4. 2

Question ID : **6549786088**
Status : **Answered**
Chosen Option : **1**

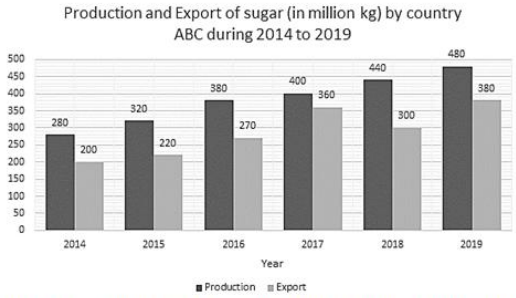
Q.24 When a number is divided by 3, the remainder is 2. Again, when the quotient is divided by 7, the remainder is 5. What will be the remainder when the original number is divided by 21?

Ans
1. 14
2. 13
3. 17 ✔
4. 16

Question ID : **6549788309**
Status : **Not Answered**
Chosen Option : **--**

Gagan Pratap Maths

Q.25 Study the given graph and answer the question that follows.



By what percentage is the average export of sugar in 2016, 2017 and 2018 less than the production in 2017?

Ans

1. 25.8%
2. 29%
3. 22.5%
4. 20%

Question ID : **6549788012**
Status : **Answered**
Chosen Option : **3**

ratap Maths

11 August 2nd shift

Gagan Pratap Maths

Section : **Quantitative Aptitude**

Q.1 Vijay bought a fridge and a washing machine together for ₹38,200. He sold the fridge at a profit of 15% and washing machine at a loss of 24% and both are sold at the same price. The cost price of the washing machine is:

Ans

✗ 1. ₹26,000

✗ 2. ₹24,000

✓ 3. ₹23,000

✗ 4. ₹22,000

Question ID : **6549787693**
Status : **Answered**
Chosen Option : **3**

Q.2 Solve for θ : $3\operatorname{cosec}\theta + 4\sin\theta - 4\sqrt{3} = 0$, where θ is an acute angle.

Ans

✗ 1. 45°

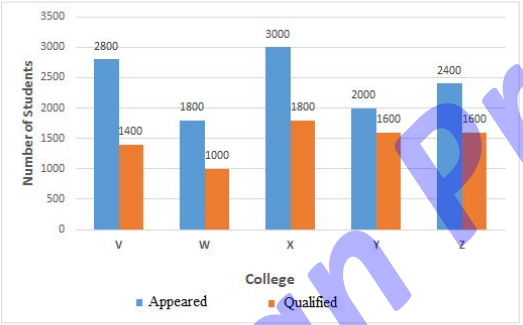
✗ 2. 30°

✓ 3. 60°

✗ 4. 15°

Question ID : **6549787707**
Status : **Answered**
Chosen Option : **3**

Q.3 Study the following graph and answer the question that follows.
Number of students that appeared and qualified, from various colleges, at a scholarship examination.



The number of students that appeared for the scholarship exam from College X is what percentage of the total number of students that appeared for the exam from all the colleges together?

Ans

✗ 1. 20

✗ 2. 30

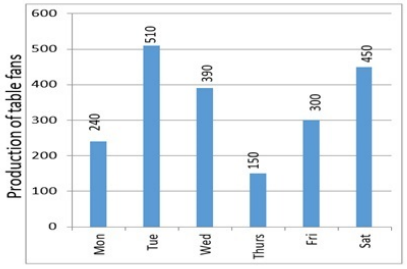
✓ 3. 25

✗ 4. 35

Question ID : **6549788720**
Status : **Answered**
Chosen Option : **3**

Gagan Pratap Maths

Q.4 The given bar graph shows the production of table fans in a factory during one week. Study the bar graph and answer the question that follows.



The average production of table fans from Monday to Wednesday is approximately what percentage more than the average production of table fans from Thursday to Saturday?

(correct to one decimal place)

Ans

✗ 1. 25%

✗ 2. 28%

✗ 3. 27.5%

✓ 4. 26.7%

Question ID : **6549787610**
Status : **Answered**
Chosen Option : **4**

Q.5 If the volume of a sphere is $697\frac{4}{21}\,cm^3$, then its radius is:

(Take $\pi = \frac{22}{7}$)

Ans

✗ 1. 6 cm

✗ 2. 5 cm

✗ 3. 4.5 cm

✓ 4. 5.5 cm

Question ID : **6549787689**
Status : **Not Answered**
Chosen Option : **--**

Q.6 x, y are two positive numbers such that $x > y$. If $x^4 + y^4 = 706$ and $xy = 15$, then the value of $2x + 3y$ is:

Ans

✓ 1. 19

✗ 2. 20

✗ 3. 18

✗ 4. 15

Question ID : **6549787702**
Status : **Not Answered**
Chosen Option : **--**

Gagan Pratap Maths

Q.7 The marked price of an article is ₹1,360. If a shopkeeper sold the article at 15% loss after giving 25% discount, then the cost price of the article is:

Ans

✔ 1. ₹1,200

✘ 2. ₹1,600

✘ 3. ₹1,400

✘ 4. ₹1,500

Question ID : **6549787691**
Status : **Not Answered**
Chosen Option : **--**

Q.8 A completes 20% of a work in 5 days and B completes one-third of the work in 5 days. They began the work together but B leaves after 3 days. The total number of days needed for completion of the work is:

Ans

✘ 1. 18

✘ 2. 24

✔ 3. 20

✘ 4. 30

Question ID : **6549787687**
Status : **Answered**
Chosen Option : **3**

Q.9 If the radius of a circle is equal to a diagonal of a square whose area is 12 cm^2, then the area of the circle is:

Ans

✘ 1. $28\pi\ cm^2$

✘ 2. $32\pi\ cm^2$

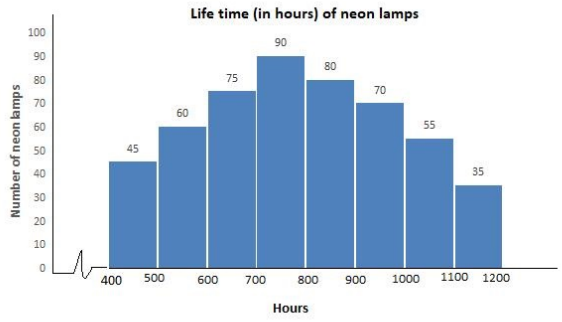
✔ 3. $24\pi\ cm^2$

✘ 4. $36\pi\ cm^2$

Question ID : **6549787595**
Status : **Answered**
Chosen Option : **4**

Gagan Pratap Maths

Q.10 Study the given bar graph which shows the life time (in hours) of neon lamps and the number of neon lamps and answer the question that follows.



The number of neon lamps having life 500 hours or more but less than 700 hours is what percent of the total number of neon lamps having life 800 hours or more?

Ans

✗ 1. 57.75%

✗ 2. 61.55%

✓ 3. 56.25%

✗ 4. 51.85%

Question ID : **6549786901**
Status : **Answered**
Chosen Option : **3**

Q.11 A, B and C are three positive numbers such that A is 70% of B, and B is 40% of C. If the sum of all three numbers is 336, then 15% of the sum of B and C is:

Ans

✓ 1. 42

✗ 2. 44

✗ 3. 48

✗ 4. 32

Question ID : **6549787591**
Status : **Answered**
Chosen Option : **1**

Q.12 The smallest six-digit number that is exactly divisible by 53 is:

Ans

✓ 1. 100011

✗ 2. 100042

✗ 3. 100008

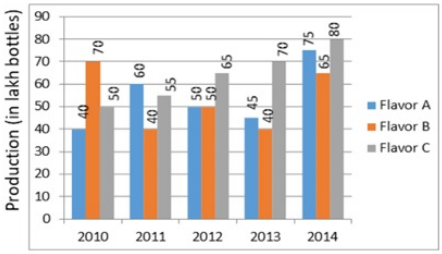
✗ 4. 100064

Question ID : **6549787602**
Status : **Not Answered**
Chosen Option : **--**

Gagan Pratap Maths

Q.13 A soft drink company prepares drinks of three different flavours — A, B and C. The production of the three flavours over a period of five years from 2010 to 2014 has been expressed in the given bar graph. Study the graph and answer the question that follows.

Production of three different flavours A, B and C (in lakh bottles) by a company over five years.



What was the approximate percentage decline in the production of flavour A in 2013 as compared to the production of flavour A in 2011?

Ans

✗ 1. 30%

✗ 2. 24%

✗ 3. 20%

✓ 4. 25%

Question ID : **6549787708**
Status : **Answered**
Chosen Option : **4**

Q.14 A, B and C are three positive numbers such that the average of three-fifth of A and 30% of B is 13.5, and the average of $\frac{3}{8}$ times of B and 25% of C is 15. If A is equal to $\frac{5}{12}$ times of C, then the sum of all three numbers A, B and C is:

Ans

✓ 1. 125

✗ 2. 135

✗ 3. 145

✗ 4. 120

Question ID : **6549787589**
Status : **Not Answered**
Chosen Option : **--**

Q.15 In a triangle ABC, the length of side AC is 4 cm less than five times the length of side AB. The length of side BC exceeds four times the length of side AB by 4 cm. If the perimeter of ΔABC is 90 cm, then its area is:

Ans

✗ 1. 160 cm^2

✗ 2. 164 cm^2

✓ 3. 180 cm^2

✗ 4. 148 cm^2

Question ID : **6549787699**
Status : **Not Answered**
Chosen Option : **--**

Gagan Pratap Maths

Q.16 If $a - \frac{24}{a} = 5$, where $a > 0$, then the value of $a^2 + \frac{64}{a^2}$ is:

Ans
1. 45
2. 56
3. 60
4. 65 ✔

Question ID : **6549787599**
Status : **Not Answered**
Chosen Option : **--**

Q.17 If $a - b = 7$ *and* $a^2 + b^2 + 169$ *where* $a, b > 0$, then the value of $3a + b$ is:

Ans
1. 44
2. 41 ✔
3. 38
4. 46

Question ID : **6549787701**
Status : **Answered**
Chosen Option : **2**

Q.18 If $\cot A + cosecA = 2$ and A is an acute angle, then the value of $\frac{9\tan A + 16\text{cosec}A}{5\sin A + 3\tan A}$ is:

Ans
1. 3
2. 6
3. 4 ✔
4. 8

Question ID : **6549787605**
Status : **Not Answered**
Chosen Option : **--**

Q.19 A sum of money is distributed among A, B, C and D in the ratio 5 : 7 : 11 : 15, respectively. If C gets ₹2,480 more than B, then the difference between the shares of B and D is:

Ans
1. ₹6,490
2. ₹4,950
3. ₹4,690
4. ₹4,960 ✔

Question ID : **6549787593**
Status : **Answered**
Chosen Option : **4**

Gagan Pratap Maths

Q.20 A certain sum of money amounts to ₹9,766 in 3 years at simple interest at R% per annum and to ₹10,849 in $4\frac{1}{2}$ years at the same rate of simple interest. The value of R is:

Ans
1. 8
2. 9
3. 9.5 ✔
4. 8.5

Question ID : **6549787594**
Status : **Answered**
Chosen Option : **3**

Q.21 Ajit Singh left from place P at 9.30 a.m. for place Q, and David Raj left place Q at 1.30 p.m. for place P. The distance between them is 416 km. If Ajit Singh's speed is 44 km/h and David Raj's speed is 52 km/h, then at what time will they meet each other?

Ans
1. 4.30 p.m.
2. 5 p.m.
3. 6 p.m.
4. 4 p.m. ✔

Question ID : **6549787587**
Status : **Not Answered**
Chosen Option : **--**

Q.22 The sum of three sides of an isosceles triangle is 20 cm, and the ratio of an equal side to the base is 3 : 4. The altitude of the triangle is:

Ans
1. $3\sqrt{3}cm$
2. $3\sqrt{5}cm$
3. $4\sqrt{5}cm$
4. $2\sqrt{5}cm$ ✔

Question ID : **6549787597**
Status : **Answered**
Chosen Option : **4**

Q.23 The value of $441 \div \left[270 \div \frac{3}{7} \text{ of } 35 + \left(17 \div \frac{1}{3}\right) - \left(8\frac{1}{2} - \frac{5}{2}\right)\right]$ is:

Ans
1. 7 ✔
2. 21
3. 11
4. 14

Question ID : **6549787704**
Status : **Not Answered**
Chosen Option : **--**

Gagan Pratap Maths

Q.24 If $cot^2\,\theta + cot^4\theta = 2$, then the value of $2\,sin^4\theta + sin^2\theta$ is:

Ans

✗ 1. 3

✗ 2. 5

✓ 3. 1

✗ 4. 2

Question ID : **6549787705**
Status : **Answered**
Chosen Option : **4**

Q.25 A, B and C are three points on a circle whose centre is O. If angle BOC is equal to 124°, then what is the value (in degrees) of angle BAC ?

Ans

✗ 1. 72

✓ 2. 62

✗ 3. 66

✗ 4. 34

Question ID : **6549787697**
Status : **Not Answered**
Chosen Option : **--**

ratap Maths

11 August 3rd shift

Section : **Quantitative Aptitude**

Q.1 In ΔABC, P and Q are the mid-points of the sides AB and AC, respectively. R is a point on the segment PQ such that PR : RQ = 1 : 3. If PR = 4 cm, then BC is equal to:

Ans

✗ 1. 36 cm

✗ 2. 28 cm

✗ 3. 24 cm

✓ 4. 32 cm

Question ID : **6549788203**
Status : **Answered**
Chosen Option : **4**

Q.2 The value of $\frac{\cos^2 89° + \cos^2 1°}{\cos 30° \sin 90° - \sin 30° \cos 90°}$ is:

Ans

✓ 1. $\frac{2}{\sqrt{3}}$

✗ 2. $2\sqrt{3}$

✗ 3. $\frac{1}{\sqrt{3}}$

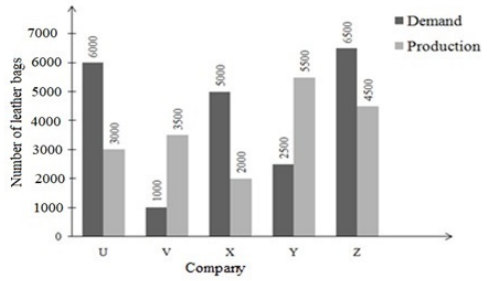
✗ 4. $\frac{1}{1-\sqrt{3}}$

Question ID : **6549788311**
Status : **Answered**
Chosen Option : **1**

Gagan Pratap Maths

Q.3 Study the given graph and answer the question that follows.

The chart represents the demand and production of leather bags by five companies U, V, X, Y and Z.



The difference between the average demand and average production of the five companies taken together is:

Ans

✗ 1. 525

✗ 2. 450

✗ 3. 475

✓ 4. 500

Question ID : **6549788216**
Status : **Answered**
Chosen Option : **4**

Q.4 The largest six-digit number exactly divisible by 243 is:

Ans

✗ 1. 999943

✓ 2. 999945

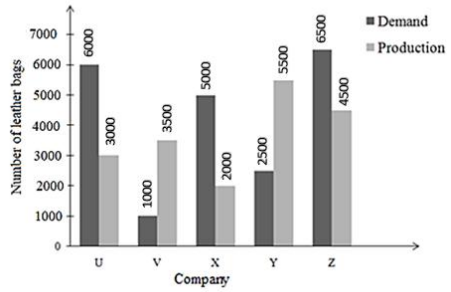
✗ 3. 999947

✗ 4. 999949

Question ID : **6549788208**
Status : **Answered**
Chosen Option : **2**

Gagan Pratap Maths

Q.5 Study the given graph and answer the question that follows.
The chart represents the demand and production of leather bags by five companies U, V, X, Y and Z.



If h% of the demand of leather bags for company X equals the demand of the leather bags for company V, then h equals:

Ans
1. 22
2. 20 ✔
3. 18
4. 24

Question ID : **6549788314**
Status : **Answered**
Chosen Option : **2**

Q.6 A sum of ₹9,400 is divided between A, B and C such that the ratio of the shares of A and B is 4 : 3 and that of B and C is 5 : 4. What is the share of C?

Ans
1. ₹2,600
2. ₹2,200
3. ₹2,000
4. ₹2,400 ✔

Question ID : **6549788199**
Status : **Answered**
Chosen Option : **4**

Q.7 If $x = 555$, $y = 556$ and $z = 557$, then find the value of $x^3 + y^3 + z^3 - 3xyz$.

Ans
1. 5006
2. 5002
3. 5008
4. 5004 ✔

Question ID : **6549788308**
Status : **Not Answered**
Chosen Option : **--**

Gagan Pratap Maths

Q.8 The average age of 35 persons is 40 years. 5 new persons with an average age of 35 years joined them. The average age of all the persons is:

Ans

✔ 1. $39\frac{3}{8}$ years

✘ 2. $39\frac{1}{8}$ years

✘ 3. $39\frac{7}{8}$ years

✘ 4. $39\frac{5}{8}$ years

Question ID : **6549788195**
Status : **Answered**
Chosen Option : **1**

Q.9 The area of the largest triangle that can be inscribed in a semi-circle of radius 6 cm is:

Ans

✔ 1. $36cm^2$

✘ 2. $34cm^2$

✘ 3. $35cm^2$

✘ 4. $38cm^2$

Question ID : **6549788305**
Status : **Answered**
Chosen Option : **1**

Q.10 If $6\tan^2\alpha - 2 = 0$, $(0 < \alpha < 90°)$, then the value of α is:

Ans

✔ 1. $30°$

✘ 2. $45°$

✘ 3. $15°$

✘ 4. $75°$

Question ID : **6549788313**
Status : **Answered**
Chosen Option : **1**

Q.11 If $a + 5b = 25$ and $ab = 20$, then one of the values of $(a - 5b)$ is:

Ans

✔ 1. 15

✘ 2. 14

✘ 3. 16

✘ 4. 13

Question ID : **6549788307**
Status : **Answered**
Chosen Option : **1**

Gagan Pratap Maths

Q.12 Varun and Gaurav can dig a pond in 10 days and 18 days, respectively. After finishing that work together, they receive an amount of ₹7,280. What is the share of Gaurav in that amount?

Ans

✔ 1. ₹2,600

✘ 2. ₹2,500

✘ 3. ₹2,700

✘ 4. ₹2,800

Question ID : **6549788293**
Status : **Not Answered**
Chosen Option : **--**

Q.13 Ram sold a plot for ₹6,55,000 at 20% loss. For what price should he sell the plot to gain 15% profit?

Ans

✘ 1. ₹7,41,562.50

✘ 2. ₹6,41,562.50

✘ 3. ₹8,41,562.50

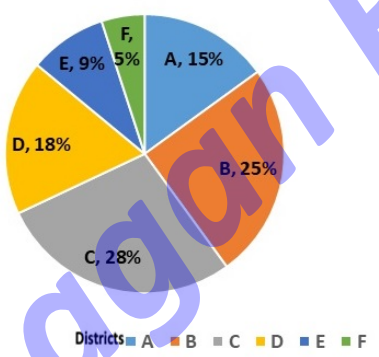
✔ 4. ₹9,41,562.50

Question ID : **6549788299**
Status : **Answered**
Chosen Option : **4**

Q.14 Study the given pie-chart and answer the question that follows.

The pie-chart represents the percentage distribution of candidates qualified in a bank examination from six different districts of a State in 2016. The total number of qualified candidates from the State is 68000.

The percentage distribution of candidates qualified for a bank examination from six districts A, B, C, D, E, and F of a State



What is the difference (to the nearest whole number) between the average number of qualified students from the Districts A, C and F and the average number of qualified students from the Districts B, D and E?

Ans

✘ 1. 906

✘ 2. 910

✘ 3. 900

✔ 4. 907

Question ID : **6549789023**
Status : **Answered**
Chosen Option : **1**

Gagan Pratap Maths

Q.15 Pawan travels from X to Y at the speed of 10 km/h, from Y to Z at 15 km/h and from Z to W at 20 km/h. If XY = YZ = ZW (in km), then the average speed of Pawan for the whole journey is:

Ans

✗ 1. $13\frac{10}{13}$ km/h

✓ 2. $13\frac{11}{13}$ km/h

✗ 3. $13\frac{8}{13}$ km/h

✗ 4. $13\frac{9}{13}$ km/h

Question ID : **6549788193**
Status : **Not Answered**
Chosen Option : **--**

Q.16 Line AC is a tangent to a circle at point B on it, and PQ is a chord of the circle such that BP = BQ. If $\angle ABP = 64^\circ$, then find the measure of $\angle PBQ$.

Ans

✗ 1. 58°

✗ 2. 64°

✓ 3. 52°

✗ 4. 32°

Question ID : **6549788201**
Status : **Answered**
Chosen Option : **3**

Q.17 The value of $364 - [142 - \{75 + (38 - \frac{5}{4} + \frac{14}{8})\}]$ is:

Ans

✓ 1. 332

✗ 2. 330

✗ 3. 331

✗ 4. 334

Question ID : **6549788310**
Status : **Answered**
Chosen Option : **1**

Q.18 A shopkeeper marks his goods 25% above the cost price. Then, he allows a 40% discount on it. What is the percentage loss?

Ans

✓ 1. 25%

✗ 2. 15%

✗ 3. 20%

✗ 4. 30%

Question ID : **6549788297**
Status : **Answered**
Chosen Option : **1**

Gagan Pratap Maths

Q.19 If $\sin\alpha + \csc\alpha = \tan\frac{\pi}{3}$, then the value of $(\sin^3\alpha + \csc^3\alpha)$ is equal to:

Ans

✗ 1. ½

✗ 2. 1

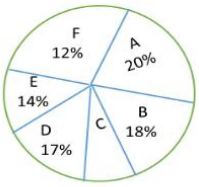
✓ 3. 0

✗ 4. 3/2

Question ID : **6549788211**
Status : **Answered**
Chosen Option : **3**

Q.20 Study the given pie chart and table and answer the question that follows.

The pie chart represents the percentagewise distribution of 300 students of class X in a school in six different sections A, B, C, D, E and F.



The table shows the number of boys of class X in six different sections A, B, C, D, E and F.

Section	A	B	C	D	E	F
No. of boys	36	26	34	28	_____	20

If the total number of students in section C is 57, then the total number of girls in section C and D together will be:

Ans

✗ 1. 36

✓ 2. 46

✗ 3. 48

✗ 4. 40

Question ID : **6549787204**
Status : **Not Answered**
Chosen Option : **--**

Q.21 If $3a - b = 1$ and $ab = 4$, then the value of $(9a^2 - b^2)$ is:

Ans

✓ 1. 7

✗ 2. 8

✗ 3. 5

✗ 4. 6

Question ID : **6549788205**
Status : **Answered**
Chosen Option : **3**

Gagan Pratap Maths

Q.22 In how much time will a sum of ₹5,000 invested at the rate of 15% simple interest per annum amount to ₹6,500?

Ans

✗ 1. 2.5 years

✗ 2. 1 year

✗ 3. 1.5 years

✓ 4. 2 years

Question ID : **6549788200**
Status : **Answered**
Chosen Option : **4**

Q.23 The cost price of a chair is ₹1,800. Later, its cost price becomes ₹2,100. What is the percentage increase in the cost price of the chair?

Ans

✗ 1. $16\frac{5}{6}\%$

✓ 2. $16\frac{2}{3}\%$

✗ 3. $16\frac{1}{2}\%$

✗ 4. $16\frac{1}{3}\%$

Question ID : **6549788197**
Status : **Answered**
Chosen Option : **2**

Q.24 Two parallel chords are drawn in a circle of diameter 50 cm on the opposite sides of its centre. The length of one chord is 40 cm and the distance between the two chords is 22 cm. The length of the other chord is:

Ans

✗ 1. 46 cm

✗ 2. 50 cm

✗ 3. 44 cm

✓ 4. 48 cm

Question ID : **6549788303**
Status : **Answered**
Chosen Option : **4**

Q.25 The perimeter of a rectangle is 86 cm. The numbers representing its area and breadth are in the ratio of 9 : 1, respectively. The breadth of the rectangle is:

Ans

✗ 1. 32 cm

✓ 2. 34 cm

✗ 3. 36 cm

✗ 4. 30 cm

Question ID : **6549788295**
Status : **Answered**
Chosen Option : **2**

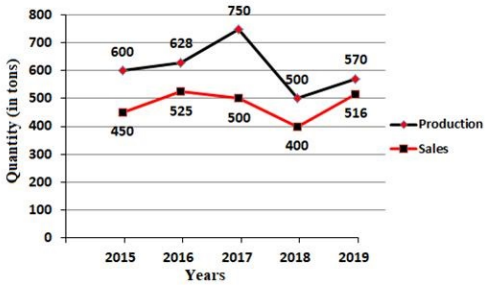
Section : **General Awareness**

Gagan Pratap Maths

12 April 1st shift

Q.1 The line graph shows the production (in tonnes) and the sales (in tonnes) of a company.

What percentage (approximately) of the total production of the company is the total sales of the company in all the years together? (correct to 2 decimal places)



Ans

✗ 1. 75

✗ 2. 72.55

✗ 3. 68.12

✓ 4. 78.44

Question ID : **6549789529**
Status : **Not Answered**
Chosen Option : **--**

Q.2 If $cosec\theta = \frac{\sqrt{5}}{2}$, then what will be the value of $(sec\theta + tan\theta - cot\theta sin\theta)$?

Ans

✓ 1. $2 + \frac{4\sqrt{5}}{5}$

✗ 2. $2 + \sqrt{5}$

✗ 3. $2 + \frac{\sqrt{5}}{2}$

✗ 4. $2 + \frac{2\sqrt{5}}{5}$

Question ID : **6549786594**
Status : **Not Answered**
Chosen Option : **--**

Q.3 One diagonal of a rhombus is $8\sqrt{3}$ cm. If the other diagonal is equal to its side, then the area (in cm^2) of the rhombus is:

Ans

✗ 1. $12\sqrt{3}$

✗ 2. $24\sqrt{3}$

✗ 3. $16\sqrt{3}$

✓ 4. $32\sqrt{3}$

Question ID : **6549786578**
Status : **Not Attempted and Marked For Review**
Chosen Option : **--**

Gagan Pratap Maths

Q.4 The average weight of 30 persons of group A is 3 kg more than the average weight of 25 persons of group B. The average weight of 25 persons of group B is 2.5 kg more than the average weight of 20 persons of group C. If the total weight of 30 persons of group A is 1725 kg, then what will be the average weight of the persons of group A and group C taken together (in kg)?

Ans
✔ 1. 55.3
✘ 2. 55.4
✘ 3. 55.1
✘ 4. 55

Question ID : **6549789508**
Status : **Not Answered**
Chosen Option : **--**

Q.5 In $\triangle ABC$, $\angle A = 135°, CA = 5\sqrt{2}$ cm and $AB = 7$ cm. E and F are the midpoints of sides AC and AB, respectively. The length of EF (in cm) is:

Ans
✔ 1. 6.5
✘ 2. 5.5
✘ 3. 6
✘ 4. 5

Question ID : **6549786588**
Status : **Not Answered**
Chosen Option : **--**

Q.6 Study the given graph and answer the question that follows.

What is the ratio of the total exports in 2014 and 2017 to the total imports in 2015 and 2018?

Ans
✘ 1. 14 : 15
✘ 2. 3 : 2
✔ 3. 6 : 7
✘ 4. 5 : 6

Question ID : **6549786597**
Status : **Answered**
Chosen Option : **3**

Gagan Pratap Maths

Q.7 If $x^2 - 6\sqrt{3}x + 1 = 0$, then the value of $x^3 + \frac{1}{x^3}$ will be:

Ans
✗ 1. $234\sqrt{3}$
✗ 2. $216\sqrt{3}$
✗ 3. $666\sqrt{3}$
✓ 4. $630\sqrt{3}$

Question ID : **6549786590**
Status : **Not Answered**
Chosen Option : **--**

Q.8 A car covers a distance of 48 km at a speed of 40 km/h and another 52 km with a speed of 65 km/h. What is the average speed of the car (in km/h) for the total distance covered?

Ans
✗ 1. 52.5
✓ 2. 50
✗ 3. 52
✗ 4. 53

Question ID : **6549789506**
Status : **Answered**
Chosen Option : **2**

Q.9 Simplify the following expression. $(2x - 3y)^3 - 18xy(2x - 3y)$

Ans
✗ 1. $8x^3 - 27y^3 - 36x^2y - 54xy^2$
✓ 2. $8x^3 - 72x^2y + 108xy^2 - 27y^3$
✗ 3. $8x^3 - 27y^3$
✗ 4. $8x^3 + 108xy^2 - 72x^2y$

Question ID : **6549789518**
Status : **Not Answered**
Chosen Option : **--**

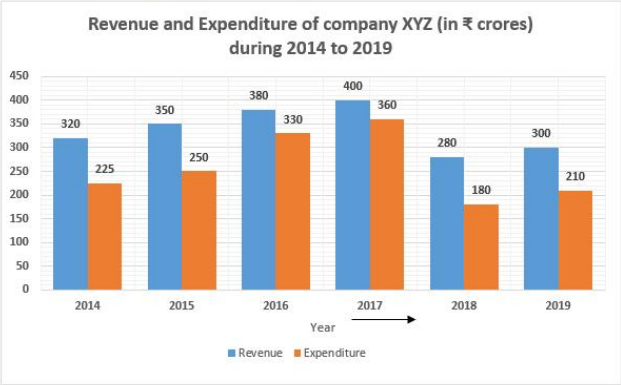
Q.10 Anamika paid ₹4,965 as compound interest on a loan of ₹15,000 after 3 years when compounded annually. Suman took a loan of ₹10,000 at the same rate on simple interest. How much interest did Suman pay after 3 years?

Ans
✗ 1. ₹4,500
✗ 2. ₹4,000
✓ 3. ₹3,000
✗ 4. ₹3,500

Question ID : **6549789513**
Status : **Not Answered**
Chosen Option : **--**

Gagan Pratap Maths

Q.11 Study the given graph and answer the question that follows.



In which year was the percentage increase in the revenue as compared to that in its preceding year below 6%?

Ans
1. 2015
2. 2019
3. 2016
4. 2017 ✔

Question ID : **6549787811**
Status : **Not Answered**
Chosen Option : **--**

Q.12 If $8sin^2\theta + 2cos\theta = 5$, $0° < \theta < 90°$, then the value of $tan^2\theta + sec^2\theta - sin^2\theta$ will be:

Ans
1. $\frac{305}{144}$ ✔
2. $\frac{431}{144}$
3. $\frac{23}{9}$
4. $\frac{153}{72}$

Question ID : **6549786596**
Status : **Not Answered**
Chosen Option : **--**

Q.13 Chord AB and diameter CD of a circle meet at the point P, outside the circle when produced. If $PB = 8$ cm, $AB = 12$ cm and the distance of P from the centre of the circle is 18 cm, the radius (in cm) of the circle is closest to:

Ans
1. 12.8 ✔
2. 12.4
3. 13
4. 12

Question ID : **6549786586**
Status : **Not Answered**
Chosen Option : **--**

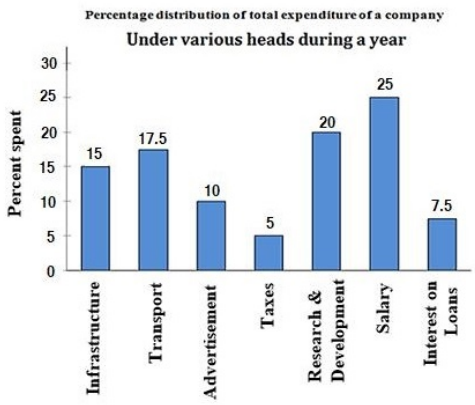
Gagan Pratap Maths

Q.14 If $x^4 + y^4 + x^2y^2 = 117$ and $x^2 + y^2 - xy = 3(4+\sqrt{3})$, then the value of $(x^2 + y^2)$ will be:

Ans
1. 9
2. $6\sqrt{3}$
3. 12 ✔
4. $13\sqrt{3}$

Question ID : **6549786591**
Status : **Not Answered**
Chosen Option : **--**

Q.15 Study the given graph and answer the question that follows.



The expenditure on Interest on Loans is by what percentage more than the expenditure on Taxes?

Ans
1. 30%
2. 40%
3. 25%
4. 50% ✔

Question ID : **6549788214**
Status : **Not Answered**
Chosen Option : **--**

Q.16 The altitude AD of a triangle ABC is 9 cm. If AB = $6\sqrt{3}$ cm and CD = $3\sqrt{3}$ cm, then what will be the measure of $\angle A$?

Ans
1. 90°
2. 30°
3. 45°
4. 60° ✔

Question ID : **6549789524**
Status : **Answered**
Chosen Option : **4**

Gagan Pratap Maths

Q.17 Sulekha bought 36 kg of sugar for ₹1,040. She sold it at a profit equal to the selling price of 10 kg of it. What is the selling price (in ₹) for 5 kg of sugar?

Ans
✗ 1. 235
✗ 2. 215
✗ 3. 220
✓ 4. 200

Question ID : **6549786582**
Status : **Not Answered**
Chosen Option : **--**

Q.18 Geeta scored 30% and failed by 50 marks, while Sandeep who scored 45% marks, got 25 marks more than the minimum marks required to pass the examination. How many marks did Vimal get if he scored 64% marks?

Ans
✗ 1. 500
✗ 2. 256
✓ 3. 320
✗ 4. 436

Question ID : **6549789510**
Status : **Answered**
Chosen Option : **3**

Q.19 A and B can complete a certain task in 24 days and 40 days, respectively. They worked together for 8 days. C completed the remaining task in 14 days. Working together, A and C will complete 75% of the same work in:

Ans
✓ 1. 10 days
✗ 2. 12 days
✗ 3. 15 days
✗ 4. 9 days

Question ID : **6549786576**
Status : **Answered**
Chosen Option : **1**

Q.20 In a circle with centre O, a 6 cm long chord is at a distance 4 cm from the centre. Find the length of the diameter.

Ans
✗ 1. 14 cm
✗ 2. 7 cm
✗ 3. 5 cm
✓ 4. 10 cm

Question ID : **6549789514**
Status : **Answered**
Chosen Option : **4**

Gagan Pratap Maths

Q.21 A sum of money is divided among A, B and C in the ratio 2 : 3 : 7, respectively. If the share of B is ₹15,000, then what will be the difference in the shares of B and C?

Ans
✗ 1. ₹15,000
✓ 2. ₹20,000
✗ 3. ₹18,000
✗ 4. ₹50,000

Question ID : **6549789512**
Status : **Answered**
Chosen Option : **2**

Q.22 What is the product of the largest and the smallest possible values of m for which a number 5m83m4m1 is divisible by 9?

Ans
✗ 1. 80
✗ 2. 10
✗ 3. 40
✓ 4. 16

Question ID : **6549789521**
Status : **Not Answered**
Chosen Option : **--**

Q.23 An article is sold for ₹1,176 after two successive discounts of 30% and 16% on its list price. What is the difference (in ₹) between the list price and the selling price of the article?

Ans
✗ 1. 740
✗ 2. 820
✗ 3. 840
✓ 4. 824

Question ID : **6549786580**
Status : **Answered**
Chosen Option : **4**

Q.24 The value of $\left(2\frac{1}{2} \div 1\frac{7}{8}\right) \div \left(9\frac{4}{9} \div 11\frac{1}{3} \text{ of } \frac{1}{8}\right) \text{ of } \frac{4}{3} \times 5\frac{1}{3} - \frac{9}{8} \div \frac{3}{4}$ is:

Ans
✗ 1. $\frac{1}{5}$
✓ 2. $-\frac{7}{10}$
✗ 3. $\frac{23}{10}$
✗ 4. $-\frac{4}{5}$

Question ID : **6549786593**
Status : **Not Answered**
Chosen Option : **--**

Gagan Pratap Maths

Q.25 In ΔABC, AD is a median. If points E, F and G are midpoints of AD, AE and DE, respectively, then what will be the area ΔBFG?

Ans

✗ 1. $\frac{1}{2}$(Area ΔABC)

✗ 2. $\frac{1}{8}$(Area ΔABC)

✓ 3. $\frac{1}{4}$(Area ΔABC)

✗ 4. $\frac{1}{2}$(Area ΔBGC)

Question ID : **6549789516**
Status : **Not Answered**
Chosen Option : **--**

Gagan P aths

12 April 2nd shift

Q.1 If the difference between two numbers is 5 and the difference between their cubes is 1850, then the difference between their squares is:

Ans

✗ 1. $5\sqrt{482}$

✗ 2. $5\sqrt{483}$

✗ 3. $5\sqrt{484}$

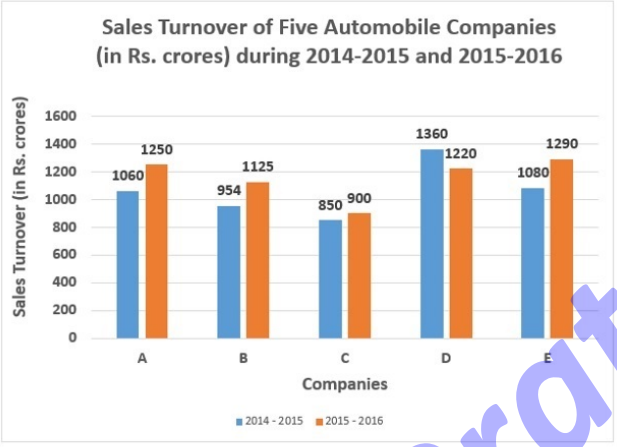
✓ 4. $5\sqrt{485}$

Question ID : **6549789318**
Status : **Not Answered**
Chosen Option : **--**

Q.2 Study the given bar graph and answer the question that follows.

The given bar graph represents the Sales Turnover (in ₹ crore) of five automobile companies A, B, C, D and E during 2014-2015 and 2015-2016. The X-axis represents the Companies, and the Y-axis shows the Sales Turnover (in ₹ crore).

(The data shown here is only for mathematical exercise. They do not represent the actual figures of the company.)



If there was an increase of 25% in the average of the sales turnover of all the companies together in 2014-2015 from that in 2013-2014, then what was the average (in ₹ crore, up to two decimal places) of the sales turnover of all the companies together in 2013-2014?

Ans

✗ 1. 806.21

✗ 2. 985.67

✓ 3. 848.64

✗ 4. 588.96

Question ID : **6549788923**
Status : **Not Answered**
Chosen Option : **--**

Q.3 What is the value of 9% of 5500 + 2.4% of 1100 – 40% of 1600?

Ans

✓ 1. –118.6

✗ 2. 118.6

✗ 3. –181.6

✗ 4. 181.6

Question ID : **6549788904**
Status : **Answered**
Chosen Option : **1**

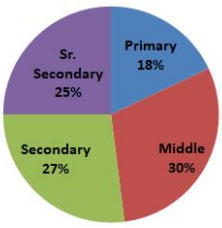
Gagan Pratap Maths

Q.4 30 people went to a restaurant for a dinner party. 20 of them paid ₹880 each and each of the rest of them paid ₹110 more than the average of the total expenses. What was the total expense (in ₹) for the dinner?

Ans
✗ 1. 27,840
✗ 2. 29,360
✗ 3. 24,580
✓ 4. 28,050

Question ID : **6549788902**
Status : **Not Answered**
Chosen Option : **--**

Q.5 Students of Primary, Middle, Secondary and Sr. Secondary classes collected donation for a Relief Fund as shown in the pie chart. If the donation collected from Middle classes was ₹6,750, then what would be the total amount of money collected by Secondary and Sr. Secondary classes?



Ans
✗ 1. ₹9,675
✗ 2. ₹9,450
✓ 3. ₹11,700
✗ 4. ₹12,825

Question ID : **6549789528**
Status : **Answered**
Chosen Option : **3**

Q.6 If the number A9257B684 is divisible by 11, then what is the least value of A – B?

Ans
✗ 1. 14
✗ 2. 3
✗ 3. 0
✓ 4. –8

Question ID : **6549788915**
Status : **Answered**
Chosen Option : **2**

Q.7 Find the area (in cm^2) and the diameter (in cm), respectively, of a circle whose circumference is 40π cm?

Ans
✗ 1. 40 and 400π
✗ 2. 400 and 40
✗ 3. 40 and 400
✓ 4. 400π and 40

Question ID : **6549788908**
Status : **Answered**
Chosen Option : **4**

Gagan Pratap Maths

Q.8 If $(a + b + c) = 0$ and $(abc) = 12$, then what is the value of $(a^3 + b^3 + c^3)$?

Ans
✗ 1. 12
✓ 2. 36
✗ 3. 72
✗ 4. 6

Question ID : **6549788912**
Status : **Answered**
Chosen Option : **2**

Q.9 The length of a rectangle is five times of its breadth. If the area of the rectangle is 3125 cm^2, then what is the length of the rectangle?

Ans
✗ 1. 135 cm
✗ 2. 130 cm
✓ 3. 125 cm
✗ 4. 120 cm

Question ID : **6549789305**
Status : **Answered**
Chosen Option : **3**

Q.10 What is the value of $sin^2 60 + tan^2 45 + sec^2 45 - cosec^2 30$?

Ans
✗ 1. -4
✗ 2. $\frac{1}{4}$
✗ 3. 4
✓ 4. $-\frac{1}{4}$

Question ID : **6549788918**
Status : **Answered**
Chosen Option : **4**

Q.11 Two trains start at the same time from two stations and proceed towards each other at speeds of 90 km/h and 70 km/h, respectively. When they meet, it is found that one train has travelled 140 km more than the other. What is the distance (in km) between the two stations?

Ans
✗ 1. 980
✗ 2. 1100
✗ 3. 1200
✓ 4. 1120

Question ID : **6549788900**
Status : **Not Answered**
Chosen Option : **--**

Gagan Pratap Maths

Q.12 A shopkeeper sells two refrigerator sets at the same price. He gains 40% on one refrigerator and loses 40% on the other. What is his net loss percentage in the whole transaction?

Ans
✔ 1. 16%
✘ 2. 18%
✘ 3. 14%
✘ 4. 12%

Question ID : **6549789309**
Status : **Answered**
Chosen Option : **1**

Q.13 What is the area (in m^2, up to 1 place of decimal) of an equilateral triangular field of side 8.5 m?

Ans
✘ 1. $\frac{18.1}{\sqrt{3}}$
✘ 2. $\frac{72.25}{\sqrt{3}}$
✔ 3. $18.1\sqrt{3}$
✘ 4. $72.25\sqrt{3}$

Question ID : **6549788910**
Status : **Answered**
Chosen Option : **3**

Q.14 The given pie charts represent the distribution of candidates who enrolled for a bank clerical examination and the candidates (out of those enrolled) who passed the examination, from five different institutes P, Q, R, S and T. Study the pie charts and answer the question that follows.

(i) Total number of candidates who enrolled for the examination from five institutes = 5500

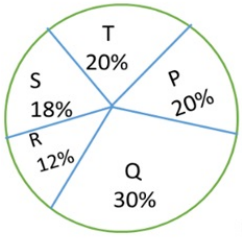


Fig.(i)

(ii) Total number of candidates who passed the examination from five institutes = 3300

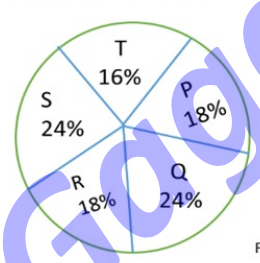


Fig.(ii)

The average number of candidates passed from institutes P and Q together is what percentage of the total number of candidates enrolled from institutes P and Q together?

Ans
✘ 1. 30%
✘ 2. 25.8%
✘ 3. 24.6%
✔ 4. 25.2%

Question ID : **6549787508**
Status : **Not Answered**
Chosen Option : **--**

Gagan Pratap Maths

Q.15 In General store, an item with an MRP of ₹35,600 is on the discount counter with a special price of ₹34,888. What is the percentage of discount given for that item?

Ans
✗ 1. 3%
✗ 2. 1%
✗ 3. 4%
✓ 4. 2%

Question ID : **6549789307**
Status : **Answered**
Chosen Option : **4**

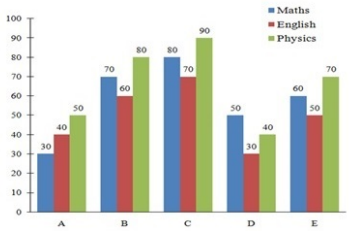
Q.16 If $2\tan x + 3\cot x = 5$, then the value of $4\tan^2 x + 9\cot^2 x$ is:

Ans
✓ 1. 13
✗ 2. 11
✗ 3. 17
✗ 4. 15

Question ID : **6549789321**
Status : **Answered**
Chosen Option : **1**

Q.17 Study the following graph and answer the question that follows.

Marks scored by five students A, B, C, D and E in three subjects (Maths, English and Physics). Total marks for each subject are 100.



What is the percentage marks obtained by E in all three subjects together? (Assuming maximum marks for each subject are 100.)

Ans
✓ 1. 60
✗ 2. 40
✗ 3. 70
✗ 4. 50

Question ID : **6549789324**
Status : **Answered**
Chosen Option : **1**

Q.18 What is the value of x, if 25% of 480 + 30% of 500 + x% of 90 = 35% of 900?

Ans
✗ 1. 40
✗ 2. 45
✗ 3. 55
✓ 4. 50

Question ID : **6549789320**
Status : **Not Answered**
Chosen Option : **--**

Gagan Pratap Maths

Q.19 AB and AC are tangents to a circle with centre O from an external point A. The tangents AB and AC touch the circle at B and C, respectively, such that $\angle BAC = 118^\circ$. Find the measure of $\angle OCB$.

Ans
✗ 1. 62°
✗ 2. 60°
✗ 3. 54°
✓ 4. 59°

Question ID : **6549789313**
Status : **Answered**
Chosen Option : **3**

Q.20 The centroid of an equilateral triangle ΔABC is O. If AB = 27 cm, then the length of AO is:

Ans
✓ 1. $9\sqrt{3}$ cm
✗ 2. $7\sqrt{3}$ cm
✗ 3. $8\sqrt{3}$ cm
✗ 4. $6\sqrt{3}$ cm

Question ID : **6549789315**
Status : **Not Answered**
Chosen Option : **--**

Q.21 A's salary increases in the ratio 8 : 11. If his new salary is ₹33,000, then what was his original salary (in ₹)?

Ans
✗ 1. 18,000
✓ 2. 24,000
✗ 3. 20,000
✗ 4. 22,000

Question ID : **6549788906**
Status : **Not Answered**
Chosen Option : **--**

Q.22 The sum of two numbers is 59 and their product is 1150. Find the sum of their squares.

Ans
✗ 1. 1176
✓ 2. 1181
✗ 3. 1183
✗ 4. 1178

Question ID : **6549789317**
Status : **Not Answered**
Chosen Option : **--**

Gagan Pratap Maths

Q.23 The compound interest (in ₹, to the nearest integer) on ₹8,950 for 2 years at the rate of 9% per annum, compounded annually, is:

Ans
✗ 1. 1,523
✓ 2. 1,683
✗ 3. 1,468
✗ 4. 1,685

Question ID : **6549788907**
Status : **Answered**
Chosen Option : **2**

Q.24 If $3cot^2x - 7cosec^2x + 7 = 0$, then the value of x $(0 \le x \le 90°)$ is:

Ans
✗ 1. $60°$
✗ 2. $0°$
✗ 3. $30°$
✓ 4. $90°$

Question ID : **6549789323**
Status : **Not Answered**
Chosen Option : **--**

Q.25 Varun and Syan can do a work in 3 days, Syan and Anil can do it in 4 days, and Anil and Varun can do it in 6 days. How many days will Anil alone take to do the work?

Ans
✗ 1. 22
✗ 2. 18
✓ 3. 24
✗ 4. 20

Question ID : **6549789303**
Status : **Not Answered**
Chosen Option : **--**

Gagan Pratap Maths

12 April 3rd shift

Section : **Quantitative Aptitude**

Q.1 Raghav spends 80% of his income. If his income increases by 12% and his expenditure increases by 17.5%, then what is the percentage decrease in his savings?

Ans

✗ 1. 15%

✓ 2. 10%

✗ 3. 12%

✗ 4. 8%

Question ID : **6549786379**
Status : **Answered**
Chosen Option : **2**

Q.2 The sum of the radius of the base and the height of a closed solid cylinder is 12.5 cm. If the total surface area of the cylinder is 275 cm^2, then its radius is:

(Take $\pi = \frac{22}{7}$)

Ans

✗ 1. 3 cm

✓ 2. 3.5 cm

✗ 3. 5 cm

✗ 4. 7 cm

Question ID : **6549787487**
Status : **Answered**
Chosen Option : **2**

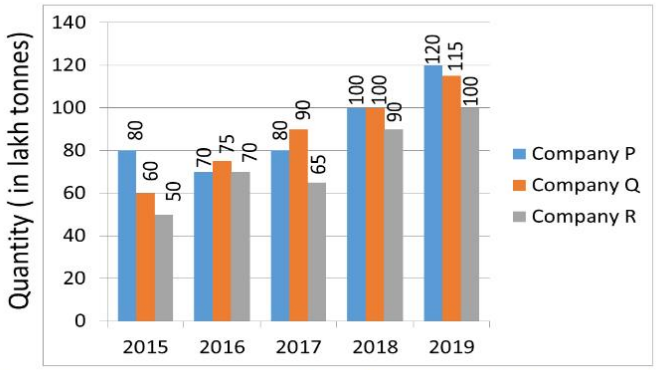
Gagan Pratap Maths

Q.3 Let O be the centre of a circle. PA and PB are tangents to the circle from a point P outside the circle and A and B are points on the circle. If angle APB = 50°, then angle OAB is equal to:

Ans
✗ 1. 50°
✗ 2. 40°
✓ 3. 25°
✗ 4. 20°

Question ID : **6549786383**
Status : **Answered**
Chosen Option : **3**

Q.4 The given bar graph indicates the production of sugar (in lakh tonnes) by three different sugar companies P, Q and R from the year 2015 to 2019. Study the bar graph and answer the question that follows.
Production of sugar by companies P, Q and R from 2015 to 2019



The percentage increase in the production of sugar by company P in 2019 as compared to 2015 is:

Ans
✓ 1. 50%
✗ 2. 40%
✗ 3. 60%
✗ 4. 45%

Question ID : **6549787506**
Status : **Answered**
Chosen Option : **1**

Q.5 $2\cos\theta + \sec\theta - 2\sqrt{2} = 0$, where θ is an acute angle. Find the value of θ.

Ans
✗ 1. 60°
✗ 2. 30°
✗ 3. 15°
✓ 4. 45°

Question ID : **6549787505**
Status : **Answered**
Chosen Option : **4**

Gagan Pratap Maths

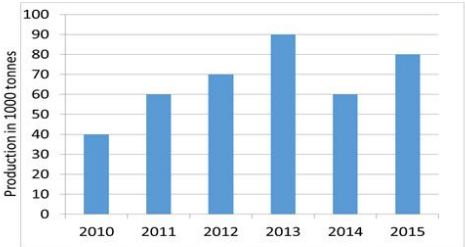
Q.6 ΔPQR is an isosceles triangle with PQ = PR = 25 cm. If PS is the median on QR from P such that PS = 7 cm, then the length of QR is:

Ans
✗ 1. 45 cm
✗ 2. 42 cm
✗ 3. 38 cm
✓ 4. 48 cm

Question ID : **6549786385**
Status : **Answered**
Chosen Option : **4**

Q.7 Study the given bar chart and answer the question that follows.

The bar chart shows the production of medicines by a company (in 1000 tonnes) over six years 2010 to 2015.



If in each of the following years, the percentage increase in production as compared to the previous year is taken, then the ratio for increase production of the year 2011 to increase production of year 2015 is:

Ans
✗ 1. 2 : 1
✗ 2. 1 : 2
✗ 3. 2 : 3
✓ 4. 3 : 2

Question ID : **6549786398**
Status : **Answered**
Chosen Option : **4**

Q.8 The profit earned after selling an article for ₹8,579 is the same as the loss incurred after selling the article for ₹6,341. The profit percentage is:

Ans
✗ 1. 18%
✓ 2. 15%
✗ 3. 20%
✗ 4. 12%

Question ID : **6549787491**
Status : **Answered**
Chosen Option : **2**

Gagan Pratap Maths

Q.9 If $x^2 - 3x + 1 = 0$, then the value of $2\left(x^8 + \frac{1}{x^8}\right) - 5\left(x^2 + \frac{1}{x^2}\right)$ is:

Ans
✗ 1. 3479
✓ 2. 4379
✗ 3. 4370
✗ 4. 4279

Question ID : **6549787500**
Status : **Answered**
Chosen Option : **2**

Q.10 If $x^4 + \frac{1}{x^4} = 6887$, then the positive value of $x - \frac{1}{x}$ is:

Ans
✗ 1. 12
✓ 2. 9
✗ 3. 15
✗ 4. 8

Question ID : **6549787499**
Status : **Answered**
Chosen Option : **2**

Q.11 A truck covers a distance of 480 km at a certain speed. If the speed is decreased by 8 km/h, it would have taken 2 hours more to cover the same distance. 50% of its original speed (in km/h) is:

Ans
✗ 1. 20
✗ 2. 40
✓ 3. 24
✗ 4. 48

Question ID : **6549786375**
Status : **Answered**
Chosen Option : **3**

Q.12 If a and b are the lengths of two sides of a triangle such that the product ab = 24, where a and b are integers, then how many such triangles are possible?

Ans
✓ 1. 15
✗ 2. 12
✗ 3. 18
✗ 4. 16

Question ID : **6549787497**
Status : **Answered**
Chosen Option : **4**

Gagan Pratap Maths

Q.13 Two circles touch internally. Their diameters are, respectively, 8 cm and 4 cm. What is the distance (in cm) between their centres?

Ans
✗ 1. 4
✓ 2. 2
✗ 3. 3
✗ 4. 1

Question ID : **6549787495**
Status : **Answered**
Chosen Option : **1**

Q.14 If a nine-digit number $1263487xy$ is divisible by both 8 and 5, then the greatest possible values of x and y, respectively, are:

Ans
✓ 1. 6 and 0
✗ 2. 6 and 5
✗ 3. 2 and 0
✗ 4. 2 and 5

Question ID : **6549786390**
Status : **Answered**
Chosen Option : **1**

Q.15 Three numbers are in the ratio $\frac{1}{4} : \frac{5}{9} : \frac{7}{12}$. The difference between the greatest and the smallest number is 180. Find the sum of all the three numbers.

Ans
✗ 1. 500
✗ 2. 800
✓ 3. 750
✗ 4. 650

Question ID : **6549786381**
Status : **Answered**
Chosen Option : **3**

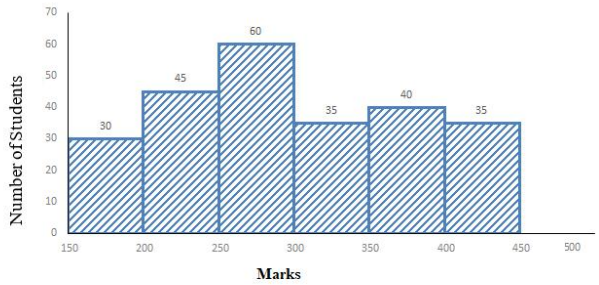
Q.16 If $sec\theta = \frac{65}{63}$ and θ is an acute angle, then the value of $8(cosec\theta - cot\theta)$ is:

Ans
✗ 1. 8
✗ 2. 4
✗ 3. 2
✓ 4. 1

Question ID : **6549787503**
Status : **Answered**
Chosen Option : **4**

Gagan Pratap Maths

Q.17 Study the histogram that shows the marks obtained by students in an examination and answer the question that follows.



By what percentage is the number of students who obtained marks between 200 and 300 more than the number of students who obtained 350 or more marks?

Ans
✗ 1. 25%
✓ 2. 40%
✗ 3. 30%
✗ 4. 55%

Question ID : **6549786194**
Status : **Answered**
Chosen Option : **2**

Q.18 The marked price of an article is ₹1,280. If a shopkeeper sold the article at 12% profit after giving 30% discount, then the cost price of the article is:

Ans
✗ 1. ₹600
✗ 2. ₹700
✗ 3. ₹850
✓ 4. ₹800

Question ID : **6549787489**
Status : **Answered**
Chosen Option : **4**

Q.19 If $x - y - z = 0$, then the value of $(x^2 + y^2 + z^2) \div (y^2 + xz)$ is:

Ans
✗ 1. -1
✓ 2. 2
✗ 3. -2
✗ 4. 1

Question ID : **6549786387**
Status : **Not Answered**
Chosen Option : **--**

Q.20 The simple interest on a certain sum for 3 years at 12% p.a. is ₹6,750. What is the compound interest (in ₹) on the same sum for 2 years at 20% p.a., if interest is compounded half-yearly? (rounded off to the nearest ₹)

Ans
✗ 1. 8,000
✓ 2. 8,702
✗ 3. 7,729
✗ 4. 6,750

Question ID : **6549786382**
Status : **Answered**
Chosen Option : **1**

Gagan Pratap Maths

Q.21 In ΔABC, if $\angle B = 90°$, AB = 21 cm and BC = 20 cm, then $\frac{1+\sin A-\cos A}{1+\sin A+\cos A}$ is equal to:

Ans

✗ 1. $\frac{3}{5}$

✗ 2. $-\frac{2}{5}$

✓ 3. $\frac{2}{5}$

✗ 4. $-\frac{3}{5}$

Question ID : **6549786393**
Status : **Answered**
Chosen Option : **3**

Q.22 Working together, A, B and C can finish a piece of work in 3 hours. A finishes the same work in 8 hours and B finishes it in 6 hours. How long will it take for C alone to finish the same work?

Ans

✓ 1. 24 hours

✗ 2. 15 hours

✗ 3. 18 hours

✗ 4. 12 hours

Question ID : **6549787485**
Status : **Answered**
Chosen Option : **1**

Q.23 Study the following bar graph and answer the question that follows.

In how many years was the export more than the average for the given period?

Ans

✗ 1. 3

✗ 2. 5

✗ 3. 6

✓ 4. 4

Question ID : **6549788619**
Status : **Not Answered**
Chosen Option : **--**

Gagan Pratap Maths

Q.24 The value of $7\frac{4}{13} \div \frac{5}{26}$ of $\left(4\frac{3}{5}+7\frac{2}{5}\right)+\left(7\frac{1}{6}-2\frac{1}{3}\right)$ is:

Ans
✔ 1. 8
✘ 2. 4
✘ 3. 5
✘ 4. 6

Question ID : **6549787502**
Status : **Not Answered**
Chosen Option : **--**

Q.25 The average monthly expenditure of a family was ₹18,600 during the first three months, ₹21,750 during the next four months and ₹22,840 during the last five months of a year. If the total savings during the year was ₹1,43,020, then the average monthly income (in ₹) of the family was:

Ans
✔ 1. 33,335
✘ 2. 34,115
✘ 3. 35,333
✘ 4. 32,225

Question ID : **6549786377**
Status : **Not Answered**
Chosen Option : **--**

Section : **General Awareness**

ratap Maths

12 August 1st shift

Q.1 A sum of ₹ x is divided among A, B and C such that the ratio of the shares of A and C is 8 : 7 and that of B and C is 3 : 2. If the difference between the shares of A and B is ₹240, then what is the value of x ?

Ans
1. 2544
2. 2580
3. 2490
4. 2448 ✔

Question ID : **6549787896**
Status : **Answered**
Chosen Option : **4**

Q.2 If a pair of shoes marked at ₹350 is offered at ₹308, then what will be the discount percentage?

Ans
1. 42%
2. 13.6%
3. 12% ✔
4. 14%

Question ID : **6549789509**
Status : **Answered**
Chosen Option : **3**

Q.3 In $\triangle ABC$, AD is the bisector of $\angle A$ meeting BC at D. If $AB = 15$ cm, $BC = 10$ cm and the length of BD is 2 cm less than that of DC, then the length of AC is:

Ans
1. 18.5 cm
2. 18 cm
3. 16 cm
4. 22.5 cm ✔

Question ID : **6549787900**
Status : **Answered**
Chosen Option : **4**

Gagan Pratap Maths

Q.4 Simplify the following expression.

$$\frac{13\frac{7}{9}\div\frac{2}{3}\text{ of }\frac{1}{3}+\frac{2}{3}\times 3}{\frac{7}{5}\text{ of }325-20+7}.$$

Ans

✗ 1. $\frac{40}{1989}$

✗ 2. $\frac{31}{2210}$

✓ 3. $\frac{32}{221}$

✗ 4. $\frac{33}{217}$

Question ID : **6549789522**
Status : **Answered**
Chosen Option : **3**

Q.5 The value of $cosec(58^\circ+\theta)-\sec(32^\circ-\theta)+sin15^\circ sin35^\circ sec55^\circ sin30^\circ sec75^\circ$ is:

Ans

✗ 1. 1

✗ 2. 2

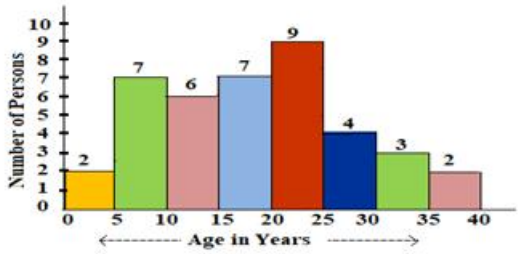
✓ 3. $\frac{1}{2}$

✗ 4. 0

Question ID : **6549787908**
Status : **Answered**
Chosen Option : **3**

Gagan Pratap Maths

Q.6 Some persons went on an outstation tour. The histogram shows their ages.



How many persons are less than 20 years of age?

Ans

✔ 1. 22

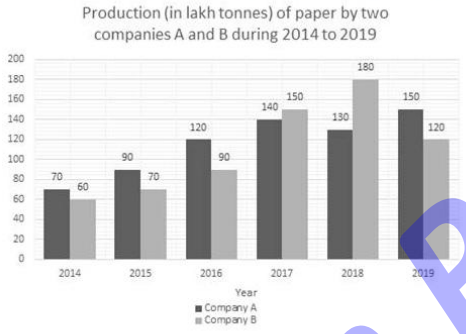
✘ 2. 31

✘ 3. 25

✘ 4. 18

Question ID : **6549789526**
Status : **Answered**
Chosen Option : **1**

Q.7 Study the given graph and answer the question that follows.



The total production of paper by company B in 2015 and 2017 to 2019 was what percentage less than 90% of the total production of paper by company A in 2014 to 2019 (correct to one decimal place)?

Ans

✘ 1. 22.4%

✘ 2. 19.6%

✘ 3. 21.2%

✔ 4. 17.5%

Question ID : **6549787913**
Status : **Answered**
Chosen Option : **4**

Gagan Pratap Maths

Q.8 In ΔABC, D and E are points on AB and BC, respectively, such that DE is parallel to AC. If DE = 3 cm, AC = 5 cm and the area of trapezium ACED = 32 cm^2 , then what will be the area of ΔBDE?

Ans

✗ 1. $\frac{144}{17}\ cm^2$

✗ 2. $\frac{48}{5}\ cm^2$

✗ 3. $16\ cm^2$

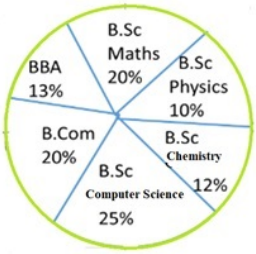
✓ 4. $18\ cm^2$

Question ID : **6549789517**
Status : **Answered**
Chosen Option : **4**

Q.9 Study the given pie chart and answer the question that follows.

Total number of students admitted in a college = 700.

Distribution of the percentage of students in various courses.



Percentage-wise distribution of the number of boys.

Course	Number of boys
B.Sc. Maths	40%
B.Sc. Physics	68%
B.Sc. Chemistry	58%
B.Sc. Computer Science	80%
B.Com.	75%
BBA	65%

The ratio of the total number of girls admitted in B.Sc. Maths to the total number of students admitted in B.Sc. Maths is:

Ans

✗ 1. 3 : 7

✗ 2. 4 : 7

✓ 3. 3 : 5

✗ 4. 2 : 5

Question ID : **6549789629**
Status : **Answered**
Chosen Option : **2**

Gagan Pratap Maths

Q.10 In a circle with centre O and radius 6.5 cm, a chord AB is at a distance 2.5 cm from the centre. If tangents at A and B intersect at P, then find the distance of P from the centre.

Ans

✔ 1. 16.9 cm

✘ 2. 18 cm

✘ 3. 15 cm

✘ 4. 17 cm

Question ID : **6549789515**
Status : **Answered**
Chosen Option : **1**

Q.11 What is the compound interest (in ₹) on a sum of ₹46,000 for $2\frac{2}{5}$ years at 15% per annum, interest being compounded annually (nearest to a ₹)?

Ans

✘ 1. 18,458

✔ 2. 18,485

✘ 3. 19,485

✘ 4. 19,458

Question ID : **6549787897**
Status : **Answered**
Chosen Option : **3**

Q.12 If $\sqrt{x} + \frac{1}{\sqrt{x}} = 2\sqrt{3}$, then what will be the value of $x^4 + \frac{1}{x^4}$?

Ans

✘ 1. 10402

✘ 2. 9606

✔ 3. 9602

✘ 4. 10406

Question ID : **6549789519**
Status : **Answered**
Chosen Option : **3**

Q.13 If $3x - 2y + 3 = 0$, then what will be the value of $27x^3 + 54xy + 30 - 8y^3$?

Ans

✘ 1. -27

✘ 2. 57

✘ 3. -57

✔ 4. 3

Question ID : **6549789520**
Status : **Answered**
Chosen Option : **4**

Gagan Pratap Maths

Q.14 Chords AB and CD of a circle meet at point P (outside the circle), when produced. If $AB = 9$ cm, $PB = \frac{1}{3}AB$ and $CD = 5$ cm, then the length of PD (in cm) is:

Ans

✗ 1. 7

✗ 2. 6

✗ 3. 5

✓ 4. 4

Question ID : **6549787898**
Status : **Answered**
Chosen Option : **4**

Q.15 By selling an article for ₹3,150, a shopkeeper earns 5% profit. For how much money should he sell the article in order to gain 8%?

Ans

✓ 1. ₹3,240

✗ 2. ₹3,180

✗ 3. ₹3,200

✗ 4. ₹3,250

Question ID : **6549789511**
Status : **Answered**
Chosen Option : **1**

Q.16 Given that $3\sqrt{3}x^3 - 8y^3 = (\sqrt{3}x + Ay)(3x^2 + By^2 + Cxy)$, the value of $(A^2 + B^2 - C^2)$ is:

Ans

✗ 1. 4

✓ 2. 8

✗ 3. 12

✗ 4. 0

Question ID : **6549787902**
Status : **Answered**
Chosen Option : **2**

Q.17 A solid metallic sphere of radius 12 cm is melted and recast in the form of small spheres of radius 2 cm. How many small spheres are formed?

Ans

✗ 1. 24

✗ 2. 96

✗ 3. 864

✓ 4. 216

Question ID : **6549789507**
Status : **Answered**
Chosen Option : **4**

Gagan Pratap Maths

Q.18 A tap can fill a tank in 4 hours. Another tap can fill the same tank in 6 hours. If both the taps are opened at the same time, then in how much time will the empty tank be filled completely?

Ans

✗ 1. 2 h 30 min

✓ 2. 2 h 24 min

✗ 3. 3 h

✗ 4. 2 h

Question ID : **6549789505**
Status : **Answered**
Chosen Option : **2**

Q.19 If $tan3\theta = sin45^{\circ}.cos45^{\circ} + cos60^{\circ}$ and 3θ is an acute angle, then what will be the value of $sin4\theta$?

Ans

✓ 1. $\frac{\sqrt{3}}{2}$

✗ 2. $\frac{1}{\sqrt{2}}$

✗ 3. $\frac{1}{2}$

✗ 4. 1

Question ID : **6549789523**
Status : **Answered**
Chosen Option : **1**

Q.20 A boat can go 15 km downstream and 8 km upstream in 2 h. It can go 20 km downstream and 12 km upstream in 2 h 50 min. What is the speed (in km/h) of the boat while going downstream?

Ans

✗ 1. 16

✓ 2. 15

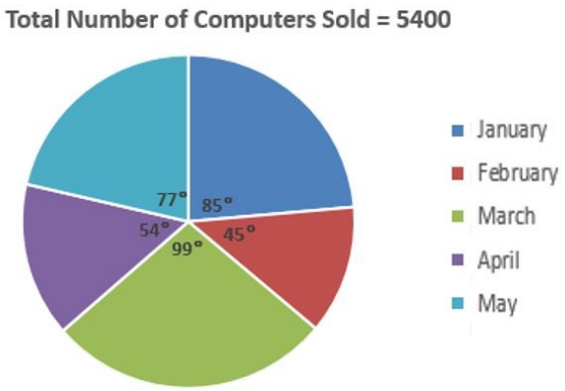
✗ 3. 20

✗ 4. 18

Question ID : **6549787890**
Status : **Answered**
Chosen Option : **2**

Gagan Pratap Maths

Q.21 Study the given pie chart and answer the question that follows.
The pie chart shows the distribution (degree wise) of the number of computers sold by a shopkeeper during five months.



If the difference between the number of computers sold in May and the number of computers sold in February is x, then the value of x will be:

Ans
1. 450
2. 480 ✔
3. 540
4. 420

Question ID : **6549787003**
Status : **Answered**
Chosen Option : **1**

Q.22 The average of 40 numbers is 48.2. The average of the first 15 numbers is 45 and that of the next 22 numbers is 50.5. The 38th number is 1 more than the 39th number, and the 39th number is 3 less than the 40th number. What is the average of the 39th and 40th numbers?

Ans
1. 48
2. 49
3. 47.5 ✔
4. 48.5

Question ID : **6549787892**
Status : **Answered**
Chosen Option : **4**

Q.23 If the five-digit number 457 ab is divisible by 3, 7 and 11, then what is the value of $a^2 + b^2 - ab$?

Ans
1. 49 ✔
2. 36
3. 24
4. 33

Question ID : **6549787905**
Status : **Not Answered**
Chosen Option : **--**

Gagan Pratap Maths

Q.24 Renu spends 68% of her income. When her income increases by 40%, she increases her expenditure by 30%. Her savings are increased by:

Ans

✗ 1. 62.5%

✗ 2. 37.98%

✓ 3. 61.25%

✗ 4. 51.6%

Question ID : **6549787894**
Status : **Answered**
Chosen Option : **1**

Q.25 If $tan\,\theta + cot\,\theta = 3$, then what will be the value of $tan^2\theta + cot^2\theta$?

Ans

✗ 1. 1

✓ 2. 7

✗ 3. 11

✗ 4. -1

Question ID : **6549789525**
Status : **Answered**
Chosen Option : **2**

ratap Maths

12 August 2nd shift

Q.1 If the nine-digit number 259876p05 is completely divisible by 11, then what is the value of (p^2+5)?

Ans
1. 48
2. 45
3. 54 ✔
4. 50

Question ID : **6549786794**
Status : **Answered**
Chosen Option : **3**

Q.2 If 5 tan A = 12, then what is the value of $\frac{13\,sinA+20\,tanA}{15\tan A-13\,cosA}$, where A is an acute angle?

Ans
1. $\frac{31}{41}$
2. $\frac{41}{50}$
3. $1\frac{19}{41}$
4. $1\frac{29}{31}$ ✔

Question ID : **6549786797**
Status : **Answered**
Chosen Option : **4**

Q.3 The side QR of a triangle PQR is extended to a point S. If $\angle PRS = 104^\circ$ and $\angle RQP = \frac{3}{5}\angle QPR$, then the value of $\angle QPR$ is:

Ans
1. 65° ✔
2. 55°
3. 45°
4. 58°

Question ID : **6549786789**
Status : **Answered**
Chosen Option : **1**

Q.4 The value of $56 \div [12+9\div 3-\{8+(18\,of\,2\div 9)-(40\div 5\,of\,2)\}]+\frac{27+\frac{2}{5}\,of\,75}{5+\frac{2}{3}\times(58-37)}$ is:

Ans
1. 8
2. 11 ✔
3. −11
4. −8

Question ID : **6549789017**
Status : **Answered**
Chosen Option : **2**

Gagan Pratap Maths

Q.5 O is the centre of a circle of radius 9 cm. M is a point outside the circle and MN is a tangent to the circle. What is the length (in cm) of OM if the length MN is 12 cm?

Ans

✗ 1. 17

✗ 2. 12

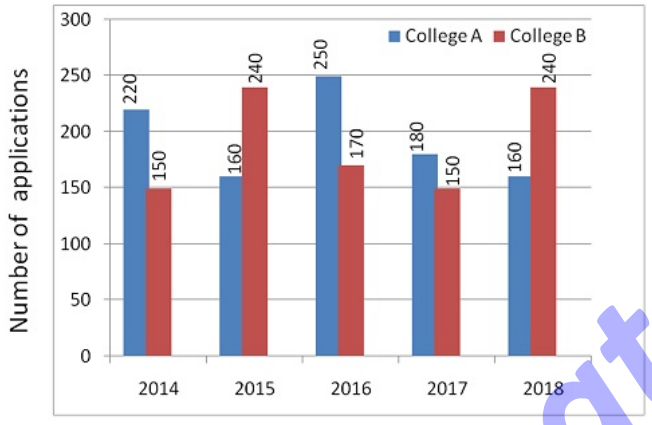
✓ 3. 15

✗ 4. 21

Question ID : **6549786787**
Status : **Answered**
Chosen Option : **3**

Q.6 Study the following bar graph and answer the question given below.

The bar graph represents the total number of applications received for B.Sc. Mathematics by two different colleges A and B in 5 different years.



In 2015, out of the total number of applications received by colleges A and B together, only 60% were accepted. What were the total number of applications accepted by colleges A and B together in 2015?

Ans

✗ 1. 250

✗ 2. 260

✓ 3. 240

✗ 4. 180

Question ID : **6549789021**
Status : **Answered**
Chosen Option : **3**

Gagan Pratap Maths

Q.7 Study the given bar graphs and answer the question that follows.

The bar graphs represent the amount invested in raw materials (in ₹ crore) and the sale of the products, by a textile company in the years 2007– 2012. The X-axis represents the years. The Y-axis represents the amount invested in raw materials (in ₹ crore) in figure 1 and sale of products in figure 2, respectively.

Figure 1

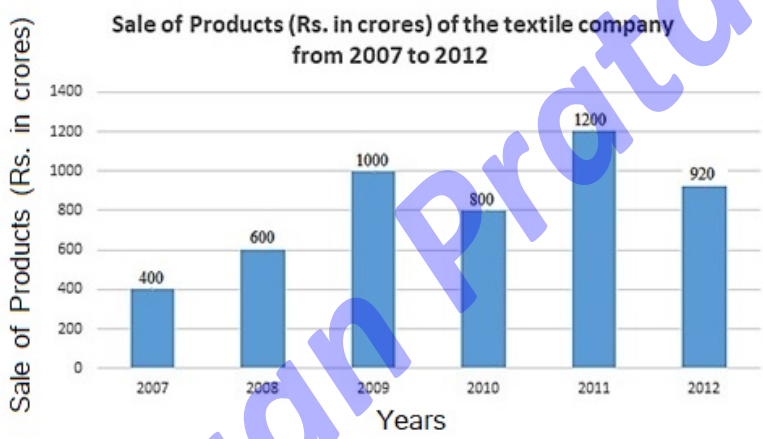


Figure 2

In 2011, the sale of products had increased by certain percentage with respect to the previous year. In 2012, by what percent should the sale of products increase from its present value so that it shows the same percent increase as had been shown in 2011?

Ans

✗ 1. 94

✗ 2. 98

✓ 3. 96

✗ 4. 95

Question ID : **6549786802**
Status : **Not Answered**
Chosen Option : **--**

Gagan Pratap Maths

Q.8 If $sin^2x = 3\ cos^2x$ and $0^\circ \leq x \leq 90°$, then what is the value of $\frac{x}{2}$?

Ans

✗ 1. 22.5°

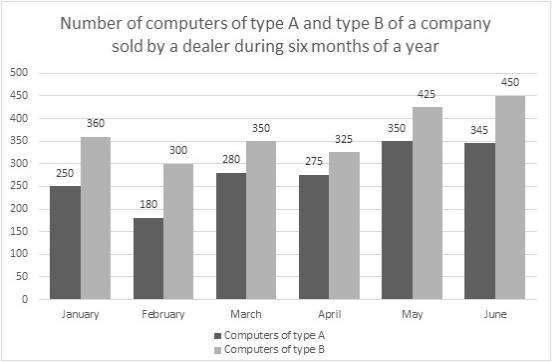
✗ 2. 45°

✗ 3. 15°

✓ 4. 30°

Question ID : **6549789020**
Status : **Answered**
Chosen Option : **4**

Q.9 Study the given graph and answer the question that follows.



The average number of computers of type B sold in January, February and June exceeds by 20 the number of computers of type A sold in:

Ans

✗ 1. March

✗ 2. April

✗ 3. June

✓ 4. May

Question ID : **6549786497**
Status : **Answered**
Chosen Option : **4**

Q.10 A man invested ₹2,400 at 5% and ₹5,400 at 9% simple interest. What amount (in ₹) will he get from his investments after 6 years?

Ans

✗ 1. 45,600

✗ 2. 31,200

✗ 3. 83,136

✓ 4. 11,436

Question ID : **6549786786**
Status : **Answered**
Chosen Option : **4**

Gagan Pratap Maths

Q.11 If $a=\frac{\sqrt{5}+2}{\sqrt{5}-2}$ and $b=\frac{\sqrt{5}-2}{\sqrt{5}+2}$, then the value of $2a^2+2b^2-5ab$ is equal to:

Ans
1. 693
2. 649
3. 635
4. 639 ✔

Question ID : **6549789015**
Status : **Answered**
Chosen Option : **4**

Q.12 The value of $a^3+b^3+c^3-3abc$, when $a=125$, $b=127$ and $c=129$, is:

Ans
1. 4725
2. 4572 ✔
3. 4752
4. 3752

Question ID : **6549789014**
Status : **Answered**
Chosen Option : **2**

Q.13 The marked price of a table is ₹3,000, which is 25% above the cost price. It is sold at a discount of 20% on the marked price. What is the profit or loss per cent?

Ans
1. Loss, 5%
2. Profit, 10%
3. Profit, 15%
4. No profit, no loss ✔

Question ID : **6549789004**
Status : **Answered**
Chosen Option : **4**

Q.14 ΔABC is drawn in a circle such that AC = BC and $\angle BAC = 65°$. From points B and C two tangents are drawn which intersect at point P. What is the measure of $\angle BPC$?

Ans
1. 52.5°
2. 50° ✔
3. 55°
4. 32.5°

Question ID : **6549789010**
Status : **Answered**
Chosen Option : **2**

Gagan Pratap Maths

Q.15 If cosec A = 10, then what is the value of $20 \sin A + 9\sqrt{11} \sec A$?

Given that A is an acute angle.

Ans
1. 23
2. 34
3. 32 ✔
4. 30

Question ID : **6549789018**
Status : **Answered**
Chosen Option : **3**

Q.16 The daily wages of P, Q and R are in the proportion 5 : 7 : 8. If Q earns ₹560 per day, then what are the daily wages (in ₹) of R and P, respectively?

Ans
1. 400 and 640
2. 350 and 590
3. 640 and 400 ✔
4. 590 and 350

Question ID : **6549786785**
Status : **Answered**
Chosen Option : **1**

Q.17 The area of an equilateral triangle is $10.24\sqrt{3}\ m^2$. Its perimeter (in m) is:

Ans
1. 3.2
2. 9.6
3. 6.4
4. 19.2 ✔

Question ID : **6549789012**
Status : **Answered**
Chosen Option : **4**

Q.18 The square of the diagonal of a cube is 2175 cm^2. What is the total surface area (in cm^2) of the cube?

Ans
1. 4305
2. 4272
3. 4530
4. 4350 ✔

Question ID : **6549789002**
Status : **Answered**
Chosen Option : **4**

Gagan Pratap Maths

Q.19 A shopkeeper bought 95 dozen oranges at ₹4.50 each. 7 dozen oranges were rotten and so were discarded. He sold the remaining oranges at ₹78 per dozen. What is his profit or loss per cent (to the nearest integer)?

Ans

✗ 1. Profit, 45%

✓ 2. Profit, 34%

✗ 3. Loss, 34%

✗ 4. Loss, 45%

Question ID : **6549789006**
Status : **Marked For Review**
Chosen Option : **1**

Q.20 The average age of 7 members of a family is 35 years. If the youngest members are twins and they are 15 years old, then what was the average age (in years) of the family members at the time of the birth of the twins?

Ans

✓ 1. 28

✗ 2. 27

✗ 3. 30

✗ 4. 25

Question ID : **6549786781**
Status : **Answered**
Chosen Option : **1**

Q.21 If $(7x - 10y) = 8$ and $xy = 5$, then what is the value of $49x^2 + 100y^2$?

Ans

✓ 1. 764

✗ 2. 632

✗ 3. 623

✗ 4. 746

Question ID : **6549786791**
Status : **Answered**
Chosen Option : **1**

Q.22 A and B can complete a piece of work in 27 days and 54 days, respectively. They completed the work in 9 days with the help of C. How many days will C take to complete eight-ninths of the work alone?

Ans

✓ 1. 16

✗ 2. 24

✗ 3. 30

✗ 4. 45

Question ID : **6549789000**
Status : **Answered**
Chosen Option : **1**

Gagan Pratap Maths

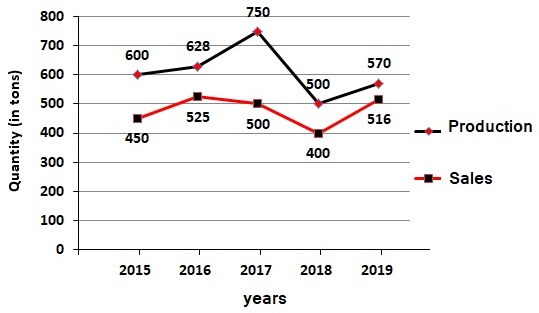
Q.23 A's salary is 15% less than B's salary. B's salary is 30% less than C's salary. By how much percent approximately, is C's salary more than A's salary?

Ans
✔ 1. 68
✘ 2. 45
✘ 3. 75
✘ 4. 40

Question ID : **6549786783**
Status : **Answered**
Chosen Option : **1**

Q.24 The line graph shows the production (in tonnes) and the sales (in tonnes) of a company.

What is the ratio of the production of the company in 2015 and 2016 taken together to the sales in 2017 and 2019 taken together?



Ans
✘ 1. 195 : 214
✘ 2. 307 : 330
✘ 3. 307 : 229
✔ 4. 307 : 254

Question ID : **6549789426**
Status : **Answered**
Chosen Option : **4**

Q.25 A train, 500 m long, passes a railway platform 400 m long, in one minute with uniform speed. What is the time (in seconds) taken by the train to pass a man riding a motorbike, travelling opposite to the direction of the train, at a speed of 18 km/h?

Ans
✘ 1. 30
✘ 2. 48
✘ 3. 54
✔ 4. 25

Question ID : **6549786779**
Status : **Answered**
Chosen Option : **4**

Gagan Pratap Maths

12 August 3rd shift

Q.1 24% of Reena's salary is equal to 38% of Sunita's salary. Veena's salary is two-third of the total salary of Reena and Sunita. If Veena's salary is ₹62,000, then Sunita's salary is:

Ans

✗ 1. ₹35,000

✗ 2. ₹32,000

✗ 3. ₹38,000

✓ 4. ₹36,000

Question ID : **6549787490**
Status : **Answered**
Chosen Option : **4**

Gagan Pratap Maths

Q.2 Study the given bar graphs and answer the question that follows.

The bar graphs represent the amount invested in raw materials (in ₹ crore) and the sale of the products, by a textile company in the years 2007– 2012. The X-axis represents the years. The Y-axis represents the amount invested in raw materials (in ₹ crore) in figure 1 and sale of products in figure 2, respectively.

Figure 1

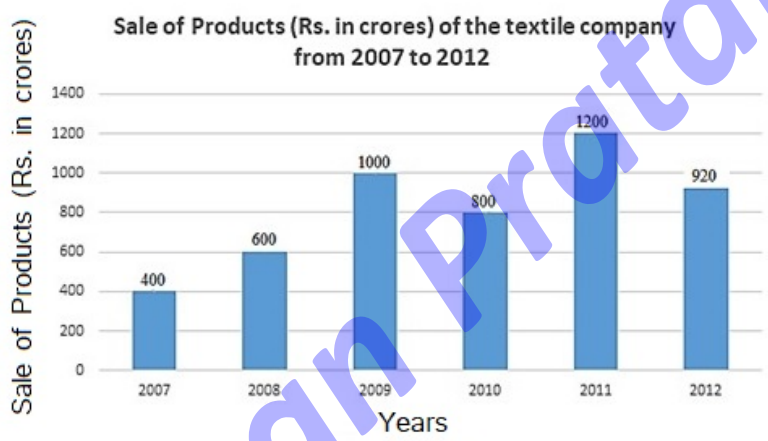


Figure 2

In which year was there a maximum percentage increase in the sales of products as compared to the previous year?

Ans

✗ 1. 2008

✗ 2. 2010

✓ 3. 2009

✗ 4. 2011

Question ID : **6549786801**
Status : **Answered**
Chosen Option : **3**

Gagan Pratap Maths

Q.3 A man invests an amount of ₹1,05,750 at simple interest in the name of his son, daughter and his wife in such a way that they get the same interest after 3, 4 and 5 years, respectively. If the rate of interest is 5% per annum, then the amount invested for the wife is:

Ans

✔ 1. ₹27,000

✘ 2. ₹28,000

✘ 3. ₹25,000

✘ 4. ₹30,000

Question ID : **6549787493**
Status : **Not Answered**
Chosen Option : **--**

Q.4 If a triangle ABC is right-angled at A, then what is the value of $sin\frac{B+C}{2}cos\frac{B+C}{2}$?

Ans

✘ 1. $\frac{\sqrt{3}}{4}$

✘ 2. $\sqrt{2}$

✘ 3. $\frac{1}{4}$

✔ 4. $\frac{1}{2}$

Question ID : **6549788513**
Status : **Answered**
Chosen Option : **4**

Q.5 The sum of all the three sides of an equilateral triangle is $15\sqrt{3}cm$. The height of the triangle is:

Ans

✘ 1. 7 cm

✘ 2. 8 cm

✔ 3. 7.5 cm

✘ 4. 9 cm

Question ID : **6549787496**
Status : **Answered**
Chosen Option : **3**

Gagan Pratap Maths

Q.6 Anu can complete a piece of work in 22 days. Shama is 60% more efficient than Anu. How many days does Shama alone take to complete the same piece of work?

Ans

✗ 1. $36\frac{2}{3}$

✗ 2. $35\frac{1}{3}$

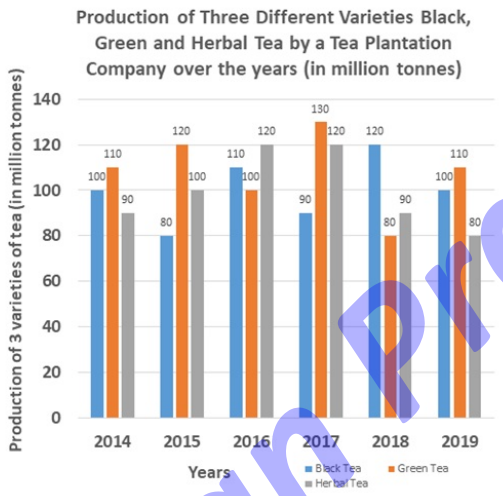
✗ 3. $13\frac{1}{5}$

✓ 4. $13\frac{3}{4}$

Question ID : **6549788495**
Status : **Answered**
Chosen Option : **4**

Q.7 Study the given bar graph and answer the question that follows.

A tea plantation company produces three varieties of tea—black tea, green tea and herbal tea. The production of three varieties (in million tonnes) over a period of six years from 2014 to 2019, has been shown in the bar graph here. The X-axis represents the years and the Y-axis displays the production of the three varieties in million tonnes.



The average production of black tea in 2014, 2015 and 2018 is how much more or less (in million tonnes) than the average production of green tea in 2016, 2017 and 2019?

Ans

✗ 1. More, 12.33

✗ 2. Less, 12.33

✓ 3. Less, 13.33

✗ 4. More, 13.33

Question ID : **6549789124**
Status : **Answered**
Chosen Option : **2**

Gagan Pratap Maths

Q.8 Two numbers A and B are in the ratio 13 : 17. If A is increased by 15% and B is increased by 30%, then the new ratio of A to B will be:

Ans

✗ 1. 21 : 29

✗ 2. 21 : 31

✓ 3. 23 : 34

✗ 4. 23 : 33

Question ID : **6549787492**
Status : **Answered**
Chosen Option : **3**

Q.9 In ΔABC, AC = BC, and the length of the base AB is 10 cm. If CG = 8 cm, where G is the centroid, then what is the length of AC?

Ans

✓ 1. 13 cm

✗ 2. 15 cm

✗ 3. $\sqrt{91}$ cm

✗ 4. 12 cm

Question ID : **6549788507**
Status : **Not Answered**
Chosen Option : **--**

Q.10 A, B, C and D are four positive numbers such that A is $\frac{3}{4}$ times of B, B is $\frac{4}{5}$ times of C, and C is $\frac{3}{8}$ times of D. If the average of 4 times of A and 7 times of D is 316, then the average of all the four numbers A, B, C and D is:

Ans

✗ 1. 36

✓ 2. 38

✗ 3. 28

✗ 4. 34

Question ID : **6549787488**
Status : **Answered**
Chosen Option : **2**

Q.11 A car takes 50 minutes to cover a certain distance at a speed of 54 km/h. If the speed is increased by 25%, then how long will it take to cover three-fourth of the same distance?

Ans

✗ 1. 35 minutes

✗ 2. 40 minutes

✓ 3. 30 minutes

✗ 4. 25 minutes

Question ID : **6549787486**
Status : **Answered**
Chosen Option : **3**

Gagan Pratap Maths

Q.12 The given pie charts represent the distribution of candidates who enrolled for a bank clerical examination and the candidates (out of those enrolled) who passed the examination, from five different institutes P, Q, R, S and T. Study the pie charts and answer the question that follows.

(i) Total number of candidates who enrolled for the examination from five institutes = 5500

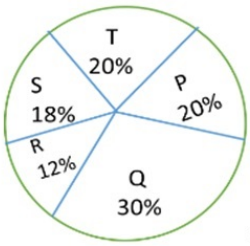


Fig.(i)

(ii) Total number of candidates who passed the examination from five institutes = 3300

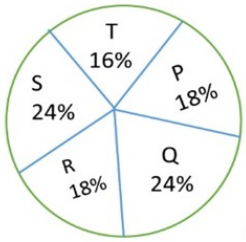


Fig.(ii)

Which institute(s) has/have the highest percentage of candidates passed to the candidates enrolled?

Ans

✗ 1. P

✗ 2. S

✗ 3. Q and T

✓ 4. R

Question ID : **6549787509**
Status : **Not Answered**
Chosen Option : **--**

Q.13 A rectangle with perimeter 50 cm has its sides in the ratio 1 : 4. What is the perimeter of a square whose area is the same as that of the rectangle?

Ans

✗ 1. 36 cm

✗ 2. 50 cm

✓ 3. 40 cm

✗ 4. 45 cm

Question ID : **6549788497**
Status : **Answered**
Chosen Option : **3**

Gagan Pratap Maths

Q.14 If $x^2 + \frac{1}{x^2} = 83,\ x > 0$, then the value of $x^3 - \frac{1}{x^3}$ is:

Ans
✔ 1. 756
✘ 2. 675
✘ 3. 576
✘ 4. 746

Question ID : **6549787498**
Status : **Answered**
Chosen Option : **1**

Q.15 Two equal circles of radius 8 cm intersect each other such that each passes through the centre of the other. The length of the common chord is:

Ans
✘ 1. $8\ cm$
✘ 2. $4\sqrt{3}cm$
✔ 3. $8\sqrt{3}cm$
✘ 4. $8\sqrt{2}cm$

Question ID : **6549787494**
Status : **Answered**
Chosen Option : **3**

Q.16 If $\tan A + \sec A = \frac{3}{2}$ and A is an acute angle, then the value of $\frac{10\cot A + 13\cos A}{12\tan A + 5\,\text{cosec}\,A}$ is:

Ans
✘ 1. 5
✘ 2. 1
✘ 3. 4
✔ 4. 2

Question ID : **6549787504**
Status : **Answered**
Chosen Option : **4**

Q.17 Two circles with centres O and P and radii 17 cm and 10 cm, respectively, intersect each other at A and B. The length of the common chord AB is 16 cm. What is the perimeter of the triangle OAP (in cm)?

Ans
✘ 1. 33
✘ 2. 25
✔ 3. 48
✘ 4. 40

Question ID : **6549788505**
Status : **Answered**
Chosen Option : **3**

Gagan Pratap Maths

Q.18 If $x + \frac{1}{x} = \sqrt{13}$, then one of the values of $x^3 - \frac{1}{x^3}$ is :

Ans

✗ 1. $4\sqrt{11}$

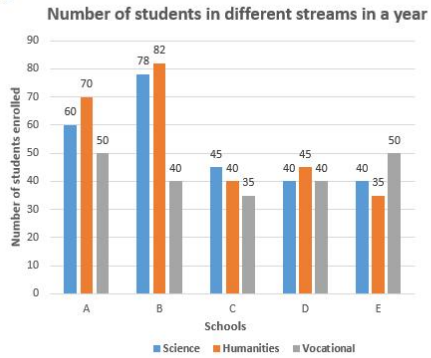
✗ 2. 32

✗ 3. $4\sqrt{13}$

✓ 4. 36

Question ID : **6549788510**
Status : **Not Answered**
Chosen Option : **--**

Q.19 The number of students enrolled in different streams at Senior Secondary level in five schools is shown in the given bar graph.



What is the total number of students enrolled in the Science stream in all the schools?

Ans

✗ 1. 267

✗ 2. 268

✓ 3. 263

✗ 4. 257

Question ID : **6549788516**
Status : **Answered**
Chosen Option : **3**

Q.20 If the nine-digit number '8475639AB' is divisible by 99, then what is the value of A and B?

Ans

✗ 1. A = 4, B = 6

✗ 2. A = 5, B = 3

✗ 3. A = 3, B = 9

✓ 4. A = 4, B = 8

Question ID : **6549787501**
Status : **Answered**
Chosen Option : **4**

Gagan Pratap Maths

Q.21 If $\sec\theta - \operatorname{cosec}\theta = 0$ and θ is an acute angle, then what is the value of $\sec^2\theta + \operatorname{cosec}^2\theta$?

Ans
✔ 1. 4
✘ 2. 1
✘ 3. 2
✘ 4. 0

Question ID : **6549788515**
Status : **Answered**
Chosen Option : **1**

Q.22 What will be the selling price of an article if two successive discounts of 15% and 12% are offered on its marked price of ₹25,500?

Ans
✔ 1. ₹19,074
✘ 2. ₹25,041
✘ 3. ₹21,165
✘ 4. ₹18,615

Question ID : **6549788499**
Status : **Answered**
Chosen Option : **1**

Q.23 A shopkeeper sold an article for ₹3,750. If he had charged 24% less, even then he would have earned a profit of 14%. What is the original cost of the article?

Ans
✘ 1. ₹2,850
✘ 2. ₹2,717
✘ 3. ₹3,289
✔ 4. ₹2,500

Question ID : **6549788501**
Status : **Answered**
Chosen Option : **4**

Q.24 If $x^2 + (4-\sqrt{3})x - 1 = 0$, then what is the value of $x^2 + \frac{1}{x^2}$?

Ans
✘ 1. $9 - 8\sqrt{3}$
✘ 2. $21 - 12\sqrt{3}$
✔ 3. $21 - 8\sqrt{3}$
✘ 4. $17 - 8\sqrt{3}$

Question ID : **6549788509**
Status : **Answered**
Chosen Option : **3**

Gagan Pratap Maths

Q.25 Simplify the following expression.

$$5\frac{1}{3} \div \left[7 - 3 \div \left(1 - \frac{1}{4}\right) \times \frac{2}{3} + 1\right] - 3 \div 1 + 2$$

Ans

✗ 1. $\frac{7}{41}$

✓ 2. 0

✗ 3. 15

✗ 4. -4

Question ID : **6549788512**
Status : **Answered**
Chosen Option : **2**

Gagan P aths

13 April 1st shift

Section : **Quantitative Aptitude**

Q.1 In $\triangle ABC$, $DE||AB$, where D and E are points on sides AC and BC, respectively. F is a point between C and D such that $EF||BD$. If $AD = 15$ cm, $DC = 10$ cm, then the length of CF is:

Ans

✗ 1. 3 cm

✗ 2. 7.5 cm

✗ 3. 5 cm

✓ 4. 4 cm

Question ID : **6549788002**
Status : **Answered**
Chosen Option : **4**

Gagan Pratap Maths

Q.2 Rita spends 25% of her monthly income on house rent and 30% of the remaining income on food. If she saves ₹5,250, what is her monthly income?

Ans

✗ 1. ₹14,000

✓ 2. ₹10,000

✗ 3. ₹12,000

✗ 4. ₹16,000

Question ID : **6549789308**
Status : **Answered**
Chosen Option : **2**

Q.3 Ashok completes a journey in 7 hours. He travels the first half of the journey at the speed of 24 km/h and the second half of it at the speed of 32 km/h. The total distance of the journey is:

Ans

✗ 1. 188 km

✗ 2. 194 km

✗ 3. 190 km

✓ 4. 192 km

Question ID : **6549789304**
Status : **Answered**
Chosen Option : **4**

Q.4 If $2x^2 - 6x = 1$, then $x^2 + \frac{1}{4x^2} = ?$

Ans

✗ 1. 9

✓ 2. 10

✗ 3. 8

✗ 4. 12

Question ID : **6549788004**
Status : **Answered**
Chosen Option : **2**

Q.5 A and B can complete a certain work in 6 days and 8 days, respectively. They worked together for 3 days. C alone completed the remaining work in 2 days. B and C together can complete $\frac{3}{4}$ of the same work in:

Ans

✗ 1. 3 days

✗ 2. 6 days

✗ 3. 2 days

✓ 4. 4 days

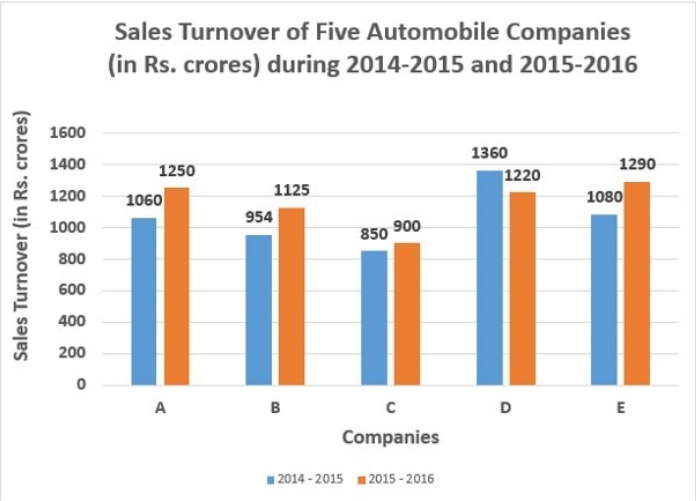
Question ID : **6549787990**
Status : **Not Answered**
Chosen Option : **--**

Gagan Pratap Maths

Q.6 Study the given bar graph and answer the question that follows.

The given bar graph represents the Sales Turnover (in ₹ crore) of five automobile companies A, B, C, D and E during 2014-2015 and 2015-2016. The X-axis represents the Companies, and the Y-axis shows the Sales Turnover (in ₹ crore).

(The data shown here is only for mathematical exercise. They do not represent the actual figures of the company.)



By what percentage is the average sales turnover of all the companies combined in 2015-2016 more than the average sales turnover of the companies A, C and E in 2014-2015 (to the nearest whole number)?

Ans

✗ 1. 25

✓ 2. 16

✗ 3. 18

✗ 4. 20

Question ID : **6549788921**
Status : **Not Answered**
Chosen Option : **--**

Q.7 If $a + b + c = 5$ and $a^3 + b^3 + c^3 - 3abc = 185$, then the value of $ab + bc + ca$ lies between:

Ans

✗ 1. 5 and 9

✗ 2. –3 and 1

✗ 3. 1 and 5

✓ 4. –7 and –3

Question ID : **6549788005**
Status : **Not Answered**
Chosen Option : **--**

Gagan Pratap Maths

Q.8 The perimeter of a rhombus is 148 cm, and one of its diagonals is 24 cm. The area (in cm^2) of the rhombus is:

Ans

✗ 1. 770

✓ 2. 840

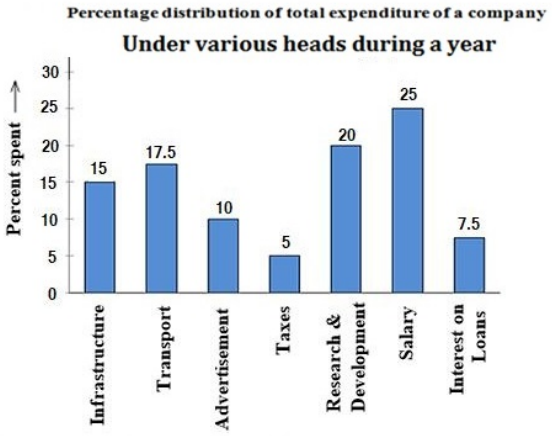
✗ 3. 700

✗ 4. 875

Question ID : **6549787992**
Status : **Answered**
Chosen Option : **2**

Q.9 Study the given graph and answer the question that follows.

The bar graph shows the percentage distribution of total expenditure of a company under various expense heads during a year.



The total expenditure of the company in the year is how many times the expenditure on Research & Development?

Ans

✗ 1. 4

✓ 2. 5

✗ 3. 7

✗ 4. 6

Question ID : **6549789327**
Status : **Not Answered**
Chosen Option : **--**

Q.10 What is the perimeter of a right-angled triangle whose sides (making 90°) are $20\sqrt{3}$ cm and $15\sqrt{3}$ cm?

Ans

✓ 1. $60\sqrt{3}$ cm

✗ 2. $55\sqrt{3}$ cm

✗ 3. $65\sqrt{3}$ cm

✗ 4. $50\sqrt{3}$ cm

Question ID : **6549789314**
Status : **Answered**
Chosen Option : **1**

Gagan Pratap Maths

Q.11 $\triangle PQR$ is inscribed in a circle with center O. PO is produced to meet QR at U and the circle at S, and $PT \perp QR$, where T lies between Q and U. If $\angle Q = 70°$ and $\angle R = 55°$, then what is the measure (in degrees) of $\angle TPS$?

Ans

✗ 1. 25

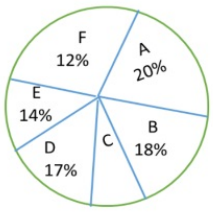
✗ 2. 30

✓ 3. 15

✗ 4. 20

Question ID : **6549788000**
Status : **Not Answered**
Chosen Option : **--**

Q.12 The given pie chart represents the percentage-wise distribution of 300 students of class X in a school in six different sections A, B, C, D, E and F.



The given table shows the number of boys of class X in six different sections A, B, C, D, E and F.

Section	A	B	C	D	E	F
No. of boys	36	26	34	28	------	20

If in section E, the ratio of boys and girls is 4 : 3, then the ratio of the number of girls in section B to that of the number of girls in section E is:

Ans

✗ 1. 15 : 8

✗ 2. 13 : 8

✗ 3. 13 : 9

✓ 4. 14 : 9

Question ID : **6549787710**
Status : **Not Answered**
Chosen Option : **--**

Q.13 If $cot\theta = \sqrt{2} + 1$, then $cosec\theta sec\theta = ?$

Ans

✗ 1. $\frac{\sqrt{2}}{2}$

✗ 2. $4\sqrt{2}$

✗ 3. $\frac{\sqrt{2}}{4}$

✓ 4. $2\sqrt{2}$

Question ID : **6549788008**
Status : **Not Answered**
Chosen Option : **--**

Gagan Pratap Maths

Q.14 An article is sold for ₹372 after two successive discounts of 25% and 38% on its marked price. Total discount (in ₹) is:

Ans

✗ 1. 400

✓ 2. 428

✗ 3. 420

✗ 4. 380

Question ID : **6549787994**
Status : **Not Answered**
Chosen Option : **--**

Q.15 In a bag, white mobile covers and black mobile covers are in the ratio of 4 : 7. If there are 280 black mobile covers, then how many white mobile covers are there in the bag?

Ans

✗ 1. 154

✗ 2. 158

✓ 3. 160

✗ 4. 156

Question ID : **6549789310**
Status : **Answered**
Chosen Option : **3**

Q.16 If $5sin^2\theta = 3(1 + cos\theta)$, $0° < \theta < 90°$, then the value of $cosec\theta + cot\theta$ is:

Ans

✓ 1. $\sqrt{\frac{7}{3}}$

✗ 2. $\frac{5}{\sqrt{21}}$

✗ 3. $\frac{4}{\sqrt{21}}$

✗ 4. $\sqrt{\frac{3}{7}}$

Question ID : **6549788010**
Status : **Not Answered**
Chosen Option : **--**

Q.17 The average number of electronic items sold by a trader in 2004, 2005, 2006 and 2007 is 18950 and that sold in 2005, 2006, 2007 and 2008 is 21725. If the number of items sold in 2008 is 12750, then the number of items sold in 2004 is:

Ans

✗ 1. 1600

✗ 2. 1700

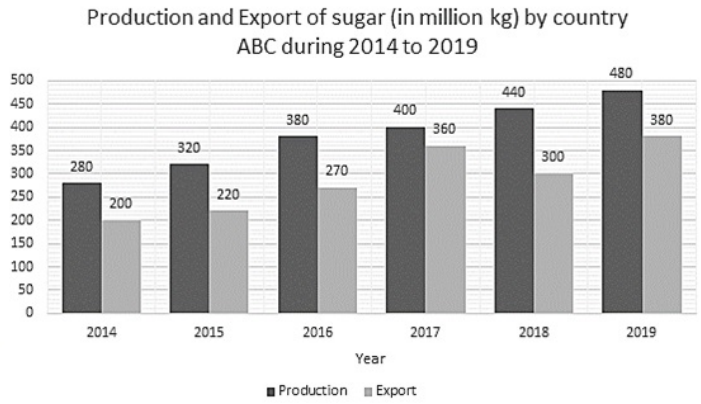
✓ 3. 1650

✗ 4. 1550

Question ID : **6549789306**
Status : **Not Answered**
Chosen Option : **--**

Gagan Pratap Maths

Q.18 Study the given graph and answer the question the follows.



What is the ratio of the total production of sugar in 2014 and 2018 to the total export in 2015 and 2019?

Ans

✗ 1. 7 : 6

✓ 2. 6 : 5

✗ 3. 36 : 35

✗ 4. 9 : 8

Question ID : **6549788011**
Status : **Not Answered**
Chosen Option : **--**

Q.19 If $3u + 2v = 7$ and $uv = 2$, then the value of $(3u - 2v)$ is:

Ans

✗ 1. 2

✓ 2. 1

✗ 3. 0

✗ 4. 5

Question ID : **6549789316**
Status : **Not Answered**
Chosen Option : **--**

Q.20 By selling 92 kg of wheat, a person gains the selling price of 12 kg of it. His gain percentage is:

Ans

✗ 1. 12%

✓ 2. 15%

✗ 3. 18%

✗ 4. 16%

Question ID : **6549787996**
Status : **Not Answered**
Chosen Option : **--**

Gagan Pratap Maths

Q.21 What is the least 6-digit number that is divisible 71?

Ans
1. 100037 ✗
2. 100039 ✓
3. 100035 ✗
4. 100041 ✗

Question ID : **6549789319**
Status : **Not Answered**
Chosen Option : **--**

Q.22 What is the simple interest on a sum of ₹99,000 at $12\frac{1}{2}$ % per annum for a period of 9 months?

Ans
1. ₹9,282.25 ✗
2. ₹8,281.25 ✗
3. ₹7,281.25 ✗
4. ₹9,281.25 ✓

Question ID : **6549789311**
Status : **Not Answered**
Chosen Option : **--**

Q.23 The value of $\left(1\frac{1}{8} \div \frac{3}{4}\right) \div \left[\left(\frac{1}{2} \text{ of } 1\frac{1}{2}\right) \div \left(3\frac{1}{2} - 1\frac{1}{4}\right) \text{of} \frac{3}{4} - \frac{3}{4} \div 2\frac{1}{4}\right] \text{ of} \frac{3}{4}$ is:

Ans
1. 18 ✓
2. 9 ✗
3. 6 ✗
4. 12 ✗

Question ID : **6549788007**
Status : **Not Answered**
Chosen Option : **--**

Q.24 If $\frac{cosec\theta + cot\,\theta}{cosec\theta - cot\,\theta} = 7$, then the value of $\frac{4\,sin^2\,\theta + 5}{4\,sin^2\,\theta - 1}$ is:

Ans
1. 15 ✗
2. 3 ✗
3. 9 ✓
4. 12 ✗

Question ID : **6549789322**
Status : **Not Answered**
Chosen Option : **--**

Gagan Pratap Maths

Q.25 AB and CD are two chords of a circle which intersect at E inside the circle. If $\angle BEC = 125°$ and $\angle EBD = 28°$, then what is the measure of $\angle BAC$?

Ans

✗ 1. $55°$

✗ 2. $87°$

✗ 3. $56°$

✓ 4. $97°$

Question ID : **6549789312**
Status : **Not Answered**
Chosen Option : **--**

aths

13 April 2nd shift

Gagan Maths

Section : **Quantitative Aptitude**

Q.1 $ABCD$ is a cyclic quadrilateral with AB as a diameter of the circle. If $\angle ADC = 118°$, then the measure (in degrees) of $\angle BAC$ is:

Ans

1. 32
2. 38
3. 22
4. 28 ✔

Question ID : **6549787999**
Status : **Answered**
Chosen Option : **4**

Q.2 If $x^4 - 142x^2 + 1 = 0$, then the value of $x^3 + \frac{1}{x^3}$ is:

Ans

✗ 1. 1962

✗ 2. 1952

✓ 3. 1692

✗ 4. 1592

Question ID : **6549788913**
Status : **Answered**
Chosen Option : **3**

Q.3 If a number is divisible by 624, the remainder will be 53. If the same number is divisible by 16, then the remainder will be:

Ans

✗ 1. 7

✗ 2. 6

✗ 3. 4

✓ 4. 5

Question ID : **6549788006**
Status : **Answered**
Chosen Option : **4**

Q.4 Study the given table and answer the question that follows.
The table shows the annual consumption (in hundred tonnes) of tea in five states (A, B, C, D and E) across six years (2014 to 2019).

Year \ State	A	B	C	D	E
2014	112	130	136	105	117
2015	122	138	150	140	120
2016	124	134	142	144	132
2017	132	154	198	149	133
2018	135	148	187	151	145
2019	153	136	198	150	187

The consumption of tea in which state and year is closest to the average consumption of tea in State A over six years?

Ans

✗ 1. C in 2016

✓ 2. B in 2014

✗ 3. E in 2019

✗ 4. D in 2018

Question ID : **6549787103**
Status : **Answered**
Chosen Option : **2**

Gagan Pratap Maths

Q.5 Train A takes $1\frac{4}{5}$ h more than the time taken by train B to cover a distance of 360 km. If the speed of train A doubles, it will take 36 min less than the time taken by train B to travel the same distance. What is the speed (in km/h) of train B ?

Ans

✗ 1. 96

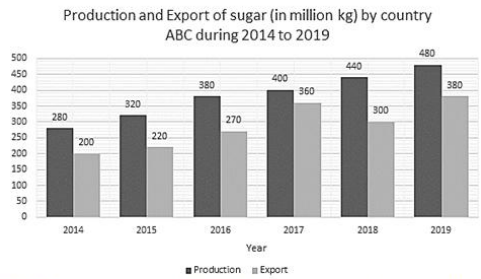
✗ 2. 100

✗ 3. 90

✓ 4. 120

Question ID : **6549787991**
Status : **Not Answered**
Chosen Option : **--**

Q.6 Study the given graph and answer the question that follows.



By what percentage is 80% of the total export of sugar in 2016, 2017 and 2019 more than the total production in 2015 and 2018 (correct to one decimal place)?

Ans

✗ 1. 5.9%

✓ 2. 6.3%

✗ 3. 8.4%

✗ 4. 7.7%

Question ID : **6549788014**
Status : **Answered**
Chosen Option : **2**

Q.7 A wire is bent to form a square of area 169 cm^2. If the same wire is bent to form a circle, then what is its area (in cm^2, to the nearest whole number)?

Take $\pi = \frac{22}{7}$

Ans

✓ 1. 215

✗ 2. 227

✗ 3. 532

✗ 4. 531

Question ID : **6549788909**
Status : **Not Attempted and Marked For Review**
Chosen Option : **--**

Gagan Pratap Maths

Q.8 If $\tan A = \frac{1.1}{6}$, then what is the value of $(4\cos A - 7\sin A)$? Given that A is an acute angle.

Ans

✗ 1. $2\frac{14}{61}$

✗ 2. $2\frac{41}{71}$

✗ 3. $2\frac{14}{71}$

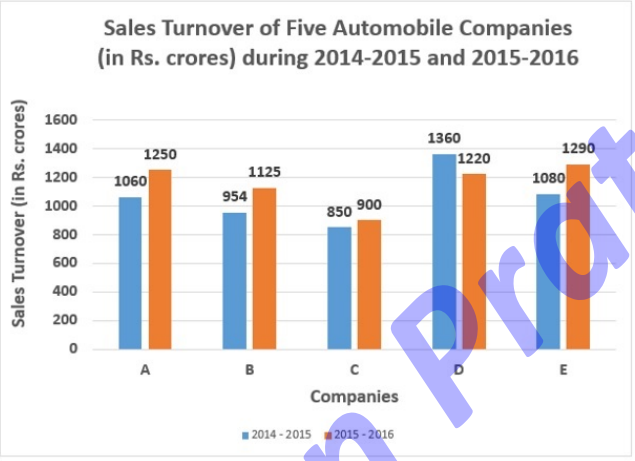
✓ 4. $2\frac{41}{61}$

Question ID : **6549788917**
Status : **Answered**
Chosen Option : **4**

Q.9 Study the given bar graph and answer the question that follows.

The given bar graph represents the Sales Turnover (in ₹ crore) of five automobile companies A, B, C, D and E during 2014-2015 and 2015-2016. The X-axis represents the Companies, and the Y-axis shows the Sales Turnover (in ₹ crore).

(The data shown here is only for mathematical exercise. They do not represent the actual figures of the company.)



Which two companies have the same percentage increase in the sales turnover from 2014-2015 to 2015-2016?

Ans

✗ 1. B and C

✓ 2. A and B

✗ 3. A and D

✗ 4. B and E

Question ID : **6549788920**
Status : **Not Attempted and Marked For Review**
Chosen Option : **--**

Gagan Pratap Maths

Q.10 In $\triangle ABC$, $\angle B = 90°$, $AB = 8$ cm and $BC = 15$ cm. D is a point on BC such that AD bisects $\angle A$. The length (in cm) of BD is:

Ans

✗ 1. 4.5

✓ 2. 4.8

✗ 3. 4.2

✗ 4. 3.6

Question ID : **6549788001**
Status : **Answered**
Chosen Option : **2**

Q.11 A and B can complete a work in 80 days and 96 days, respectively. They completed the work in 32 days with the help of C. How many days will C take to complete the entire work alone?

Ans

✗ 1. 108

✗ 2. 92

✓ 3. 120

✗ 4. 84

Question ID : **6549788899**
Status : **Answered**
Chosen Option : **3**

Q.12 A solid metallic cube of side 20 cm is melted and recast into a cuboid of length 40 cm and breadth 40 cm. What is the length (in cm) of the body diagonal of the cuboid?

Ans

✗ 1. $15\sqrt{43}$

✗ 2. $129\sqrt{5}$

✗ 3. $43\sqrt{15}$

✓ 4. $5\sqrt{129}$

Question ID : **6549788901**
Status : **Answered**
Chosen Option : **4**

Q.13 A straight vertical pole was broken during a cyclone in such a way that its top touched the ground at a distance of $6\sqrt{3}$ m from the bottom of the pole and made an angle of 30° with the horizontal. What was the height (in m) of the pole?

Ans

✓ 1. 18

✗ 2. $12\sqrt{3}$

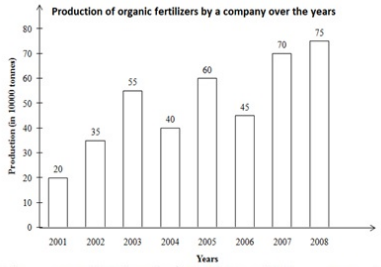
✗ 3. 12

✗ 4. $18\sqrt{3}$

Question ID : **6549788919**
Status : **Answered**
Chosen Option : **1**

Gagan Pratap Maths

Q.14 Study the given bar graph and answer the question that follows.



The average production in 2002 and 2003 was exactly equal to the average production in which of the following pairs of years?

Ans

✔ 1. 2001 and 2007

✘ 2. 2006 and 2008

✘ 3. 2004 and 2007

✘ 4. 2003 and 2006

Question ID : **6549789326**
Status : **Answered**
Chosen Option : **1**

Q.15 Given that $(2x+y)^3-(x+2y)^3=(x-y)[A(x^2+y^2)+Bxy]$, the value of $(2A-B)$ is:

Ans

✘ 1. 7

✘ 2. 6

✘ 3. 0

✔ 4. 1

Question ID : **6549788003**
Status : **Not Answered**
Chosen Option : **--**

Q.16 The average age of 125 students in a group is 16.2 years. 40% of the students are boys and the rest are girls. The average age of the boys is 20% more than the average age of the girls. What is the average age (in years) of the boys?

Ans

✘ 1. 17

✔ 2. 18

✘ 3. 18.5

✘ 4. 17.5

Question ID : **6549787993**
Status : **Answered**
Chosen Option : **2**

Gagan Pratap Maths

Q.17 Two sides of a triangle are 12.8 m and 9.6 m. If the height of the triangle is 12 m, corresponding to 9.6 m, then what is its height (in m) corresponding to 12.8 m?

Ans

✗ 1. 12

✓ 2. 9

✗ 3. 10

✗ 4. 8

Question ID : **6549788911**
Status : **Answered**
Chosen Option : **2**

Q.18 A sum of ₹2,432 amounts to ₹2,681.28 in 2 years at a certain rate per cent per annum, interest compounded yearly. What will be the simple interest (in ₹) on the same sum for $4\frac{3}{8}$ years at double the same rate?

Ans

✗ 1. 1,276.80

✗ 2. 1,094.40

✓ 3. 1,064

✗ 4. 1,368

Question ID : **6549787998**
Status : **Not Answered**
Chosen Option : **--**

Q.19 A shopkeeper bought 40 dozen eggs at ₹1.40 each. 80 eggs were broken in transportation. He sold the remaining eggs at ₹1.60 each. What is his profit or loss per cent?

Ans

✗ 1. Loss, $3\frac{19}{27}$

✗ 2. Profit, $3\frac{19}{27}$

✗ 3. Profit, $4\frac{16}{21}$

✓ 4. Loss, $4\frac{16}{21}$

Question ID : **6549788905**
Status : **Not Answered**
Chosen Option : **--**

Q.20 A solution contains acid and water in the ratio of 4 : 5. If 20% of the solution is replaced by water, then what will be the ratio of acid and water in the new solution?

Ans

✗ 1. 10 : 7

✗ 2. 5 : 17

✓ 3. 16 : 29

✗ 4. 8 : 15

Question ID : **6549787997**
Status : **Not Answered**
Chosen Option : **--**

Gagan Pratap Maths

Q.21 If $a^2 + b^2 = 25$, $x^2 + y^2 = 17$ and $ax + by = 8$, then what is the value of $(ay - bx)$?

Ans

✗ 1. 33

✗ 2. 25

✗ 3. 21

✓ 4. 19

Question ID : **6549788914**
Status : **Not Answered**
Chosen Option : **--**

Q.22 The marked price of an article is ₹1,000. After two successive discounts, it is sold for ₹600. If the first discount is x%, and the second discount is 25%, then what is the value of x?

Ans

✗ 1. 18%

✗ 2. 12%

✗ 3. 25%

✓ 4. 20%

Question ID : **6549788903**
Status : **Answered**
Chosen Option : **4**

Q.23

If $0° < \theta < 90°$, then $\frac{(1-\sin\theta)(\sec\theta+\tan\theta)\tan\theta}{(\tan\theta+\sec\theta+1)(\cot\theta-\operatorname{cosec}\theta+1)} = ?$

Ans

✗ 1. $\sin\theta$

✓ 2. $\frac{\sin\theta}{2}$

✗ 3. $\cos\theta$

✗ 4. $\frac{\cos\theta}{2}$

Question ID : **6549788009**
Status : **Not Answered**
Chosen Option : **--**

Q.24 In a survey it was found that in a constituency, 55% of voters are male and the rest are female. 40% of the male voters are literate and $33\frac{1}{3}$% of the female voters are illiterate. What percentage of the voters are literate?

Ans

✗ 1. 48%

✓ 2. 52%

✗ 3. 37%

✗ 4. 54%

Question ID : **6549787995**
Status : **Not Answered**
Chosen Option : **--**

Gagan Pratap Maths

Q.25 The value of $\dfrac{96 \div 16 \text{ of } 2 - 128 \times 2 \div 32 + 15 \text{ of } 4}{\frac{5}{6} \text{ of } \frac{2}{3}\left(\frac{1}{3} - \overline{\frac{1}{4} - \frac{1}{6}}\right)}$ is:

Ans

✗ 1. $\frac{55}{36}$

✗ 2. 216

✗ 3. $-\frac{5}{36}$

✓ 4. 396

Question ID : **6549788916**
Status : **Answered**
Chosen Option : **4**

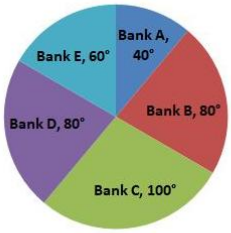
Section : **General Awareness**

Gagan Maths

13 April 3rd shift

Section : **Quantitative Aptitude**

Q.1 The given pie chart shows the distribution of money spent by Aditya through credit cards of different banks A, B, C, D and E. The total money spent by him through credit cards in a year is ₹3,60,000.



What is his combined spending through credit cards of bank A and bank C?

Ans

✗ 1. ₹60,000

✗ 2. ₹1,00,000

✗ 3. ₹1,80,000

✓ 4. ₹1,40,000

Question ID : **6549788517**
Status : **Answered**
Chosen Option : **4**

Q.2 The side BC of a triangle ABC is extended to a point D. If $\angle ACD = 117°$ and $\angle ABC = \frac{5}{8}\angle BAC$, then what is the measure of $\angle ABC$?

Ans

✓ 1. 45°

✗ 2. 72°

✗ 3. 36°

✗ 4. 54°

Question ID : **6549788506**
Status : **Not Answered**
Chosen Option : **--**

Gagan Pratap Maths

Q.3 The perimeter and the area of a rectangular sheet are 42 m and 108 m^2, respectively. The length of the diagonal is:

Ans

✔ 1. 15 m

✘ 2. 10 m

✘ 3. 14 m

✘ 4. 12 m

Question ID : **6549787184**
Status : **Answered**
Chosen Option : **1**

Q.4 If $\frac{3\sqrt{3}\sec\theta+4\tan\theta}{3\tan\theta+\sqrt{3}\sec\theta} = 2$, $0° < \theta < 90°$, then the value of $\cos\theta$ will be:

Ans

✘ 1. $\frac{\sqrt{3}}{2}$

✘ 2. $\frac{1}{\sqrt{2}}$

✘ 3. $\frac{1}{4}$

✔ 4. $\frac{1}{2}$

Question ID : **6549787200**
Status : **Not Answered**
Chosen Option : **--**

Q.5 If the number 583p2310q2 is divisible by 11, then what is the value of p × q, where p > q?

Ans

✘ 1. 4

✘ 2. 2

✔ 3. 0

✘ 4. 6

Question ID : **6549788511**
Status : **Answered**
Chosen Option : **3**

Q.6 P, Q and R are three points on the circumference of a circle such that QR is a diameter and PQ = PR. If the radius of the circle is 7 cm, then the length of PQ is:

Ans

✘ 1. $14\sqrt{2}$ cm

✘ 2. 7 cm

✘ 3. $7\sqrt{3}$ cm

✔ 4. $7\sqrt{2}$ cm

Question ID : **6549787192**
Status : **Not Answered**
Chosen Option : **--**

Gagan Pratap Maths

Q.7 Solve the following equation.

θ : $2\cos^2\theta + (4+\sqrt{3})\sin\theta - 2(1+\sqrt{3}) = 0$ where θ is an acute angle.

Ans

✗ 1. $30°$

✗ 2. $45°$

✗ 3. $15°$

✓ 4. $60°$

Question ID : **6549787202**
Status : **Not Answered**
Chosen Option : **--**

Q.8 A sum of money amounts to ₹28,224 in 2 years and to ₹29,635.20 in 3 years when invested on compound interest, compounded annually. What is the sum of money?

Ans

✗ 1. ₹26,880

✗ 2. ₹26,095

✗ 3. ₹26,000

✓ 4. ₹25,600

Question ID : **6549788503**
Status : **Not Answered**
Chosen Option : **--**

Q.9 If $x^3 + y^3 = 468$ and $x + y = 12$, then the value of $x^4 + y^4$ will be:

Ans

✗ 1. 3620

✗ 2. 2036

✗ 3. 3025

✓ 4. 3026

Question ID : **6549787197**
Status : **Answered**
Chosen Option : **4**

Q.10 A circle touches all four sides of a quadrilateral PQRS. If PQ = 11 cm, QR = 12 cm and PS = 8 cm, then what is the length of RS?

Ans

✓ 1. 9 cm

✗ 2. 7.3 cm

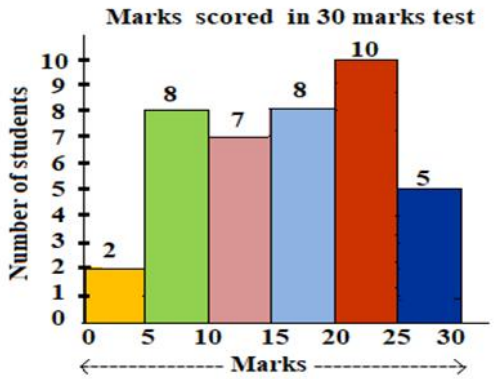
✗ 3. 7 cm

✗ 4. 15 cm

Question ID : **6549788504**
Status : **Not Answered**
Chosen Option : **--**

Gagan Pratap Maths

Q.11 The given histogram shows the marks scored by 40 students in a test of maximum 30 marks.



What is the percentage of students who scored less than 50% marks?

Ans

✗ 1. 25

✗ 2. 17

✗ 3. 62.5

✓ 4. 42.5

Question ID : **6549788519**
Status : **Answered**
Chosen Option : **4**

Q.12 The value of $\dfrac{12.5+\frac{4}{7}of56-12}{(207\div23\times4.5)-21\frac{1}{3}\times\left(\frac{1}{4}+\frac{1}{8}\right)}$ is:

Ans

✓ 1. 1

✗ 2. 5

✗ 3. 4

✗ 4. 2

Question ID : **6549787199**
Status : **Answered**
Chosen Option : **1**

Q.13 How many isosceles triangles with integer sides are possible such that the sum of two of the sides is 16 cm?

Ans

✗ 1. 18

✗ 2. 15

✗ 3. 9

✓ 4. 24

Question ID : **6549787194**
Status : **Not Answered**
Chosen Option : **--**

Gagan Pratap Maths

Q.14 If 4p = 6q = 9r, then p : q : r is equal to:

Ans
✔ 1. 9 : 6 : 4
✘ 2. 4 : 6 : 9
✘ 3. 15 : 13 : 10
✘ 4. 16 : 36 : 81

Question ID : **6549788502**
Status : **Answered**
Chosen Option : **1**

Q.15 A man buys 400 oranges for ₹2,000. How many oranges can be sold for ₹260 so that he gets a profit of 30%?

Ans
✘ 1. 35
✘ 2. 30
✘ 3. 45
✔ 4. 40

Question ID : **6549787188**
Status : **Answered**
Chosen Option : **4**

Q.16 If $k - \frac{3}{k} = 5$, then what is the value of $k^2 + \frac{9}{k^2}$?

Ans
✔ 1. 31
✘ 2. 25
✘ 3. 11
✘ 4. 19

Question ID : **6549788508**
Status : **Answered**
Chosen Option : **1**

Q.17 What number should be subtracted from
$4(sin^4 60° + cos^4 30°) - (tan^2 45° - cot^2 30°) + cos^2 45° - \text{cosec}^2 45° + sec^2 60°$ to get 2?

Ans
✘ 1. 5
✘ 2. 4
✔ 3. 7
✘ 4. 3

Question ID : **6549788514**
Status : **Not Answered**
Chosen Option : **--**

Gagan Pratap Maths

Q.18 A merchant announces 25% discount on the price of a shirt. If one needs to have a total rebate of ₹875 and the price of each shirt is ₹250, then how many shirts should the person purchase?

Ans

✗ 1. 15

✗ 2. 12

✗ 3. 9

✓ 4. 14

Question ID : **6549787186**
Status : **Answered**
Chosen Option : **4**

Q.19 Study the given pie charts and answer the question that follows.

The pie charts show the distribution of students of graduate and postgraduate levels in five different institutes P, Q, R, S and T in a town.

(i) Total number of students of graduate level in five different institutes = 12400

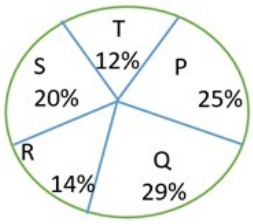


Fig.(i)

(ii) Total number of students of postgraduate level in five different institutes = 8000

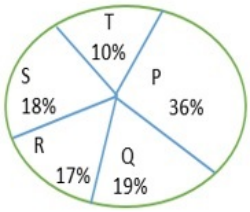


Fig.(ii)

The ratio of the number of students of graduate level in Institutes P and S together to that of postgraduate level in institutes P and S is:

Ans

✗ 1. 33 : 25

✗ 2. 31 : 23

✗ 3. 28 : 25

✓ 4. 31 : 24

Question ID : **6549787306**
Status : **Answered**
Chosen Option : **4**

Gagan Pratap Maths

Q.20 In an examination of 180 marks of a subject, 75% marks are allocated for theory and the rest for project work. Veena scored 60% in theory. What percentage of marks must she score in the project to achieve an overall 62% marks in the subject?

Ans

✗ 1. 65

✗ 2. 66

✓ 3. 68

✗ 4. 64

Question ID : **6549788500**
Status : **Answered**
Chosen Option : **3**

Q.21 If $a^2 + b^2 + c^2 + 170 = 2(8a + 5b - 9c)$, then the value of $\sqrt{4a + 8b - c}$ will be:

Ans

✗ 1. 15

✗ 2. 12

✓ 3. 9

✗ 4. 8

Question ID : **6549787196**
Status : **Not Answered**
Chosen Option : **--**

Q.22 A can do a work in $7\frac{1}{2}$ hours and B can do the same work in $10\frac{1}{2}$ hours. If they work together for $3\frac{1}{2}$ hours, then what part of the work will be left out?

Ans

✗ 1. $\frac{3}{5}$

✗ 2. $\frac{4}{5}$

✓ 3. $\frac{1}{5}$

✗ 4. $\frac{2}{5}$

Question ID : **6549787182**
Status : **Answered**
Chosen Option : **3**

Q.23 The average of the numbers a, b, c and d is 2d + 4. Also, the averages of the numbers a and b; b and c; c and d are 8, 5 and 4, respectively. If e = a + d + 1, then what is the average of the numbers d and e?

Ans

✓ 1. 8

✗ 2. 8.5

✗ 3. 3

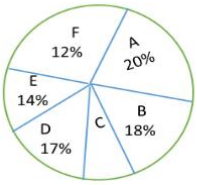
✗ 4. 7

Question ID : **6549788498**
Status : **Answered**
Chosen Option : **1**

Gagan Pratap Maths

Q.24 Study the given pie chart and table and answer the question that follows.

The pie chart represents the percentage-wise distribution of 300 students of class X in a school in six different sections A, B, C, D, E and F.



The table shows the number of boys of class X in six different sections A, B, C, D, E and F.

Section	A	B	C	D	E	F
No. of boys	36	26	34	28	_____	20

The difference between the central angles of the sectors corresponding to the sections A and F is:

Ans

✗ 1. $28.4°$

✗ 2. $38.8°$

✗ 3. $26.8°$

✓ 4. $28.8°$

Question ID : **6549787203**
Status : **Answered**
Chosen Option : **4**

Q.25 A person moved from place A for place B at 2 p.m. at a speed of 4.5 km/h, stayed at place B for 1.5 hours and returned to place A at a speed of 6 km/h. He came back to place A at 7 p.m. What is the distance between places A and B (in km)?

Ans

✗ 1. $8\frac{1}{3}$

✗ 2. $8\frac{2}{5}$

✓ 3. 9

✗ 4. $9\frac{6}{11}$

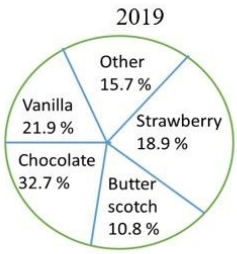
Question ID : **6549788496**
Status : **Not Answered**
Chosen Option : **--**

Gagan Pratap Maths

15 April 1st shift

Q.1 Study the given pie chart and answer the question that follows.

The pie chart represents the popularity of ice-cream flavours among families in the year 2019.



In 2019, if 20% of the 'Other' category was Anjeer flavour and 4082 people preferred Anjeer flavour, then how many people were surveyed?

Ans
1. 1,25,000
2. 1,50,000
3. 1,40,000
4. 1,30,000 ✔

Question ID : **6549786396**
Status : **Not Answered**
Chosen Option : **–**

Q.2 If θ is an acute angle and $\sin\theta = \cos\theta$, then the value of $2\tan^2\theta + \sin^2\theta - 1$ is equal to:

Ans
1. -7
2. 1
3. 3
4. $\frac{3}{2}$ ✔

Question ID : **6549788210**
Status : **Answered**
Chosen Option : **4**

Q.3 Rakesh sold a car for ₹5,00,000 at a 28% profit. At what price should he sell it to get a 32% profit?

Ans
1. ₹5,15,615
2. ₹5,15,620
3. ₹5,15,630
4. ₹5,15,625 ✔

Question ID : **6549788198**
Status : **Answered**
Chosen Option : **4**

Gagan Pratap Maths

Q.4 The value of $25 + 184 \div [150 - \{9 \times 9 + (83 - 4 \times 15)\}]$ is:

Ans
1. 28
2. 27
3. 29
4. 26

Question ID : **6549788209**
Status : **Answered**
Chosen Option : **3**

Q.5 In a class, 60% of the students are girls and the rest are boys. 45% of the girls pass an examination and 40% of the boys failed. If the number of girls who failed is 66, the number of boys who passed the examination is:

Ans
1. 36
2. 48
3. 54
4. 60

Question ID : **6549786581**
Status : **Answered**
Chosen Option : **2**

Q.6 $\triangle ABC \sim \triangle PQR$. The perimeters of $\triangle ABC$ and $\triangle PQR$ are 72 cm and 43.2 cm, respectively. What is the ratio of the area of $\triangle ABC$ to the area of $\triangle PQR$?

Ans
1. 25 : 9
2. 36 : 25
3. 16 : 9
4. 9 : 4

Question ID : **6549786587**
Status : **Answered**
Chosen Option : **3**

Q.7 If $x + y + z = 5$, $\frac{1}{x} + \frac{1}{y} + \frac{1}{z} = 0$, $xyz = 12$ and $x^3 + y^3 + z^3 = 151$, then the value of $(x^2 + y^2 + z^2)$ is:

Ans
1. 24
2. 23
3. 22
4. 21

Question ID : **6549788207**
Status : **Not Answered**
Chosen Option : **–**

Gagan Pratap Maths

Q.8 AB is a diameter of a circle with centre O. If C is any point on the circle such that $\angle BAC = 42^\circ$, then find the measure of $\angle BOC$.

Ans

✗ 1. 60°

✗ 2. 63°

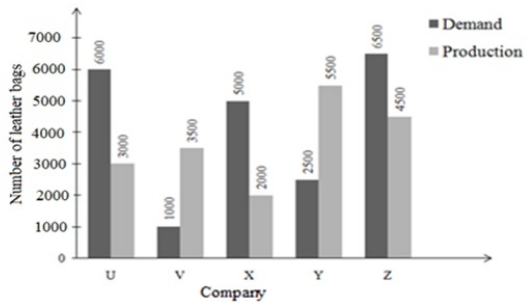
✗ 3. 42°

✓ 4. 84°

Question ID : **6549788202**
Status : **Not Answered**
Chosen Option : **–**

Q.9 Study the graph and answer the question that follows.

The given chart represents the demand and production of leather bags of five companies U, V, X, Y and Z.



If the production of leather bags by company Y is equal to 'm' times of the production of leather bags by company X, then the value of 'm' is:

Ans

✗ 1. 3.25

✓ 2. 2.75

✗ 3. 3

✗ 4. 2.5

Question ID : **6549788213**
Status : **Not Answered**
Chosen Option : **–**

Q.10 $\Delta ABC \sim \Delta EDF$, Area ABC : Area $DEF = 49 : 4$. If AB, AC, BC are, respectively, 10 cm, 14 cm, 21 cm, then what is the length (in cm) of EF?

Ans

✗ 1. 4.5

✗ 2. 6

✗ 3. 3.5

✓ 4. 4

Question ID : **6549788204**
Status : **Not Answered**
Chosen Option : **–**

Gagan Pratap Maths

Q.11 If $cos\theta = \frac{2}{3}$, then $2sec^2\theta + 2tan^2\theta - 6$ equals :

Ans
1. 4
2. 1
3. 2
4. 0

Question ID : **6549786595**
Status : **Answered**
Chosen Option : **2**

Q.12 AB is a diameter of the circle with centre O. The tangent at the point C on the circle meets AB produced at Q. If $\angle BAC = 34°$, then the measure of $\angle CQA$ (in degrees) will be:

Ans
1. 26
2. 36
3. 22
4. 24

Question ID : **6549786585**
Status : **Not Answered**
Chosen Option : **–**

Q.13 The list price of a motorcycle is 20% more than its cost price. It is sold at a discount of 30%. Find the dealer's loss percentage.

Ans
1. 14%
2. 12%
3. 10%
4. 16%

Question ID : **6549788196**
Status : **Answered**
Chosen Option : **4**

Q.14 If the ratio of the curved surface area and volume of a right circular cylinder is 5 : 7, then its radius is:

Ans
1. 2.8 unit
2. 3.2 unit
3. 3.8 unit
4. 2.6 unit

Question ID : **6549788194**
Status : **Not Answered**
Chosen Option : **–**

Gagan Pratap Maths

Q.15 If A lies between 45° and 540°, and sinA = 0.5, what is the value of A/3 in degrees?

Ans

✔ 1. 170°

✘ 2. 175°

✘ 3. 165°

✘ 4. 160°

Question ID : **6549788212**
Status : **Not Answered**
Chosen Option : **–**

Q.16 If the nine-digit number $23541y49x$ is divisible by 72, then $(3x+5y):(5x+3y)$ is equal to:

Ans

✘ 1. $9:7$

✘ 2. $3:4$

✔ 3. $7:9$

✘ 4. $4:3$

Question ID : **6549786592**
Status : **Answered**
Chosen Option : **3**

Q.17 Study the given graph and answer the question that follows.

In the year 2019, if the imports increased by the same percentage as that in 2018 over its previous year, then what was the amount (in ₹ crores) of the imports in the year 2019?

Ans

✘ 1. 508.50

✘ 2. 504

✔ 3. 506.25

✘ 4. 495

Question ID : **6549786600**
Status : **Answered**
Chosen Option : **3**

Gagan Pratap Maths

Q.18 A man invested a total of ₹12,050 in two parts, one at 10% p.a. simple interest for 2 years and the other at the same rate at compound interest, interest being compounded annually, for the same time. The amounts he received from both the parts are equal. The sum (in ₹) invested at the compound interest is:

Ans

✗ 1. 5,780

✗ 2. 5,850

✓ 3. 6,000

✗ 4. 5,800

Question ID : **6549786584**
Status : **Not Answered**
Chosen Option : **–**

Q.19 If $x + y = 5$ and $\frac{1}{x} + \frac{1}{y} = \frac{20}{9}$, then the value of $(x^3 + y^3)$ will be:

Ans

✗ 1. $\frac{205}{4}$

✗ 2. $\frac{635}{8}$

✗ 3. $\frac{635}{4}$

✓ 4. $\frac{365}{4}$

Question ID : **6549786589**
Status : **Answered**
Chosen Option : **4**

Q.20 The speed of a boat downstream is 150% more than its speed upstream. If the time taken by the boat for going 80 km downstream and 50 km upstream is 8.2 hours, then what is the speed (in km/h) of the boat downstream?

Ans

✗ 1. 16

✗ 2. 30

✗ 3. 24

✓ 4. 25

Question ID : **6549786577**
Status : **Not Answered**
Chosen Option : **–**

Q.21 24 persons can do a piece of work in 20 days. In how many days can 30 persons do the same work?

Ans

✓ 1. 16

✗ 2. 14

✗ 3. 18

✗ 4. 12

Question ID : **6549788192**
Status : **Answered**
Chosen Option : **1**

Gagan Pratap Maths

Q.22 The present ages of A and B are in the ratio 9 : 10. The ratio of their ages 8 years from now will be 11 : 12. What will be the sum of their ages (in years) after 3 years from now?

Ans

✗ 1. 84

✓ 2. 82

✗ 3. 76

✗ 4. 78

Question ID : **6549786583**
Status : **Answered**
Chosen Option : **2**

Q.23 The average weight of some persons in a group is 72 kg. When 5 persons with average weight 66.6 kg join and 13 persons with average weight 75 kg leave the group, the average weight of the persons in the group decreases by 1.65 kg. How many persons were there in the group initially?

Ans

✗ 1. 40

✗ 2. 44

✗ 3. 38

✓ 4. 48

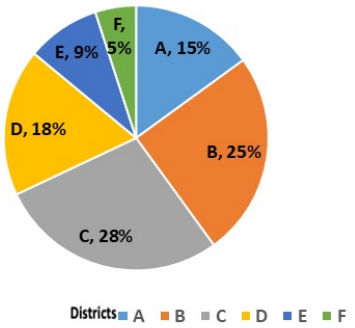
Question ID : **6549786579**
Status : **Not Answered**
Chosen Option : **–**

Gagan Pratap Maths

Q.24 Study the given pie-chart and answer the question that follows.

The pie-chart represents the percentage distribution of candidates qualified in a bank examination from six different districts of a State in 2016. The total number of qualified candidates from the State is 68000.

The percentage distribution of candidates qualified for a bank examination from six districts A, B, C, D, E, and F of a State



Out of the total selected candidates from Districts B and D, rural candidates are 60% and 40%, respectively. The number of selected urban candidates from B is what per cent (up to one decimal place) more/less than the number of selected urban candidates from D?

Ans
✔ 1. Less, 7.4
✘ 2. More, 7.5
✘ 3. Less, 7.5
✘ 4. More, 7.4

Question ID : **6549789022**
Status : **Not Answered**
Chosen Option : **–**

Q.25 If $49a^2 + 25b^2 = 30$ and $ab = 1$, $a, b > 0$, then the value of $(7a + 5b)$ is:

Ans
✘ 1. 14
✘ 2. 8
✘ 3. 12
✔ 4. 10

Question ID : **6549788206**
Status : **Answered**
Chosen Option : **4**

Section : General Awareness

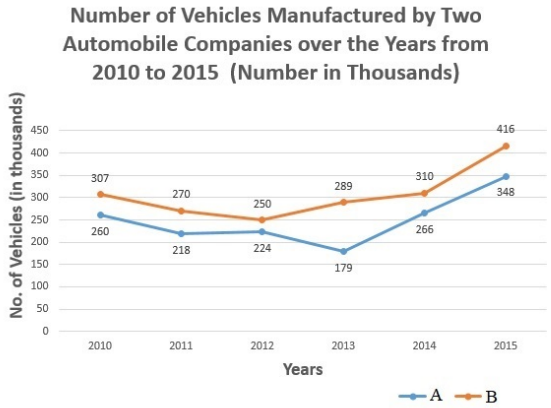
Gagan Pratap Maths

15 April 2nd shift

Q.1 Study the line graph and answer the question that follows.

The line graph represents the number of vehicles (in thousands) manufactured by two automobile companies A and B over the years from 2010 to 2015. The X-axis represents the years and the Y-axis represents number of vehicles in thousands.

(The data shown here is only for mathematical exercise. They do not represent the actual figures of the country.)



If there was an increase of 24% in the average number of vehicles (in thousands) manufactured by Company B during 2011 to 2014 with respect to number of vehicles manufactured by Company A in 2009, then how many vehicles (in thousands) did Company A manufacture in 2009?

Ans

✗ 1. 257.6

✗ 2. 274.6

✗ 3. 247.6

✓ 4. 225.6

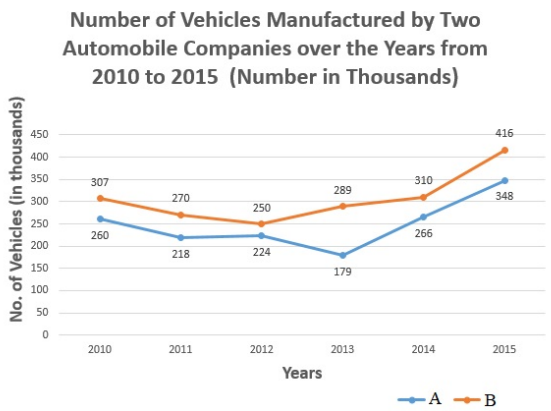
Question ID : **6549789730**
Status : **Answered**
Chosen Option : **2**

Gagan Pratap Maths

Q.2 Study the line graph and answer the question that follows.

The line graph represents the number of vehicles (in thousands) manufactured by two automobile companies A and B over the years from 2010 to 2015. The X-axis represents the years and the Y-axis represents number of vehicles in thousands.

(The data shown here is only for mathematical exercise. They do not represent the actual figures of the country.)



What is the difference between the average number of vehicles (in thousands) of the companies A and B for the years 2010, 2012, 2014 and 2015?

Ans
✗ 1. 48.25
✗ 2. 45.75
✗ 3. 50.25
✓ 4. 46.25

Question ID : **6549789728**
Status : **Answered**
Chosen Option : **3**

Q.3 If $(7x+3)^3 + (x-2)^3 + 27(2x-5)^3 = 9(7x+3)(x-2)(2x-5)$, then the value of $5x+3$ is:

Ans
✓ 1. 8
✗ 2. 6
✗ 3. 10
✗ 4. 2

Question ID : **6549789721**
Status : **Answered**
Chosen Option : **3**

Q.4 Two persons P and Q are 844 m apart. They both start cycling simultaneously in the same direction with speeds of 12 m/s and 8 m/s, respectively. In how much time will P overtake Q?

Ans
✗ 1. 3 minutes and 20 seconds
✓ 2. 3 minutes and 31 seconds
✗ 3. 3 minutes and 18 seconds
✗ 4. 3 minutes and 24 seconds

Question ID : **6549789001**
Status : **Answered**
Chosen Option : **2**

Gagan Pratap Maths

Q.5 What is the length (in cm) of the longest rod that can be fitted in a box of dimensions 28 cm × 4 cm × 10 cm?

Ans
✗ 1. 42
✗ 2. 36
✓ 3. 30
✗ 4. 25

Question ID : **6549789709**
Status : **Answered**
Chosen Option : **2**

Q.6 The perimeter of an isosceles triangle is 3.6 m and its base is 30 cm shorter than each of the equal sides. What is the area (in m^2) of the triangle?

Ans
✓ 1. 0.6
✗ 2. 0.72
✗ 3. 0.54
✗ 4. 0.8

Question ID : **6549789719**
Status : **Answered**
Chosen Option : **3**

Q.7 What is the value of $\frac{tan^2 60° - 2sin^2 45°}{cos24° cos37° cosec53° cos60° cosec66° + sin^2 60°}$

Ans
✗ 1. $1\frac{4}{5}$
✗ 2. 1
✗ 3. 2
✓ 4. $1\frac{3}{5}$

Question ID : **6549789019**
Status : **Answered**
Chosen Option : **2**

Q.8 Two successive discounts of 40% and 20%, respectively, on the marked price of an article are equal to a single discount of ₹988. The marked price (in ₹) of the article is:

Ans
✗ 1. 2,070
✓ 2. 1,900
✗ 3. 2,470
✗ 4. 2,200

Question ID : **6549789711**
Status : **Answered**
Chosen Option : **3**

Gagan Pratap Maths

Q.9 If the simple interest for 9 years be equal to 45% of the principal, then the rate of interest per annum is equal to:

Ans
✔ 1. 5%
✘ 2. 8%
✘ 3. 9%
✘ 4. 6%

Question ID : **6549789008**
Status : **Answered**
Chosen Option : **1**

Q.10 By selling an article for ₹8,670, a man loses 15%. At what price (in ₹) should he sell it in order to make a profit of 15%?

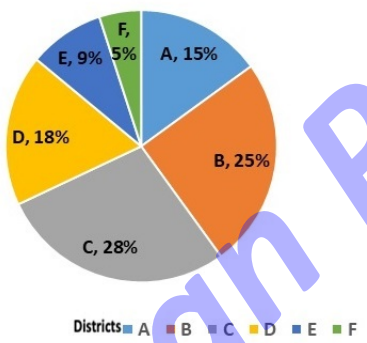
Ans
✔ 1. 11,730
✘ 2. 13,370
✘ 3. 18,590
✘ 4. 23,560

Question ID : **6549789713**
Status : **Answered**
Chosen Option : **2**

Q.11 Study the given pie-chart and answer the question that follows.

The pie-chart represents the percentage distribution of candidates qualified in a bank examination from six different districts of a State in 2016. The total number of qualified candidates from the State is 68000.

The percentage distribution of candidates qualified for a bank examination from six districts A, B, C, D, E, and F of a State



If 22% and 20% of the qualified students from Districts B and C, respectively, were 22 years old or below, then the number of qualified students who were above 22 years from District B is what percent (to the nearest integer) of the number of qualified students who were above 22 years from District C?

Ans
✘ 1. 60
✘ 2. 80
✘ 3. 67
✔ 4. 87

Question ID : **6549789024**
Status : **Answered**
Chosen Option : **3**

Gagan Pratap Maths

Q.12 The given pie charts show the distribution of students of graduate and postgraduate levels in five different institutes, P, Q, R, S and T, in a town. Study the pie charts and answer the question that follows.

(i) Total number of students of graduate level in five different institutes = 12400

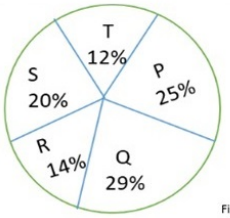


Fig.(i)

(ii) Total number of students of postgraduate level in five different institutes = 8000

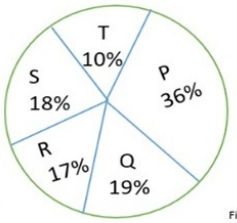


Fig.(ii)

The number of students in graduate level in institute S is approximately what percentage more than the number of students in post graduate level in institute S?

(correct to one decimal place)

Ans

✗ 1. 70.2%

✓ 2. 72.2%

✗ 3. 74.4%

✗ 4. 62.2%

Question ID : **6549787608**
Status : **Answered**
Chosen Option : **3**

Q.13 If (3p – 5m) = 5 and pm = 6, then what is the value of $(9p^2 - 25m^2)$?

Ans

✓ 1. $\pm 5\sqrt{385}$

✗ 2. $30\sqrt{10}$

✗ 3. $5\sqrt{385}$

✗ 4. $\pm 30\sqrt{10}$

Question ID : **6549789722**
Status : **Answered**
Chosen Option : **1**

Gagan Pratap Maths

Q.14 A number is mistakenly multiplied by $\frac{7}{5}$ instead of being multiplied by $\frac{3}{2}$. What is the percentage change in the result due to this mistake?

Ans

✔ 1. $6\frac{2}{3}$ %

✘ 2. $7\frac{2}{3}$ %

✘ 3. $3\frac{2}{3}$ %

✘ 4. $5\frac{2}{3}$ %

Question ID : **6549789005**
Status : **Answered**
Chosen Option : **1**

Q.15 When an integer n is divided by 6, the remainder is 5. What is the remainder if 9n is divided by 6?

Ans

✔ 1. 3

✘ 2. 2

✘ 3. 4

✘ 4. 5

Question ID : **6549789016**
Status : **Answered**
Chosen Option : **3**

Q.16 If 9685 is divided into three parts in such a way that one-fourth of the first part, one-third of the second part and one-sixth of the third part are equal, then what is the first part?

Ans

✘ 1. 4470

✘ 2. 2253

✔ 3. 2980

✘ 4. 2235

Question ID : **6549789007**
Status : **Answered**
Chosen Option : **2**

Q.17 The sum of the radii of two circles is 286 cm and the area between the concentric circles is 50336 cm^2. What are the radii (in cm) of the two circles? Take $\pi = \frac{22}{7}$.

Ans

✘ 1. 115 and 91

✔ 2. 115 and 171

✘ 3. 91 and 84

✘ 4. 171 and 84

Question ID : **6549789717**
Status : **Answered**
Chosen Option : **3**

Gagan Pratap Maths

Q.18 The average monthly expenditure of a man is ₹2,400 during the first three months, ₹3,500 during the next five months and ₹4,800 for the remaining four months. If his total saving is ₹3,500 during the entire year, then what is his average monthly income (in ₹)?

Ans
✗ 1. 4,550
✗ 2. 4,100
✗ 3. 3,700
✓ 4. 3,950

Question ID : **6549789003**
Status : **Answered**
Chosen Option : **1**

Q.19 The diameter of a semicircle is 5.6 m. What is its perimeter (in m, correct to one decimal place)? (Take $\pi = \frac{22}{7}$.)

Ans
✗ 1. 11.2
✗ 2. 8.8
✓ 3. 14.4
✗ 4. 17.6

Question ID : **6549789009**
Status : **Answered**
Chosen Option : **3**

Q.20 What is the value of:

$$\frac{\left[\frac{1}{9} \div \frac{1}{9} of \frac{1}{9}\right] \times \frac{1}{9}}{\frac{1}{9} + \frac{1}{9} of \frac{1}{9}} ?$$

Ans
✗ 1. $9\frac{1}{81}$
✓ 2. $8\frac{1}{10}$
✗ 3. $9\frac{1}{10}$
✗ 4. $8\frac{1}{81}$

Question ID : **6549789724**
Status : **Answered**
Chosen Option : **2**

Q.21 If $\tan\theta = 15$, then what is the value of $\sec\theta$?

Ans
✓ 1. $\sqrt{226}$
✗ 2. $\frac{1}{\sqrt{224}}$
✗ 3. $\frac{1}{\sqrt{226}}$
✗ 4. $\sqrt{224}$

Question ID : **6549789725**
Status : **Answered**
Chosen Option : **3**

Gagan Pratap Maths

Q.22 A can complete a piece of work in 7 days and B can complete the same work in 12 days. A and B worked together for 3 days. C alone completed the remaining work in 9 days. How many days will C take to complete the same work entirely?

Ans
✗ 1. 21
✓ 2. 28
✗ 3. 14
✗ 4. 35

Question ID : **6549789707**
Status : **Answered**
Chosen Option : **3**

Q.23 The sides AB and AC of a Δ ABC are produced up to points D and E. The bisectors of the exterior angles so formed, intersect each other at point I. If $\angle ACB$ is $66°$ and $\angle ABC = 44°$, then what is the measure (in degrees) of $\angle BIC$?

Ans
✗ 1. 52
✗ 2. 50
✗ 3. 48
✓ 4. 55

Question ID : **6549789011**
Status : **Answered**
Chosen Option : **2**

Q.24 If $x + y = 5$ and $x^2 + y^2 = 17$ then the value of $(x-y)^2$ is equal to:

Ans
✓ 1. 9
✗ 2. 4
✗ 3. 25
✗ 4. 16

Question ID : **6549789013**
Status : **Answered**
Chosen Option : **3**

Q.25 Solve for x:

$$\sin^2 x - 4\sin x + 3 = 0, 0 \le x \le \frac{\pi}{2}$$

Ans
✓ 1. $\frac{\pi}{2}$
✗ 2. $\frac{\pi}{4}$
✗ 3. $\frac{\pi}{6}$
✗ 4. $\frac{\pi}{3}$

Question ID : **6549789727**
Status : **Answered**
Chosen Option : **2**

Gagan Pratap Maths

15 April 3rd shift

Gagan Pratap Maths

Section : **Quantitative Aptitude**

Q.1 The printed price on a Mathematics book is ₹550. If it is sold at two successive discounts of 20% and 30%, then its selling price will be:

Ans

1. ₹305
2. ₹308
3. ₹312
4. ₹310

Question ID : **6549788600**
Status : **Answered**
Chosen Option : **2**

Q.2 The three medians RQ, SP and TN of ΔRST intersect at point O. If the area of ΔRST is 48 cm^2, then the area of the quadrilateral SQON is:

Ans

✗ 1. 20 cm^2

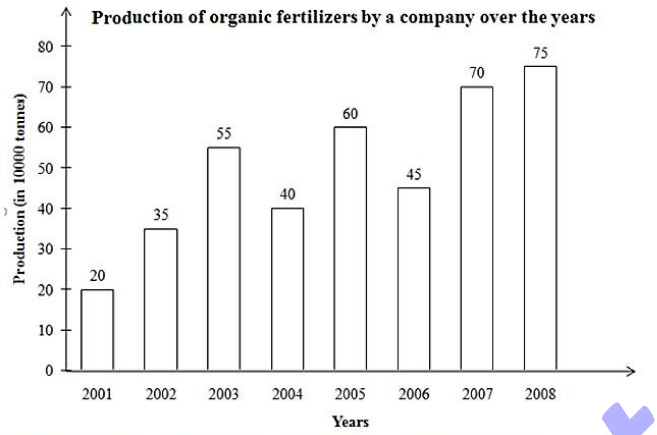
✗ 2. 12 cm^2

✓ 3. 16 cm^2

✗ 4. 18 cm^2

Question ID : **6549788608**
Status : **Answered**
Chosen Option : **3**

Q.3 Study the given bar graph and answer the question that follows.



In how many of the given years was the production of organic fertilizers more than the average production of organic fertilizers in the given years?

Ans

✗ 1. 5

✗ 2. 3

✗ 2. 2

✓ 4. 4

Question ID : **6549788617**
Status : **Answered**
Chosen Option : **4**

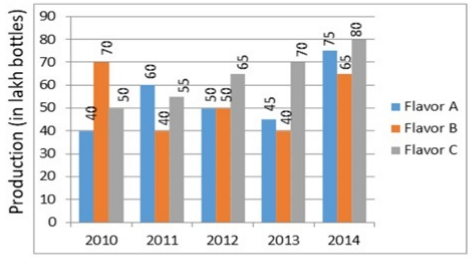
Gagan Pratap Maths

Q.4

Study the given bar graph and answer the question that follows.

A soft drink company prepares drinks of three different flavours A, B and C. The bar graph shows the production of three flavours over a period of five years from 2010 to 2014.

Production of three different flavours A, B and C by a company over the five years (in lakh bottles).



For which of the following years, is the percentage of the rise in production compared to its previous year the maximum with respect to flavour C?

Ans

✗ 1. 2013

✓ 2. 2012

✗ 3. 2014

✗ 4. 2011

Question ID : **6549787408**
Status : **Answered**
Chosen Option : **2**

Q.5 If the area of a right-angled isosceles triangle is 676 cm^2, then the length of its hypotenuse is:

Ans

✓ 1. 52 cm

✗ 2. 51 cm

✗ 3. 53 cm

✗ 4. 50 cm

Question ID : **6549788598**
Status : **Not Attempted and Marked For Review**
Chosen Option : **--**

Q.6 If $Y = \tan 35^\circ$, then the value of $(2\tan 55^\circ + \cot 55^\circ)$ is:

Ans

✓ 1. $\frac{2+Y^2}{Y}$

✗ 2. $\frac{2-Y}{Y^2}$

✗ 3. $\frac{2}{Y^2}$

✗ 4. $\frac{2-Y^2}{Y}$

Question ID : **6549788614**
Status : **Answered**
Chosen Option : **1**

Gagan Pratap Maths

Q.7 Three numbers are in the ratio $\frac{3}{4}:\frac{5}{8}:\frac{7}{12}$. If the difference between the greatest and the smallest number is 48, then the value of the greatest number will be:

Ans
1. 126
2. 226
3. 216 ✔
4. 262

Question ID : **6549787391**
Status : **Answered**
Chosen Option : **3**

Q.8 Two circular football grounds of radius 42 m and 35 m are to be replaced with a bigger circular ground. What would be the radius of this new ground if the new ground has the same area as the sum of the two small grounds?

Ans
1. $\sqrt{2979}$ m
2. $\sqrt{2981}$ m
3. $\sqrt{2999}$ m
4. $\sqrt{2989}$ m ✔

Question ID : **6549788606**
Status : **Answered**
Chosen Option : **4**

Q.9 Simplify the expression $45 - [36 - \{29 - (25 - \overline{7 + 4})\}]$.

Ans
1. 28
2. 26
3. 22
4. 24 ✔

Question ID : **6549788613**
Status : **Answered**
Chosen Option : **4**

Q.10 If $\tan^2 x - 3\tan x + 2 = 0$ and $(0° < x < 90°)$, then the value of x is:

Ans
1. 30°
2. 60°
3. 45° ✔
4. 90°

Question ID : **6549788616**
Status : **Answered**
Chosen Option : **3**

Gagan Pratap Maths

Q.11 35% of the students in a college are girls and the rest are boys. The total number of students in the college is 2800. 75% of the boys and 85% of the girls passed the final examination. The percentage of total students who passed the final examination is:

Ans
1. 80%
2. 82%
3. 78%
4. 78.5% ✔

Question ID : **6549787389**
Status : **Answered**
Chosen Option : **4**

Q.12 Vaibhav and Vignesh each travel a distance of 78 km such that the speed of Vaibhav is faster than that of Vignesh. The sum of their speeds is 91 km/h and the total time taken by both is 3 hours and 30 minutes. The speed of Vaibhav is:

Ans
1. 48 km/h
2. 45 km/h
3. 52 km/h ✔
4. 54 km/h

Question ID : **6549787385**
Status : **Answered**
Chosen Option : **1**

Q.13 If $\tan\theta + cot\theta = 4$, then the ratio of $3(tan^2\theta + cot^2\theta)$ to $(2cosec^2\theta\ sec^2\theta - 4)$ will be:

Ans
1. 4 : 3
2. 3 : 4
3. 5 : 4
4. 3 : 2 ✔

Question ID : **6549787403**
Status : **Answered**
Chosen Option : **4**

Q.14 In ΔABC, medians BE and CF are perpendicular to each other and intersect at M. If BE = 9 cm and CF = 13 cm, then the area of ΔABC will be:

Ans
1. 75 cm^2
2. 78 cm^2 ✔
3. 76 cm^2
4. 68 cm^2

Question ID : **6549787395**
Status : **Answered**
Chosen Option : **2**

Gagan Pratap Maths

Q.15 If the number 579683pq is divisible by both 5 and 8, then the smallest possible values of p and q will be:

Ans

✔ 1. $P = 2, q = 0$

✘ 2. $P = 3, q = 0$

✘ 3. $P = 2, q = 2$

✘ 4. $P = 4, q = 3$

Question ID : **6549787400**
Status : **Answered**
Chosen Option : **1**

Q.16 A sum of ₹4,000 amounts to ₹5,008 in three years at simple interest at the rate of x% per annum. If the interest rate becomes (x + 2.6)%, then the revised maturity amount will be:

Ans

✔ 1. ₹5,320

✘ 2. ₹5,420

✘ 3. ₹5,330

✘ 4. ₹5,200

Question ID : **6549787392**
Status : **Answered**
Chosen Option : **1**

Q.17 If $8a^3 + b^3 = 16$ and $2a + b = 4$, then find the value of $16a^4 + b^4$.

Ans

✔ 1. 32

✘ 2. 36

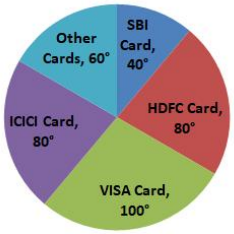
✘ 3. 28

✘ 4. 38

Question ID : **6549788610**
Status : **Answered**
Chosen Option : **1**

Gagan Pratap Maths

Q.18 The pie chart shows the money spent by Aditya through credit cards of different banks. The total money spent by him through the credit cards in a year is ₹3,60,000.



What is the maximum amount spent by Aditya through the credit card of one bank?

Ans

✗ 1. ₹80,000

✓ 2. ₹1,00,000

✗ 3. ₹1,40,000

✗ 4. ₹1,80,000

Question ID : **6549789224**
Status : **Answered**
Chosen Option : **2**

Q.19 Rajni purchased an LED TV set for ₹22,500 and spent ₹800 on its transportation and ₹1,000 on installation. At what price should she sell it so as to earn an overall profit of 20%?

Ans

✗ 1. ₹29,170

✓ 2. ₹29,160

✗ 3. ₹29,150

✗ 4. ₹29,180

Question ID : **6549788602**
Status : **Answered**
Chosen Option : **2**

Gagan Pratap Maths

Q.20 Study the given bar graphs and answer the question that follows.

The bar graphs represent the amount invested in raw materials (in ₹ crore) and the sale of the products, by a textile company in the years 2007– 2012. The X-axis represents the years. The Y-axis represents the amount invested in raw materials (in ₹ crore) in figure 1 and sale of products in figure 2, respectively.

Figure 1

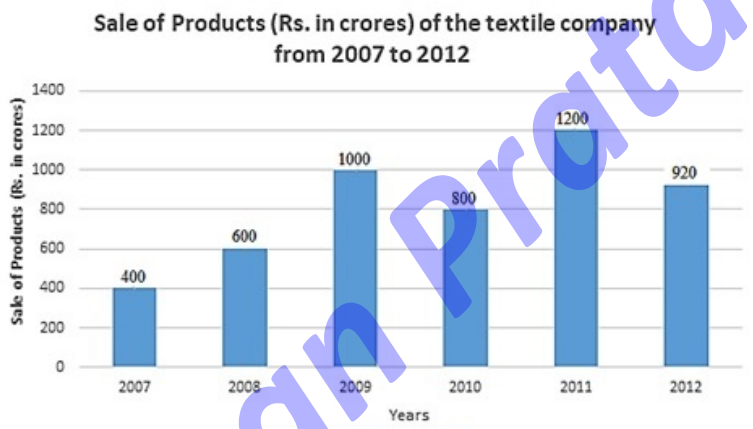


Figure 2

The sum of the amounts invested during the years 2007, 2008 and 2010 is what percentage (correct to one decimal place) of the sum of the sales of products during 2009 and 2011?

Ans

✗ 1. 60.4

✗ 2. 61.4

✗ 3. 61.5

✓ 4. 60.5

Question ID : **6549786800**

Status : **Not Attempted and Marked For Review**

Chosen Option : **--**

Gagan Pratap Maths

Q.21 X and Y together can do a work in $2\frac{2}{5}$ days, Y and Z together can do the same work in 3 days, and X and Z together can do the same work in 4 days. The time taken by X, Y and Z together to do the same work is:

Ans

✗ 1. 1 day

✓ 2. 2 days

✗ 3. $\frac{1}{2}$ day

✗ 4. $2\frac{1}{2}$ days

Question ID : **6549788596**
Status : **Answered**
Chosen Option : **2**

Q.22 If $x - \frac{1}{2x} = 4$, then the value of $8x^3 - \frac{1}{x^3}$ will be:

Ans

✗ 1. 540

✓ 2. 560

✗ 3. 480

✗ 4. 520

Question ID : **6549787397**
Status : **Answered**
Chosen Option : **2**

Q.23 The average of the squares of four consecutive even natural numbers is 126. The average of 8 times of the greatest number and 5 times of the smallest number is:

Ans

✗ 1. 66

✓ 2. 76

✗ 3. 68

✗ 4. 74

Question ID : **6549787387**
Status : **Not Attempted and Marked For Review**
Chosen Option : **--**

Q.24 If $x^4 + \frac{16}{x^4} = 27217$, $x > 0$, then the value of $x + \frac{2}{x}$ is:

Ans

✗ 1. 17

✗ 2. 11

✗ 3. 15

✓ 4. 13

Question ID : **6549788611**
Status : **Answered**
Chosen Option : **4**

Gagan Pratap Maths

Q.25 The area of a circle that is inscribed in a square of area $17\frac{9}{11}$ cm^2 is:

Ans

✗ 1. $22\ cm^2$

✗ 2. $28\ cm^2$

✓ 3. $14\ cm^2$

✗ 4. $16\ cm^2$

Question ID : **6549787393**
Status : **Not Answered**
Chosen Option : **--**

Gagan Maths

16 April 1st shift

Gagan Maths

Section : **Quantitative Aptitude**

Q.1 The average weight of some students in a class was 69.5 kg. When 10 students of average weight 68 kg joined the class, and 6 students of average weight 60 kg left the class, it was noted that the average weight of the new group of students increased by 2 kg. How many students are there in the class now?

Ans

✗ 1. 19

✓ 2. 21

✗ 3. 23

✗ 4. 17

Question ID : **6549789104**
Status : **Answered**
Chosen Option : **1**

Q.2 The length of the base of a right-angled triangle is 40 cm and its hypotenuse is 41 cm long. What is its area (in cm^2) and perimeter (in cm), respectively?

Ans
1. 85 and 170
2. 170 and 85
3. 180 and 90 ✔
4. 90 and 180

Question ID : **6549789618**
Status : **Answered**
Chosen Option : **3**

Q.3 In how many years, will ₹5,450 amount to ₹8,175, if invested at simple interest at the rate of 12.5% per annum?

Ans
1. 6
2. 5
3. 4 ✔
4. 3

Question ID : **6549789109**
Status : **Answered**
Chosen Option : **1**

Q.4 If $\left(x+\frac{2}{x}\right)=7$, then what is the value of $\left(2x^2+\frac{8}{x^2}\right)$?

Ans
1. 44
2. 94
3. 50
4. 90 ✔

Question ID : **6549789114**
Status : **Answered**
Chosen Option : **4**

Q.5 A bicycle wheel has a radius of 42 cm. It makes 40 revolutions in 25 seconds. What is its speed (in km/h, up to one decimal place)?

Ans
1. 3.5
2. 11.6
3. 15.2 ✔
4. 9.5

Question ID : **6549789616**
Status : **Answered**
Chosen Option : **1**

Gagan Pratap Maths

Q.6 P can complete five-eighths of a work in 15 days and Q can complete three-fourths of the same work in 30 days. They worked together for 8 days and then P left. How much time will Q working alone, take to complete the remaining work?

Ans

✗ 1. 15 days 16 hours

✓ 2. 18 days 16 hours

✗ 3. 20 days 4 hours

✗ 4. 15 days 8 hours

Question ID : **6549789606**
Status : **Answered**
Chosen Option : **2**

Q.7 The diameter of a wheel is 1.33 m. What distance (in m, to the nearest whole number) will it travel in 380 revolutions?

(Take $\pi = \frac{22}{7}$.)

Ans

✓ 1. 1588

✗ 2. 1856

✗ 3. 1855

✗ 4. 1685

Question ID : **6549789110**
Status : **Answered**
Chosen Option : **3**

Q.8 If $x - 3 = \frac{1}{2x}$, then what is the value of $\left(x^4 + \frac{1}{16x^4}\right)$?

Ans

✗ 1. 11

✗ 2. 10

✓ 3. $99\frac{1}{2}$

✗ 4. 98

Question ID : **6549789621**
Status : **Answered**
Chosen Option : **2**

Q.9 A kite is flying at a height of 138 m above the ground. It is attached to a string inclined at 45° to the horizontal. What is the approximate length (in m) of the string?

Ans

✗ 1. 194

✗ 2. 190

✗ 3. 193

✓ 4. 195

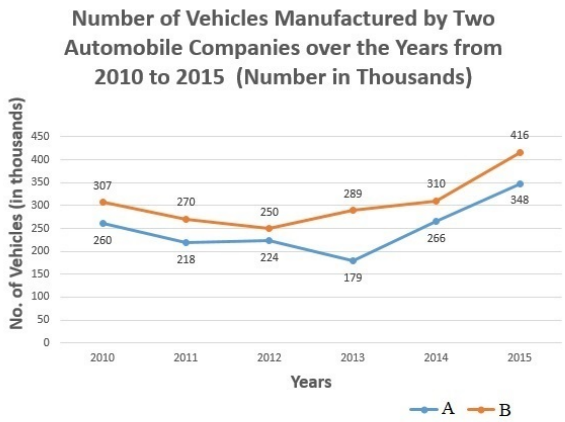
Question ID : **6549789626**
Status : **Answered**
Chosen Option : **3**

Gagan Pratap Maths

Q.10 Study the line graph and answer the question that follows.

The line graph represents the number of vehicles (in thousands) manufactured by two automobile companies A and B over the years from 2010 to 2015. The X-axis represents the years and the Y-axis represents number of vehicles in thousands.

(The data shown here is only for mathematical exercise. They do not represent the actual figures of the country.)



The average value of the vehicles manufactured by Company A is what per cent of the average value of the vehicles manufactured by Company B during 2010 to 2015?

Ans

✗ 1. 78.5

✓ 2. 81.2

✗ 3. 83.1

✗ 4. 67.8

Question ID : **6549789729**
Status : **Not Answered**
Chosen Option : **--**

Q.11 n = 475AB is a positive integer whose tens and units digits are A and B, respectively. If n is divisible by 5, 8 and 9, then what is (10A + B)?

Ans

✓ 1. 20

✗ 2. 60

✗ 3. 35

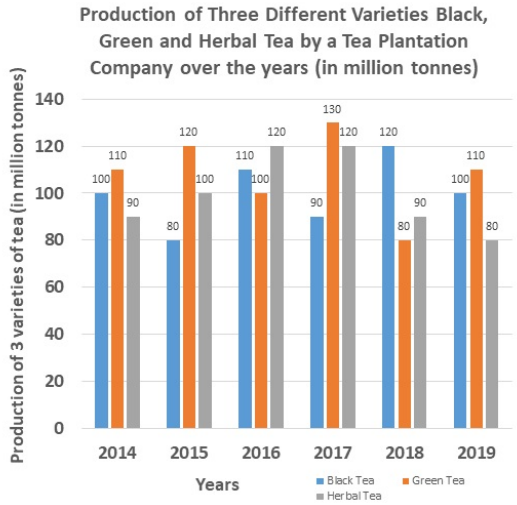
✗ 4. 15

Question ID : **6549789117**
Status : **Not Answered**
Chosen Option : **--**

Gagan Pratap Maths

Q.12 Study the given bar graph and answer the question that follows.

A tea plantation company produces three varieties of tea—black tea, green tea and herbal tea. The production of three varieties (in million tonnes) over a period of six years from 2014 to 2019, has been shown in the bar graph here. The X-axis represents the years and the Y-axis displays the production of the three varieties in million tonnes.



The average value of the combined production of black tea and herbal tea from 2014 to 2019 is what percent (up to 1 decimal place) of the average value of the production of green tea during the same period?

Ans

✗ 1. 92.4

✗ 2. 91.4

✗ 3. 91.3

✓ 4. 92.3

Question ID : **6549789125**
Status : **Not Answered**
Chosen Option : **--**

Q.13 A solid metallic right circular cylinder has diameter 32 cm and height 9 cm. It is melted and recast into a solid sphere. What is the radius (in cm) of the sphere?

Ans

✗ 1. 14

✗ 2. 25

✗ 3. 10

✓ 4. 12

Question ID : **6549789608**
Status : **Answered**
Chosen Option : **1**

Gagan Pratap Maths

Q.14 What is the value of $\frac{\sin 33^\circ \cos 57^\circ + \sec 62^\circ \sin 28^\circ + \cos 33^\circ \sin 57^\circ + \operatorname{cosec} 62^\circ \cos 28^\circ}{\tan 15^\circ \tan 35^\circ \tan 60^\circ \tan 55^\circ \tan 75^\circ}$?

Ans

✗ 1. $\frac{\sqrt{3}}{3}$

✗ 2. 2

✗ 3. $2\sqrt{3}$

✓ 4. $\sqrt{3}$

Question ID : **6549789120**
Status : **Answered**
Chosen Option : **2**

Q.15 A man sells two articles for ₹620 each, one at a profit of 24% and the other at a loss of 24%. What is his loss/profit per cent in the whole transaction?

Ans

✗ 1. Loss, 12

✗ 2. Profit, 12

✓ 3. Loss, 5.76

✗ 4. Profit, 5.76

Question ID : **6549789612**
Status : **Answered**
Chosen Option : **3**

Q.16 If $A = 60^\circ$, then what is the value of $(4\cos^3 A - 3\cos A)$?

Ans

✓ 1. -1

✗ 2. $-\frac{\sqrt{3}}{2}$

✗ 3. $\frac{\sqrt{3}}{2}$

✗ 4. 1

Question ID : **6549789624**
Status : **Answered**
Chosen Option : **2**

Q.17 The expenditure on food is 35% of the income of a particular family. If the income is raised by 30%, then how much percentage (to the nearest whole number) of food expenditure is less than the initial percentage to keep the food expenditure unchanged?

Ans

✗ 1. 2

✗ 2. 20

✓ 3. 23

✗ 4. 17

Question ID : **6549789106**
Status : **Answered**
Chosen Option : **3**

Gagan Pratap Maths

Q.18 A man cycles from P to Q, a distance of 30 km, in 2 hours 48 minutes. The road from P is a level road for 18 km and then it is uphill to Q. The man's average speed on the level road is 15 km/h. What is his average uphill speed (in km/h)?

Ans

✗ 1. 9

✗ 2. 10.5

✓ 3. 7.5

✗ 4. 12

Question ID : **6549789102**
Status : **Answered**
Chosen Option : **1**

Q.19 The perimeter of an isosceles triangle is 91 cm and its base is $1\frac{1}{4}$ times each of its equal sides. What is the length (in cm) of its base?

Ans

✓ 1. 35

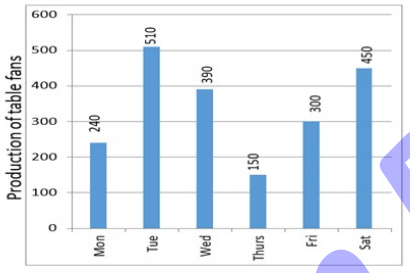
✗ 2. 20

✗ 3. 25

✗ 4. 28

Question ID : **6549789112**
Status : **Answered**
Chosen Option : **1**

Q.20 The given bar graph shows the production of table fans in a factory during one week. Study the bar graph and answer the question that follows.



The production of fans on Tuesday is what percentage of the total production of fans during the week?

Ans

✓ 1. 25%

✗ 2. 24%

✗ 3. 30%

✗ 4. 20%

Question ID : **6549787609**
Status : **Answered**
Chosen Option : **1**

Gagan Pratap Maths

Q.21 What is a single discount (to the nearest whole number) equivalent to the successive discounts of 10%, 17% and 25%?

Ans

✗ 1. 52%

✓ 2. 44%

✗ 3. 45%

✗ 4. 43%

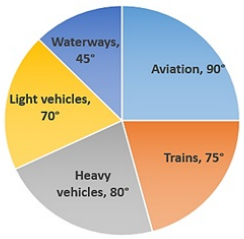
Question ID : **6549789610**
Status : **Answered**
Chosen Option : **1**

Q.22 Study the given pie-chart and answer the question that follows.

The pie-chart represents the consumption of fuel (in million litres) by various modes of transport of a country X in the year 2015. The total consumption of fuel by various modes of transport of the country is 800 million litres.

(The data shown here is only for mathematical exercise. They do not represent the actual figures of the country.)

Consumption of fuel (in million litres) by various modes of transport of a country X in the year 2015



The fuel consumed by light vehicles is approximately what percentage of the combined consumption of fuel for aviation and waterways?

Ans

✗ 1. 20

✗ 2. 68

✓ 3. 52

✗ 4. 55

Question ID : **6549789627**
Status : **Answered**
Chosen Option : **1**

Q.23 If 7A = 4B = 14C, then what is A : B : C?

Ans

✗ 1. 2 : 7 : 4

✗ 2. 2 : 4 : 7

✓ 3. 4 : 7 : 2

✗ 4. 4 : 2 : 7

Question ID : **6549789108**
Status : **Answered**
Chosen Option : **1**

Gagan Pratap Maths

Q.24

The value of $\frac{87+\frac{2}{5} of\ 115}{25-\frac{2}{3}\times\{45\ of\ 2\div(19-4)\}}$ is:

Ans

✗ 1. $-4\frac{17}{29}$

✓ 2. $6\frac{1}{3}$

✗ 3. $-6\frac{1}{3}$

✗ 4. $4\frac{17}{29}$

Question ID : **6549789623**
Status : **Answered**
Chosen Option : **1**

Q.25

If $\left(\frac{x}{y}+1\right)=4$, then what is the value of $\left(\frac{x^2+y^2}{y^2}\right)$?

Ans

✗ 1. 12

✗ 2. 22

✗ 3. 14

✓ 4. 10

Question ID : **6549789620**
Status : **Answered**
Chosen Option : **1**

Section : **General Awareness**

Gagan Pratap Maths

16 April 2nd shift

Section : **Quantitative Aptitude**

Q.1 The area of a triangular field whose sides are 96 m , 110 m , and 146 m is equal to the area of a rectangular park whose sides are in the ratio 3 : 2. What is the perimeter (in m) of the rectangular park?

Ans

✗ 1. $80\sqrt{5}$

✓ 2. $40\sqrt{55}$

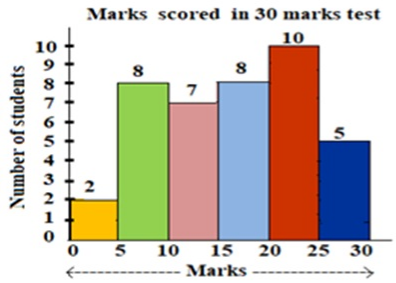
✗ 3. $20\sqrt{55}$

✗ 4. $40\sqrt{11}$

Question ID : **6549786477**
Status : **Not Answered**
Chosen Option : **--**

Gagan Pratap M

Q.2 The histogram shows the marks scored by 40 students in a test with maximum 30 marks.



What is the ratio of the number of students who scored marks in the class intervals 10 - 15 and 15 - 20 taken together to that of the students in the class intervals 5 - 10 and 25 - 30 taken together?

Ans

✔ 1. 15 : 13

✘ 2. 1 : 1

✘ 3. 17 : 13

✘ 4. 13 : 15

Question ID : **6549788114**
Status : **Answered**
Chosen Option : **1**

Q.3 If $3(\sec^2\theta + tan^2\theta) = 5, 0° < \theta < 90°$, then the value of $cosec\,\theta$ is:

Ans

✘ 1. $\frac{1}{\sqrt{3}}$

✘ 2. $\frac{2\sqrt{3}}{3}$

✔ 3. 2

✘ 4. $\frac{1}{2}$

Question ID : **6549786495**
Status : **Answered**
Chosen Option : **3**

Q.4 If $(cos^2\theta - 1)(2sec^2\theta) + sec^2\theta + 2tan^2\theta = 2$, $0° < \theta < 90°$, then the value of $\frac{(sec\theta + sin\theta)}{(cosec\theta - cos\theta)}$ will be:

Ans

✘ 1. -1

✘ 2. -3

✔ 3. 3

✘ 4. 2

Question ID : **6549786898**
Status : **Not Answered**
Chosen Option : **--**

Gagan Pratap Maths

Q.5 The value of $\left(5\frac{5}{6} \div 3\frac{1}{2} \text{ of } \frac{10}{21}\right) \div \left(\frac{3}{4} \div 1\frac{1}{2} \text{ of } \frac{4}{5} - \frac{4}{5} \times \frac{1}{2}\right) \text{ of } \frac{35}{18}$ is:

Ans

✗ 1. $3\frac{1}{2}$

✗ 2. $1\frac{4}{5}$

✗ 3. 6

✓ 4. 8

Question ID : **6549786492**
Status : **Not Answered**
Chosen Option : **--**

Q.6 Which of the following is divisible by 88?

Ans

✗ 1. 2776408

✓ 2. 2776400

✗ 3. 2767440

✗ 4. 2767416

Question ID : **6549786895**
Status : **Answered**
Chosen Option : **2**

Q.7 If the average of the 3-digit numbers $335, 2x5, x35, 63x$ and 406 is 411, then what will be the average of $x-1$, $x-3$, $x+3$ and $x+5$?

Ans

✗ 1. 6

✗ 2. 3

✓ 3. 5

✗ 4. 4

Question ID : **6549786882**
Status : **Not Answered**
Chosen Option : **--**

Q.8 If $x + \frac{1}{x} = 7$, then $x^3 + \frac{1}{x^3}$ is equal to:

Ans

✓ 1. 322

✗ 2. 340

✗ 3. 343

✗ 4. 161

Question ID : **6549786892**
Status : **Answered**
Chosen Option : **1**

Gagan Pratap Maths

Q.9 Study the given table and answer the question that follows.

In the table, the annual consumption (in hundred tonnes) of coffee in five states (A, B, C, D and E) across six years (2014 to 2019) is given.

Year \ State	A	B	C	D	E
2014	112	130	136	105	117
2015	122	138	150	140	120
2016	124	134	142	144	132
2017	132	154	198	149	133
2018	135	148	187	151	145
2019	153	136	198	150	187

By what percentage is the total consumption of coffee in state D from 2014 to 2016 less than the total consumption of coffee in the states A, B, C and E in 2015(correct to one decimal place)?

Ans

✔ 1. 26.7%

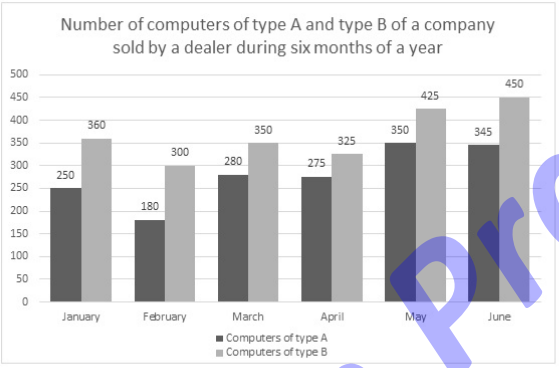
✘ 2. 32.5%

✘ 3. 25.2%

✘ 4. 27.7%

Question ID : **6549786903**
Status : **Answered**
Chosen Option : **1**

Q.10 Study the given graph and answer the question that follows.



The ratio of the total number of computers of type A sold in February, April and June to the total number of computers of type B sold in April and May is:

Ans

✔ 1. 16 : 15

✘ 2. 11 : 13

✘ 3. 8 : 7

✘ 4. 14 : 15

Question ID : **6549786496**
Status : **Answered**
Chosen Option : **1**

Gagan Pratap Maths

Q.11 A shopkeeper buys some notebooks at the rate of 12 for ₹222, and an equal number of notebooks at 10 for ₹225. If he sells all the notebooks at a profit of 20%, then the selling price of 15 notebooks is:

Ans
1. ₹302.40
2. ₹369
3. ₹376.5
4. ₹360

Question ID : **6549786481**
Status : **Answered**
Chosen Option : **2**

Q.12 A person rows upstream a distance of 55 km in 5 hours and rows downstream a distance of 75 km in 3 hours. How much time will he take to row a distance of 96 km in still water?

Ans
1. 4 hours 40 minutes
2. 5 hours 20 minutes
3. 6 hours 10 minutes
4. 5 hours 45 minutes

Question ID : **6549786880**
Status : **Answered**
Chosen Option : **1**

Q.13 If $x + y + z = 4, xy + yz + zx = 1$ and $x^3 + y^3 + z^3 = 34$, then what is the value of $2xyz$?

Ans
1. -6
2. -12
3. 8
4. 18

Question ID : **6549786490**
Status : **Not Answered**
Chosen Option : **--**

Q.14 If the ratio of A : B is 5 : 4 and B : C is 3 : 5 then the ratio of A : B : C is:

Ans
1. 12 : 15 : 20
2. 15 : 12 : 20
3. 15 : 20 : 12
4. 20 : 15 : 12

Question ID : **6549786886**
Status : **Answered**
Chosen Option : **2**

Gagan Pratap Maths

Q.15 The marked price of an article is ₹300. It is sold for ₹177.84 after giving three successive discounts of 20%, x % and 5%. What is the value of x ?

Ans

✗ 1. 15

✓ 2. 22

✗ 3. 18

✗ 4. 24

Question ID : **6549786479**
Status : **Not Answered**
Chosen Option : **--**

Q.16 A mobile phone is available for ₹79,860 by cash payment or by paying cash of ₹60,000 as down payment and the remaining amount in three equal annual instalments. If the shopkeeper charges interest at the rate of 10% per annum compounded annually, then the amount of each instalment (in ₹) will be:

Ans

✓ 1. 7,986

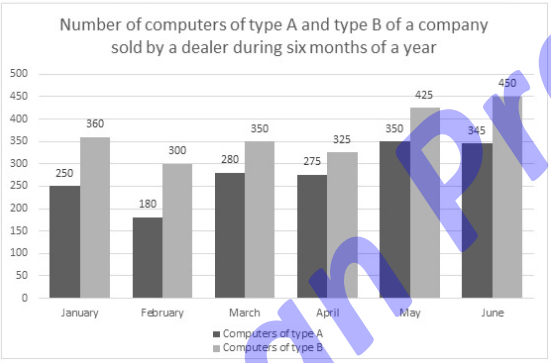
✗ 2. 6,789

✗ 3. 6,689

✗ 4. 6,000

Question ID : **6549786887**
Status : **Answered**
Chosen Option : **1**

Q.17 Study the given graph and answer the question that follows.



If there is a profit of ₹2,500 and ₹3,000 on the sale of one computer of type A and one computer of type B, respectively, then what is the total profit (in thousand rupees) on the sale of 15% computers of type A in February and 10% computers of type B in June?

Ans

✗ 1. 192.5

✗ 2. 212.5

✓ 3. 202.5

✗ 4. 172.5

Question ID : **6549786498**
Status : **Answered**
Chosen Option : **3**

Gagan Pratap Maths

Q.18 If decreasing 180 by x % gives the same result as increasing 60 by x %, then x % of 410 will be more than (x +20)% of 210 (correct to two decimal places) by:

Ans

✗ 1. 36.57%

✗ 2. 37.57%

✗ 3. 31.67%

✓ 4. 39.46%

Question ID : **6549786884**
Status : **Marked For Review**
Chosen Option : **2**

Q.19 If $\sin\theta = \frac{12}{13}$, then $\frac{\sin^2\theta - \cos^2\theta}{2\cos\theta\sin\theta} \times \cot^2\theta = ?$

Ans

✗ 1. $\frac{595}{1152}$

✗ 2. $\frac{119}{864}$

✗ 3. $\frac{119}{144}$

✓ 4. $\frac{595}{3456}$

Question ID : **6549786493**
Status : **Answered**
Chosen Option : **4**

Q.20 $PQRS$ is a cyclic quadrilateral. If $\angle P$ is four times $\angle R$ and $\angle S$ is three times $\angle Q$, then sum of the measures of $\angle S$ and $\angle R$ will be:

Ans

✗ 1. 192°

✗ 2. 175°

✓ 3. 171°

✗ 4. 165°

Question ID : **6549786888**
Status : **Answered**
Chosen Option : **3**

Q.21 In $\triangle ABC$, $\angle B = 90°$. AD and CE are the medians drawn from A and C, respectively. If $AC = 10$ cm and $AD = \sqrt{55}$cm, then the length of CE is:

Ans

✗ 1. $2\sqrt{15}$cm

✓ 2. $\sqrt{70}$cm

✗ 3. $\sqrt{66}$cm

✗ 4. $5\sqrt{3}$cm

Question ID : **6549786487**
Status : **Not Answered**
Chosen Option : **--**

Gagan Pratap Maths

Q.22 The side BC of ΔABC is produced to D. The bisectors of $\angle ABC$ and $\angle ACD$ meet at E. If $AB = AC$ and $\angle BEC = 35°$, then the measure of $\angle ABC$ will be:

Ans

✗ 1. $75°$

✓ 2. $55°$

✗ 3. $35°$

✗ 4. $45°$

Question ID : **6549786890**
Status : **Answered**
Chosen Option : **2**

Q.23 A certain number of persons can complete a work in 54 days. If there were 15 persons less, it would take 18 days more for the work to be completed. Initially, the number of persons is:

Ans

✓ 1. 60

✗ 2. 56

✗ 3. 50

✗ 4. 72

Question ID : **6549786475**
Status : **Answered**
Chosen Option : **1**

Q.24 If $a^2 + 4b^2 + 25c^2 + 18 = 2(a - 2b + 20c)$, then what is the value of $(a + 2b + 5c)$?

Ans

✗ 1. 3

✓ 2. 4

✗ 3. 6

✗ 4. 5

Question ID : **6549786489**
Status : **Not Answered**
Chosen Option : **--**

Q.25 A and B are two points on a circle with centre O. C is a point on the minor arc of the circle between points A and B. The tangents to the circle at A and B meet each other at a point D. If $\angle ADB = 25°$, then $\angle ACB$ (in degrees) is equal to:

Ans

✗ 1. 105

✗ 2. 100.5

✓ 3. 102.5

✗ 4. 100

Question ID : **6549786485**
Status : **Not Answered**
Chosen Option : **--**

Gagan Pratap Maths

16 April 3rd shift

Q.1 Simplify the following expression.

$\cos^2 30° + \cos^2 40° + \cos^2 50° + \cos^2 60°$

Ans

✗ 1. $\frac{3}{2}$

✗ 2. 1

✗ 3. $\frac{5}{2}$

✓ 4. 2

Question ID : **6549788109**
Status : **Answered**
Chosen Option : **4**

Q.2 If $5k = tan\theta$ and $\frac{5}{k} = sec\theta$, then what is the value of $10\left(k^2 - \frac{1}{k^2}\right)$?

Ans

✗ 1. 2

✗ 2. -2

✓ 3. $-\frac{2}{5}$

✗ 4. $\frac{2}{5}$

Question ID : **6549788111**
Status : **Answered**
Chosen Option : **3**

Q.3 The lengths of three sides of a triangle are in the ratio 3 : 4 : 5. Among three sides, the difference between the largest side and the smallest side of this triangle is 3.6 cm. The area (in cm^2) of the triangle is:

Ans

✓ 1. 19.44

✗ 2. 32.4

✗ 3. 21.75

✗ 4. 15.64

Question ID : **6549786991**
Status : **Not Answered**
Chosen Option : **--**

Gagan Pratap Maths

Q.4 If $21\ tan\theta = 20$, then $(1 + sin\theta - cos\theta) : (1 - sin\theta + cos\theta)$ is equal to:

Ans

✗ 1. $13 : 15$

✗ 2. $11 : 13$

✓ 3. $14 : 15$

✗ 4. $12 : 11$

Question ID : **6549786999**
Status : **Not Answered**
Chosen Option : **--**

Q.5 A, B and C can independently complete the same task in 4, 6 and 12 days, respectively. In how many days will they be able to complete the same task if they work together?

Ans

✗ 1. $2\frac{1}{2}$

✗ 2. $2\frac{1}{4}$

✗ 3. 3

✓ 4. 2

Question ID : **6549788091**
Status : **Answered**
Chosen Option : **4**

Q.6 If A is 28% less than B and C is 25% less than the sum of A and B, then by what percentage will C be more than A (correct to one decimal place)?

Ans

✗ 1. 84.3%

✓ 2. 79.2%

✗ 3. 81.6%

✗ 4. 75.5%

Question ID : **6549786985**
Status : **Not Answered**
Chosen Option : **--**

Q.7 The average score of 84 students (boys and girls) in a test is 95. The ratio of the number of boys to that of girls is 10 : 11. The average score of the boys is 20% less than that of the girls. What is the average score of the boys in the test?

Ans

✗ 1. 95

✓ 2. 84

✗ 3. 120

✗ 4. 105

Question ID : **6549786983**
Status : **Not Answered**
Chosen Option : **--**

Gagan Pratap Maths

Q.8 The simple interest on a certain sum for $3\frac{1}{2}$ years at the rate of 10% per annum is ₹2,940. What will be the compound interest (in ₹) on the same sum for $1\frac{1}{2}$ years at the same rate when interest is compounded half-yearly (nearest to a rupee)?

Ans

✔ 1. 1,324

✘ 2. 1,470

✘ 3. 1,564

✘ 4. 1,125

Question ID : **6549786988**
Status : **Not Answered**
Chosen Option : **--**

Q.9 The ratio of the ages of A and B, four years ago, was 4 : 5. Eight years hence, the ratio of the ages of A and B will be 11 : 13. What is the ratio of their present ages?

Ans

✔ 1. 9 : 11

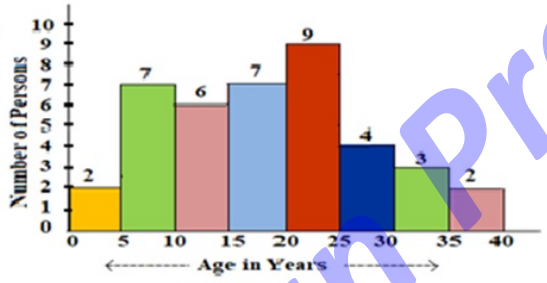
✘ 2. 11 : 9

✘ 3. 8 : 7

✘ 4. 7 : 8

Question ID : **6549786987**
Status : **Not Answered**
Chosen Option : **--**

Q.10 Some persons went on an outstation tour. The histogram shows their ages.



If the children of age less than 15 years got concession, then how many persons got the concession?

Ans

✘ 1. 13

✔ 2. 15

✘ 3. 22

✘ 4. 25

Question ID : **6549788112**
Status : **Answered**
Chosen Option : **2**

Gagan Pratap Maths

Q.11 Simplify the following expression.

$$\frac{0.8 \times 0.8 \times 0.8 + 0.6 \times 0.6 \times 0.6}{0.08 \times 0.08 + 0.06 \times 0.06 - 0.08 \times 0.06}$$

Ans

✗ 1. 14

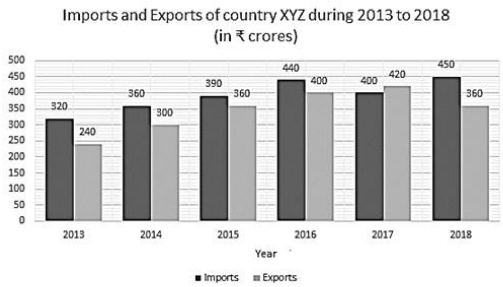
✗ 2. 1.4

✓ 3. 140

✗ 4. 160

Question ID : **6549788105**
Status : **Answered**
Chosen Option : **2**

Q.12 Study the given graph and answer the question that follows.



What percentage of the imports in 2018 is the average exports in 2013, 2015 and 2017? (correct to one decimal place)

Ans

✗ 1. 77.8

✗ 2. 72.4

✗ 3. 71.6

✓ 4. 75.6

Question ID : **6549786598**
Status : **Not Answered**
Chosen Option : **--**

Q.13 ΔABC is right-angled at B and D is a point on AC such that BD is perpendicular to AC. If BD = 6 cm and AD = 3 cm, then what will be the length of AC?

Ans

✗ 1. 12 cm

✗ 2. 18 cm

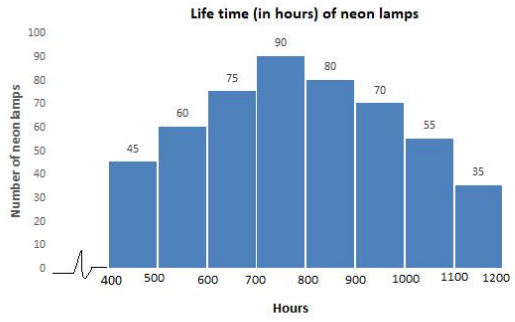
✓ 3. 15 cm

✗ 4. 9 cm

Question ID : **6549788103**
Status : **Not Answered**
Chosen Option : **--**

Gagan Pratap Maths

Q.14 Study the given bar graph which shows the life time (in hours) of neon lamps and the number of neon lamps and answer the question that follows.



The number of neon lamps having life 800 hours or more but less than 1000 hours is what percent (correct to nearest integer) of the total number of neon lamps having life 700 hours or less?

Ans

✗ 1. 87%

✗ 2. 67%

✓ 3. 83%

✗ 4. 79%

Question ID : **6549787004**
Status : **Answered**
Chosen Option : **2**

Q.15 If $x^2 + y^2 = 45$ and $x - y = 5$ then what is the value of $x^3 - y^3$?

Ans

✗ 1. 150

✗ 2. 250

✗ 3. –25

✓ 4. 275

Question ID : **6549788106**
Status : **Answered**
Chosen Option : **4**

Q.16 If a person travels at a speed of 48 km/h, he will reach his destination on time. He covers two-thirds of his journey in five-sixths of time. At what speed (in km/h) should he travel to cover the remaining distance to reach his destination on time?

Ans

✗ 1. 100

✓ 2. 96

✗ 3. 50

✗ 4. 48

Question ID : **6549786981**
Status : **Not Answered**
Chosen Option : **--**

Gagan Pratap Maths

Q.17 Two wrist watches were sold for ₹1,980 each. One wrist watch was sold at a profit of 10% and the other one at a loss of 10%. The entire transaction resulted in:

Ans

✔ 1. a loss of ₹40

✘ 2. a loss of ₹99

✘ 3. a gain of ₹99

✘ 4. no gain no loss

Question ID : **6549788097**
Status : **Answered**
Chosen Option : **2**

Q.18 A solid metallic cube of side 4.4 cm is melted and recast in the form of a wire of radius 2 mm. Find the length (in cm) of the wire. (Use $\pi = \frac{22}{7}$)

Ans

✘ 1. 338.8

✘ 2. 2710.4

✔ 3. 677.6

✘ 4. 767.6

Question ID : **6549788093**
Status : **Not Answered**
Chosen Option : **--**

Q.19 If $a^3 + b^3 + c^3 - 3abc = 250$ and $a + b + c = 10$, then what will be the value of $\frac{1}{5}(ab + bc + ca)$?

Ans

✘ 1. 25

✔ 2. 5

✘ 3. 10

✘ 4. 15

Question ID : **6549786993**
Status : **Not Answered**
Chosen Option : **--**

Q.20 Simplify the following expression.

$$\left(3\frac{2}{3} \text{ of } \frac{3}{4} - \frac{1}{4} \text{ of } \frac{4}{3}\right) \div \left(\frac{1}{4} \div \frac{3}{2}\right) + 1\frac{1}{2}$$

Ans

✘ 1. $\frac{29}{2}$

✘ 2. $\frac{143}{18}$

✘ 3. $\frac{32}{3}$

✔ 4. 16

Question ID : **6549788108**
Status : **Not Answered**
Chosen Option : **--**

Gagan Pratap Maths

Q.21 If an eleven-digit number $6578x43267y$ is divisible by 72, then the value of $\sqrt{x+6y}$ will be:

Ans

✗ 1. 3

✗ 2. 5

✗ 3. 6

✓ 4. 4

Question ID : **6549786996**
Status : **Not Answered**
Chosen Option : **--**

Q.22 Two concentric circles are of radii 15 cm and 6 cm. What is the length (in cm) of the chord of the larger circle that is tangent to the smaller circle?

Ans

✓ 1. $6\sqrt{21}$

✗ 2. $9\sqrt{21}$

✗ 3. $3\sqrt{21}$

✗ 4. $4\sqrt{21}$

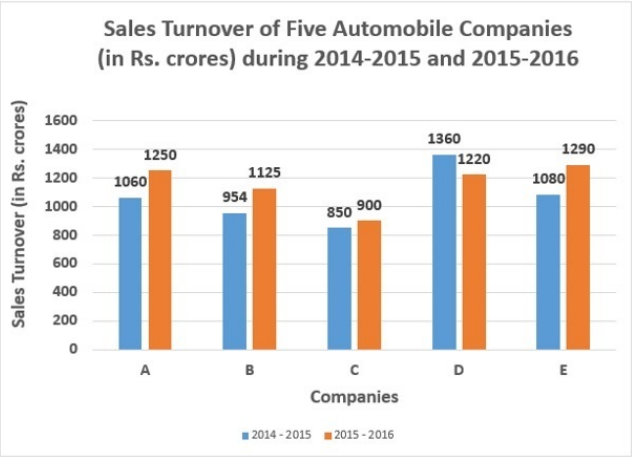
Question ID : **6549786989**
Status : **Not Answered**
Chosen Option : **--**

Gagan Pratap Maths

Q.23 Study the given bar graph and answer the question that follows.

The given bar graph represents the Sales Turnover (in ₹ crore) of five automobile companies A, B, C, D and E during 2014-2015 and 2015-2016. The X-axis represents the Companies, and the Y-axis shows the Sales Turnover (in ₹ crore).

(The data shown here is only for mathematical exercise. They do not represent the actual figures of the company.)



What should have been the sales turnover (in ₹ crore) of Company C in 2015-2016 to have shown the same increase in its sales over 2014-2015 as shown by the sales turnover of Company E?

Ans

✔ 1. 1,060

✘ 2. 1,110

✘ 3. 1,050

✘ 4. 1,290

Question ID : **6549788922**
Status : **Not Answered**
Chosen Option : **--**

Q.24 AB is a chord of a circle with centre O and P is any point on the circle. If $\angle APB = 112°$, then what is the measure of $\angle OAB$?

Ans

✘ 1. 44°

✘ 2. 30°

✔ 3. 22°

✘ 4. 32°

Question ID : **6549788101**
Status : **Not Answered**
Chosen Option : **--**

Gagan Pratap Maths

Q.25 At a factory outlet of a footwear company, every item is available at a discount of 10%. Charu selected footwear marked for ₹900. While paying the bill, it was found that the footwear was slightly damaged for which she got another discount of 10%. How much did she pay for the footwear?

Ans

✔ 1. ₹729

✘ 2. ₹801

✘ 3. ₹810

✘ 4. ₹720

Question ID : **6549788095**
Status : **Answered**
Chosen Option : **4**

Gagan Maths

19 April 1st shift

Section : **Quantitative Aptitude**

Q.1 A sum of ₹11,236 is divided among A, B and C such that the ratio of the shares of A and B is 3 : 5 and the ratio of the shares of A and C is 4 : 7. The share of B is:

Ans

✗ 1. ₹3,392

✗ 2. ₹2,544

✗ 3. ₹4,452

✓ 4. ₹4,240

Question ID : **6549786482**
Status : **Answered**
Chosen Option : **3**

Q.2 A shopkeeper earns 17% profit by selling an article at 10% discount on its marked price. If its cost price is ₹480, then the marked price (in ₹) of the article is:

Ans

✗ 1. 640

✓ 2. 624

✗ 3. 636

✗ 4. 600

Question ID : **6549787792**
Status : **Not Answered**
Chosen Option : **--**

Q.3 $\triangle PQR$ is inscribed in a circle. The bisector of $\angle P$ cuts QR at S and the circle at T. If $PR = 5$ cm, $PS = 6$ cm and $ST = 4$ cm, then the length (in cm) of PQ is:

Ans

✗ 1. 13

✓ 2. 12

✗ 3. 10

✗ 4. 15

Question ID : **6549787798**
Status : **Answered**
Chosen Option : **3**

Gagan Pratap Maths

Q.4 The average weight of some students in a group is 58 kg. If 8 students of average weight 54 kg leave the group, and 3 students weighing 53.6 kg, 54 kg and 57.4 kg join the group, then the average weight of the remaining students in the group will increase by 575 g. The number of students, initially, in the group is:

Ans
✗ 1. 40
✓ 2. 45
✗ 3. 35
✗ 4. 50

Question ID : **6549786478**
Status : **Answered**
Chosen Option : **2**

Q.5 A man buys goods for ₹8,000. He sells 30% of those goods at a profit of 12% and 40% of the remaining goods at a profit of 25%. At what profit percentage should he sell the remaining goods to gain 30% in the entire transaction (correct to one decimal place)?

Ans
✗ 1. 42.6%
✓ 2. 46.2%
✗ 3. 48.4%
✗ 4. 31.6%

Question ID : **6549787794**
Status : **Answered**
Chosen Option : **1**

Q.6 If $x + \frac{1}{x} = \sqrt{7}$, then what is the value of $(x^2 + 1) \div \left[x^4 + \left(\frac{1}{x^2}\right)\right]$?

Ans
✗ 1. $2\sqrt{7}$
✗ 2. $3\sqrt{7}$
✗ 3. $\frac{1}{2}$
✓ 4. $\frac{1}{4}$

Question ID : **6549787802**
Status : **Answered**
Chosen Option : **1**

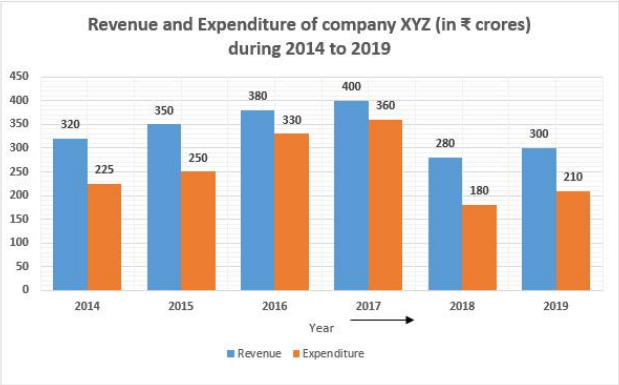
Q.7 $ABCD$ is a cyclic quadrilateral whose diagonals intersect at P. If $\angle DBC = 72°$ and $\angle BAC = 42°$, then the measure of $\angle BCD$ (in degrees) is:

Ans
✓ 1. 66
✗ 2. 65
✗ 3. 60
✗ 4. 57

Question ID : **6549786484**
Status : **Answered**
Chosen Option : **1**

Gagan Pratap Maths

Q.8 Study the given graph and answer the question that follows.



What is the ratio of the total revenue of the company in 2015 and 2018 to the total expenditure in 2017 and 2018?

Ans

✗ 1. 9 : 10

✗ 2. 6 : 5

✓ 3. 7 : 6

✗ 4. 5 : 4

Question ID : **6549787809**
Status : **Answered**
Chosen Option : **3**

Q.9 2019 में एक कंपनी के पांच उत्पादों (A, B, C, D और E) की मात्रात्मक बिक्री वितरण को दर्शाने वाले पाई आरेख का अध्ययन करें और उसके बाद दिये गए प्रश्न का उत्तर दें।

पांच उत्पादों (A, B, C, D और E) की मात्रात्मक बिक्री वितरण

यदि 2019 में उत्पाद C की 2100 इकाइयां बेची गईं थी और 2020 में कंपनी द्वारा बेची गई इकाइयों की कुल संख्या 2019 में बेची गईं इकाइयों की संख्या से 28% अधिक थी, तो 2020 में कंपनी द्वारा कितनी इकाइयां बेची गईं थी?

Ans

✗ 1. 8576

✗ 2. 7428

✗ 3. 6300

✓ 4. 8064

Question ID : **6549786195**
Status : **Answered**
Chosen Option : **1**

Gagan Pratap Maths

Q.10 The price of an article increases by 5% every year. If the difference between its price at the end of the second and the third year is ₹52.50, then what will be its price at the end of the first year?

Ans

✔ 1. ₹1,000

✘ 2. ₹950

✘ 3. ₹840

✘ 4. ₹900

Question ID : **6549786480**
Status : **Answered**
Chosen Option : **2**

Q.11 The value of $6 \times 3 \div 8$ of $6 - 6 \div 4 \times (5 - 7) + 5 - 3 \times 4 \div 6$ of 3 is:

Ans

✔ 1. $7\frac{17}{24}$

✘ 2. $4\frac{1}{3}$

✘ 3. $5\frac{5}{8}$

✘ 4. $5\frac{11}{24}$

Question ID : **6549787805**
Status : **Answered**
Chosen Option : **4**

Q.12 A sum of ₹ x amounts to ₹9,246 in 4 years and to ₹11,298.75 in $7\frac{1}{2}$ years, at y % p.a. simple interest. The values of x and y are, respectively:

Ans

✔ 1. 6900 and 8.5

✘ 2. 6800 and 8.5

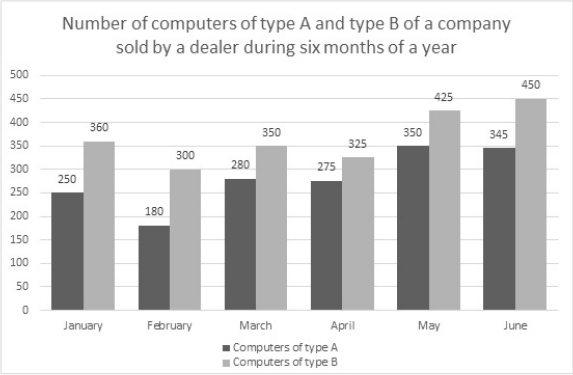
✘ 3. 6500 and 8

✘ 4. 7200 and 7.5

Question ID : **6549786483**
Status : **Answered**
Chosen Option : **1**

Gagan Pratap Maths

Q.13 Study the given graph and answer the question that follows.



The total number of computers of type A sold in January and May is what percentage less than the total number of computers of type B sold from March to May? (correct to one decimal place)

Ans

✗ 1. 40.9

✗ 2. 54.5

✗ 3. 83.3

✓ 4. 45.5

Question ID : **6549786499**
Status : **Answered**
Chosen Option : **3**

Q.14 $\frac{(1+\cos\theta)(\operatorname{cosec}\theta-\cot\theta)\sec\theta}{\sin\theta(1-\sin\theta)(\sec\theta+\tan\theta)} = ?$

Ans

✓ 1. $\sec^2\theta$

✗ 2. $\sin^2\theta$

✗ 3. $\cos^2\theta$

✗ 4. $\operatorname{cosec}^2\theta$

Question ID : **6549786494**
Status : **Answered**
Chosen Option : **4**

Q.15 In $\triangle ABC$, $DE||BC$, where D and E are points on the sides AB and AC, respectively. If $AD = 2$ cm, $BD = 5.2$ cm, $AC = 9$ cm and $AE = x$ cm, then what is the value of x?

Ans

✗ 1. 3.5

✗ 2. 4

✗ 3. 3

✓ 4. 2.5

Question ID : **6549786486**
Status : **Answered**
Chosen Option : **1**

Gagan Pratap Maths

Q.16 If $sin\theta(2sin\theta + 3) = 2$, $0° < \theta < 90°$, then what is the value of $(\sec^2\theta + cot^2\theta - cos^2\theta)$?

Ans

✗ 1. $\frac{13}{3}$

✗ 2. $\frac{31}{12}$

✗ 3. $\frac{7}{2}$

✓ 4. $\frac{43}{12}$

Question ID : **6549787808**
Status : **Answered**
Chosen Option : **2**

Q.17 The area of a triangular field whose sides are 65 m, 72 m, and 97 m is equal to the area of a rectangular park whose sides are in the ratio of 5 : 13. What is the perimeter (in m) of the rectangular park?

Ans

✗ 1. 108

✗ 2. 180

✓ 3. 216

✗ 4. 144

Question ID : **6549787790**
Status : **Answered**
Chosen Option : **3**

Q.18 A, B and C together can complete a work in x, 30 and 45 days, respectively. B and C worked together for 6 days. The remaining work was completed by A alone in 12 days. The value of x is:

Ans

✓ 1. 18

✗ 2. 20

✗ 3. 24

✗ 4. 15

Question ID : **6549787788**
Status : **Answered**
Chosen Option : **2**

Q.19 If $x + y + z = 3, x^2 + y^2 + z^2 = 45$ and $x^3 + y^3 + z^3 = 69$, then what is the value of xyz?

Ans

✓ 1. -40

✗ 2. 40

✗ 3. -30

✗ 4. 30

Question ID : **6549787803**
Status : **Answered**
Chosen Option : **4**

Gagan Pratap Maths

Q.20 In $\triangle ABC$, D and E are points on sides AB and BC, respectively, such that $BD : DA = 1 : 2$ and $CE : EB = 1 : 4$. If DC and AE intersect at F, then $FD : FC$ is equal to:

Ans

✗ 1. $3 : 2$

✗ 2. $5 : 2$

✓ 3. $8 : 3$

✗ 4. $4 : 1$

Question ID : **6549787800**
Status : **Answered**
Chosen Option : **2**

Q.21 The six-digit number $537xy5$ is divisible by 125. How many such six-digit numbers are there?

Ans

✓ 1. 4

✗ 2. 2

✗ 3. 3

✗ 4. 5

Question ID : **6549786491**
Status : **Answered**
Chosen Option : **3**

Q.22 If $4\sqrt{3}x^2 + 5x - 2\sqrt{3} = (Ax + 2)(Bx + C)$, then what is the value of $(A + B + C)$? $(A > 0)$

Ans

✓ 1. 4

✗ 2. $4 + \sqrt{3}$

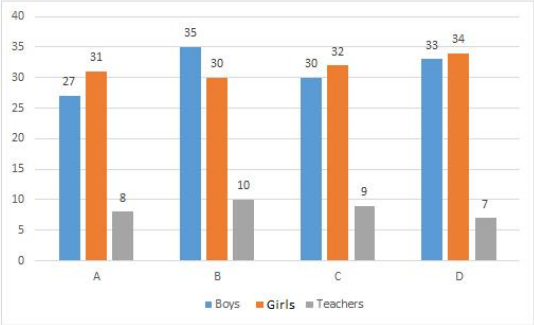
✗ 3. $2\sqrt{3}$

✗ 4. $4 - \sqrt{3}$

Question ID : **6549786488**
Status : **Answered**
Chosen Option : **2**

Gagan Pratap Maths

Q.23 The given bar-graph shows the number of boys and girls in classes A, B, C and D in a school, and the number of teachers allotted to each class.



Which class has the least percentage of girls?

Ans

✔ 1. B

✘ 2. D

✘ 3. C

✘ 4. A

Question ID : **6549788820**
Status : **Answered**
Chosen Option : **1**

Q.24 Two cars X and Y start running towards each other from two places 216 km apart. The ratio of the speeds of X and Y is 5 : 7 and the speed of X is 60 km/h. After how many minutes will X and Y meet each other?

Ans

✘ 1. 75

✘ 2. 72

✔ 3. 90

✘ 4. 80

Question ID : **6549786476**
Status : **Answered**
Chosen Option : **2**

Q.25 If $\sin\theta = \frac{11}{15}$, then the value of $(sec\theta - tan\theta)$ is:

Ans

✘ 1. $\frac{2\sqrt{26}}{13}$

✔ 2. $\frac{\sqrt{26}}{13}$

✘ 3. $\frac{4}{\sqrt{26}}$

✘ 4. $\frac{1}{\sqrt{26}}$

Question ID : **6549787806**
Status : **Answered**
Chosen Option : **2**

Gagan Pratap Maths

19 April 2nd shift

Q.1 Study the following bar graph and answer the question that follows.

The average export of diamonds for the given period (in ₹ crores) was:

Ans
1. 10.1
2. 10.3
3. 10.4
4. 10.2

Question ID : **6549788215**
Status : **Answered**
Chosen Option : **2**

Q.2 If $x - y = \frac{7}{4}$ and $\frac{1}{x} - \frac{1}{y} = \frac{14}{3}$, then $x^3 - y^3$ is equal to:

Ans
1. $\frac{433}{32}$
2. $\frac{433}{64}$
3. $\frac{217}{64}$
4. $\frac{217}{32}$

Question ID : **6549786690**
Status : **Answered**
Chosen Option : **2**

Q.3 If $a^4 + b^4 + a^2b^2 = 133$ and $a^2 + b^2 - ab = 19$, then the value of ab will be:

Ans
1. -9
2. -6
3. 12
4. 15

Question ID : **6549786692**
Status : **Answered**
Chosen Option : **2**

Gagan Pratap Maths

Q.4 The value of $18 \div 6$ of $9 \times [12 \div 3$ of $\{16 \times 2 \div (11 - 8)\}]$ of $(4 \div 2$ of $8)$ is:

Ans

✗ 1. $\frac{9}{16}$

✗ 2. $\frac{3}{8}$

✓ 3. $\frac{1}{32}$

✗ 4. $\frac{81}{32}$

Question ID : **6549786694**
Status : **Not Answered**
Chosen Option : **--**

Q.5 A sum of ₹12,992 is divided among A, B and C such that the ratio of the shares of A and C is 4 : 15 and that of the shares of A and B is 2 : 5. The difference (in ₹) between the shares of B and C is:

Ans

✗ 1. 3,136

✓ 2. 2,240

✗ 3. 2,688

✗ 4. 1,792

Question ID : **6549786684**
Status : **Answered**
Chosen Option : **2**

Q.6 If $3cos^2\theta - 4sin\theta + 1 = 0$, $0° < \theta < 90°$, then the value of $3cos^2\theta + 5tan^2\theta$ will be:

Ans

✗ 1. $5\frac{1}{5}$

✓ 2. $5\frac{2}{3}$

✗ 3. $5\frac{4}{5}$

✗ 4. $6\frac{2}{3}$

Question ID : **6549786697**
Status : **Answered**
Chosen Option : **2**

Q.7 A sum of ₹ x amounts to ₹8,563.50 in $3\frac{1}{2}$ years and to ₹10,527 in 7 years at y % p.a. simple interest. The value of x and y, respectively, are:

Ans

✗ 1. 6600 and 8

✗ 2. 6800 and $8\frac{1}{2}$

✓ 3. 6600 and $8\frac{1}{2}$

✗ 4. 7000 and 8

Question ID : **6549786685**
Status : **Answered**
Chosen Option : **3**

Gagan Pratap Maths

Q.8 Savita spends 20% of her monthly income on groceries, 15% of the remaining on rent and then 60% of the left over on children's education and others. If she saves ₹9,792 a month, then how much (in ₹) does she spend on rent?

Ans
✗ 1. 3,960
✗ 2. 4,450
✗ 3. 4,200
✓ 4. 4,320

Question ID : **6549786682**
Status : **Answered**
Chosen Option : **4**

Q.9 The marked price of an article is ₹ x . After allowing two successive discounts of 20% and 16% on the marked price, it is sold for ₹504. What is the value of x ?

Ans
✗ 1. 720
✗ 2. 700
✗ 3. 740
✓ 4. 750

Question ID : **6549786681**
Status : **Answered**
Chosen Option : **4**

Q.10 The average marks obtained by 150 students in a certain examination is 50. If the average marks of the passed students are 54 and that of the students who failed are 30, then what will be the number of the students who failed?

Ans
✓ 1. 25
✗ 2. 24
✗ 3. 20
✗ 4. 28

Question ID : **6549786680**
Status : **Answered**
Chosen Option : **1**

Q.11 The perimeters of $\triangle ABC$ and $\triangle DEF$ are 39.6 cm and 26.4 cm , respectively, and $\triangle ABC \sim \triangle DEF$. What is the ratio of the areas of $\triangle ABC$ and $\triangle DEF$?

Ans
✗ 1. 3 : 2
✓ 2. 9 : 4
✗ 3. 16 : 9
✗ 4. 9 : 2

Question ID : **6549786688**
Status : **Answered**
Chosen Option : **2**

Gagan Pratap Maths

Q.12 By selling an article at $\frac{7}{12}$ of its selling price, a man loses 16%. If he sells it at 90% of its original selling price, then what will be the profit percentage?

Ans
✔ 1. 29.6%
✘ 2. 26.4%
✘ 3. 32.5%
✘ 4. 30.2%

Question ID : **6549786683**
Status : **Answered**
Chosen Option : **1**

Q.13 In $\triangle PQR$, $\angle PQR = 135°$, $PQ = 8\sqrt{2}$ cm and $PR = 17$ cm. What is the length (in cm) of QR?

Ans
✔ 1. 7
✘ 2. 10
✘ 3. 8
✘ 4. 9

Question ID : **6549786689**
Status : **Marked For Review**
Chosen Option : **3**

Q.14 If $x^2 - 5\sqrt{2}x - 1 = 0$, then what will be the value of $x^3 - \frac{1}{x^3}$?

Ans
✘ 1. $250\sqrt{2}$
✘ 2. $255\sqrt{2}$
✘ 3. $485\sqrt{2}$
✔ 4. $265\sqrt{2}$

Question ID : **6549786691**
Status : **Answered**
Chosen Option : **4**

Q.15 Pipes A and B can empty a full tank in 36 and 45 minutes, respectively, whereas pipe C alone can fill the tank in 15 minutes. B and C are opened together for 15 minutes, and then both are turned off and A is opened. Pipe A will empty the tank in (in minutes):

Ans
✘ 1. 30
✘ 2. 18
✘ 3. 20
✔ 4. 24

Question ID : **6549786677**
Status : **Answered**
Chosen Option : **4**

Gagan Pratap Maths

Q.16 $PQRS$ is a cyclic quadrilateral with QR as the diameter of the circle. If $\angle SQR = 24°$, then what will be the measure of $\angle QPS$?

Ans
✔ 1. $114°$
✘ 2. $126°$
✘ 3. $104°$
✘ 4. $116°$

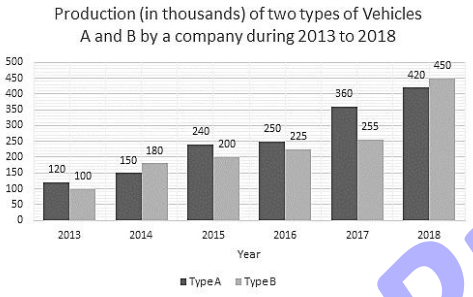
Question ID : **6549786686**
Status : **Answered**
Chosen Option : **1**

Q.17 Trains A and B of lengths 329 m and 296 m, respectively, are running in opposite directions on parallel tracks, at the speeds of 85 km/h and 65 km/h, respectively. In what time (in seconds) will they cross each other?

Ans
✔ 1. 15
✘ 2. 15.5
✘ 3. 14
✘ 4. 16.5

Question ID : **6549786678**
Status : **Answered**
Chosen Option : **1**

Q.18 Study the given graph and answer the question the follows.



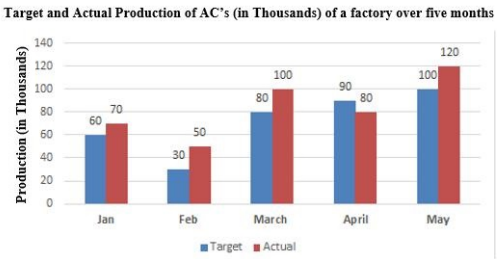
In 2019, if the production of vehicles of type A increased by the same percentage as that in 2018, over its previous year, then what was the number (in thousands) of vehicles of type A produced in 2019?

Ans
✔ 1. 490
✘ 2. 510
✘ 3. 500
✘ 4. 480

Question ID : **6549786701**
Status : **Answered**
Chosen Option : **1**

Gagan Pratap Maths

Q.19 Study the given graph which shows the target and actual production of ACs (in thousands) of a factory over five months and answer the question that follows.



The actual production of ACs in February is what per cent less than the average target production of ACs over the period of five months (correct to the nearest integer)?

Ans
✗ 1. 30%
✗ 2. 32%
✗ 3. 29%
✓ 4. 31%

Question ID : **6549786397**
Status : **Answered**
Chosen Option : **1**

Q.20 If $sin\theta = \frac{2\sqrt{ab}}{a+b}$, $a > b > 0$, then the value of $\frac{cos\theta+1}{cos\theta-1}$ will be:

Ans
✗ 1. $-\frac{b}{a}$
✓ 2. $-\frac{a}{b}$
✗ 3. $\frac{a}{b}$
✗ 4. $\frac{b}{a}$

Question ID : **6549786695**
Status : **Answered**
Chosen Option : **2**

Q.21 The length of a rectangle is 10 cm more than the side of a square and its breadth is 8 cm less than the side of the square. If the areas of both the rectangle and square are equal, then what will be the perimeter (in cm) of the rectangle?

Ans
✓ 1. 164
✗ 2. 160
✗ 3. 156
✗ 4. 144

Question ID : **6549786679**
Status : **Answered**
Chosen Option : **1**

Gagan Pratap Maths

Q.22 If the nine-digit number $48x4923y8$ is divisible by 88, then the value of $(6x+5y)$ for the maximum value of y, will be:

Ans
1. 76
2. 72 ✔
3. 65
4. 71

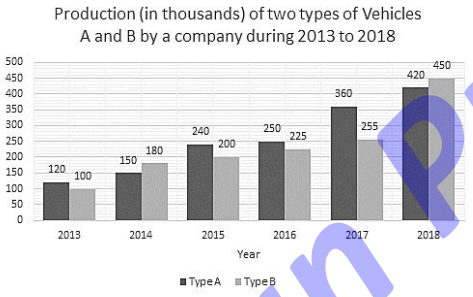
Question ID : **6549786693**
Status : **Answered**
Chosen Option : **2**

Q.23 The value of $\frac{3cos^2 27° - 5 + 3cos^2 63°}{tan^2 32° + 4 - cosec^2 58°} + sin35°cos55° + cos35°sin55°$ is:

Ans
1. $-\frac{1}{4}$
2. $-\frac{1}{3}$
3. $\frac{1}{3}$ ✔
4. $1\frac{2}{3}$

Question ID : **6549786696**
Status : **Answered**
Chosen Option : **3**

Q.24 Study the given graph and answer the question that follows.



What is the ratio of the total number of vehicles of type A produced in 2015 and 2017 to the total number of vehicles of type B produced in 2016 and 2017?

Ans
1. 4 : 3
2. 5 : 4 ✔
3. 5 : 3
4. 3 : 2

Question ID : **6549786698**
Status : **Answered**
Chosen Option : **2**

Gagan Pratap Maths

Q.25 Chords AB and CD of a circle are produced to meet at the point P, outside the circle, and AD is the diameter of the circle. If $\angle DAP = 36°$ and $\angle APC = 30°$, then what will be the measure of $\angle CBD$?

Ans

✗ 1. $34°$

✗ 2. $26°$

✓ 3. $24°$

✗ 4. $16°$

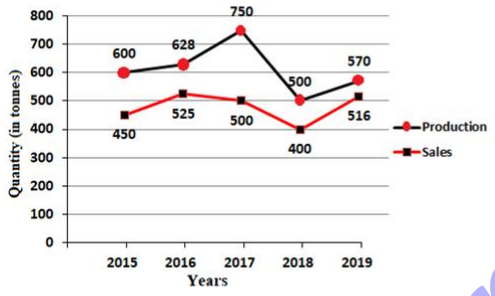
Question ID : **6549786687**
Status : **Not Answered**
Chosen Option : **--**

Gagan P aths

19 April 3rd shift

Section : **Quantitative Aptitude**

Q.1 The given line graph shows the production (in tonnes) and the sales (in tonnes) of a company.



What is the difference (in tonnes) in the production in 2015 and 2017 taken together and the sales in 2018 and 2019 taken together?

Ans
1. 309
2. 334
3. 434 ✔
4. 462

Question ID : **6549788518**
Status : **Not Answered**
Chosen Option : **--**

Q.2 If $x^8 - 2599x^4 + 1 = 0$, then the positive value of $x - \frac{1}{x}$ will be:

Ans
1. 7 ✔
2. 12
3. 6
4. 8

Question ID : **6549787297**
Status : **Not Answered**
Chosen Option : **--**

Gagan Pratap Maths

Q.3 Solve the following equation.

$\theta : 2\sqrt{3}\sin^2\theta + \cos\theta - \sqrt{3} = 0$ where θ is an acute angle

Ans
✔ 1. $30°$
✘ 2. $45°$
✘ 3. $60°$
✘ 4. $15°$

Question ID : **6549787303**
Status : **Not Answered**
Chosen Option : **--**

Q.4 In a right angled triangle ABC, if $\angle ABC = 90°$, $AB = 6\ cm, BC = 8\ cm, and\ BD$ is perpendicular to AC, then $AD : DC$ is:

Ans
✘ 1. $7 : 16$
✘ 2. $8 : 15$
✘ 3. $9 : 14$
✔ 4. $9 : 16$

Question ID : **6549787295**
Status : **Not Answered**
Chosen Option : **--**

Q.5 The average of 5 numbers is 26.4. The first number is one-fifth of the sum of the remaining 4 numbers. What is the first number?

Ans
✘ 1. 20
✘ 2. 21
✘ 3. 23
✔ 4. 22

Question ID : **6549788801**
Status : **Not Answered**
Chosen Option : **--**

Q.6 If $\sec\left(90° - \frac{3\theta}{2}\right) = \sqrt{2}, 0° < \theta < 90°$, then the value of $2\sin\theta + 4\cos 2\theta$ will be:

Ans
✘ 1. 4
✘ 2. 2
✔ 3. 3
✘ 4. 6

Question ID : **6549787301**
Status : **Not Answered**
Chosen Option : **--**

Gagan Pratap Maths

Q.7 If the diameter of the base of a cone is 18 cm and its curved surface area is $424\frac{2}{7}\ cm^2$, then its height will be:

(Take $\pi = \frac{22}{7}$)

Ans
1. 14 cm
2. 12 cm
3. 10 cm
4. 15 cm

Question ID : **6549787285**
Status : **Not Answered**
Chosen Option : **--**

Q.8 If $a + b + c = 4, ab + bc + ca = -14$ and $abc = -18$, then the value of $\sqrt{4a^3 + 4b^3 + 4c^3 - 36}$ will be:

Ans
1. 26
2. 24
3. 25
4. 18

Question ID : **6549787298**
Status : **Not Answered**
Chosen Option : **--**

Q.9 The difference between a number and its three-fifth is 274. What is 20% of the number?

Ans
1. 137
2. 150
3. 165
4. 144

Question ID : **6549788803**
Status : **Not Answered**
Chosen Option : **--**

Q.10 The given bar-graph shows the number of boys and girls in classes A, B, C and D in a school, the number of teachers allotted to each class and the number of students promoted to the next class.

Which class has the highest percentage of failed students?

Ans
1. B
2. D
3. C
4. A

Question ID : **6549788822**
Status : **Not Answered**
Chosen Option : **--**

Gaganpratap Maths

Q.11 A shopkeeper charges ₹1.50 to photocopy a sheet of paper and a discount of 5.5% is given on all photocopies done after 400 sheets. How much will it cost to photocopy 800 sheets of paper?

Ans
✔ 1. ₹1,167
✘ 2. ₹1,160
✘ 3. ₹1,276
✘ 4. ₹1,176

Question ID : **6549787287**
Status : **Not Answered**
Chosen Option : **--**

Q.12 A man walking at a rate of 4 km/h crossed a tunnel in 18 minutes. What is the length of the tunnel in meters?

Ans
✘ 1. 1800
✘ 2. 1400
✔ 3. 1200
✘ 4. 1600

Question ID : **6549788799**
Status : **Answered**
Chosen Option : **3**

Q.13 If the perimeter of a circle is 88 cm, then what is the area of the circle? ($\pi = \frac{22}{7}$)

Ans
✔ 1. 616 m^2
✘ 2. 566 m^2
✘ 3. 886 m^2
✘ 4. 446 m^2

Question ID : **6549788807**
Status : **Answered**
Chosen Option : **1**

Q.14 The ratio of boys and girls in a school is 6 : 7. If the total number of students in the school is 3289, then what is the number of girls?

Ans
✔ 1. 1771
✘ 2. 1876
✘ 3. 1984
✘ 4. 1569

Question ID : **6549788805**
Status : **Answered**
Chosen Option : **3**

Gagan Pratap Maths

Q.15 The value of $(86 \div 20) - \frac{13}{8} of \left(\frac{1}{3} - \frac{2}{13}\right) + \left(\frac{1}{8} \div \frac{3}{7}\right) + \left(2 - \frac{3}{10}\right)$ is:

Ans
1. 5
2. 10
3. 6 ✔
4. 1

Question ID : **6549787300**
Status : **Not Answered**
Chosen Option : **--**

Q.16 If $a^2 + 49b^2 + c^2 + 18 = 2(28b - c - a)$ then the value of $(a + 7b - c)$ is:

Ans
1. 2
2. 4 ✔
3. 6
4. -1

Question ID : **6549788811**
Status : **Not Answered**
Chosen Option : **--**

Q.17 P and Q can complete a work in 9 days and 15 days, respectively. If they work together for three days, then in how many days will the remaining work be completed by Q alone?

Ans
1. 8
2. 9
3. 7 ✔
4. 12

Question ID : **6549787283**
Status : **Answered**
Chosen Option : **3**

Q.18 The length of the base of a triangle is 3 cm smaller than the length of its altitude. Its area is 104 cm^2. What is the length of the base?

Ans
1. 13 cm ✔
2. 12 cm
3. 14 cm
4. 11 cm

Question ID : **6549788809**
Status : **Not Answered**
Chosen Option : **--**

Q.19 In how many years, the compound interest, if compounded annually on a sum of ₹60,000 at rate of 8% per annum is ₹9,984?

Ans
1. 3
2. 1
3. 4
4. 2 ✔

Question ID : **6549788806**
Status : **Not Answered**
Chosen Option : **--**

Gagan Pratap Maths

Q.20 If $\frac{\sin\theta+\cos\theta}{\sin\theta-\cos\theta} = 3$, then the value of $\sin^4\theta - \cos^4\theta$ is equal to:

Ans

✗ 1. $\frac{1}{5}$

✗ 2. $\frac{2}{5}$

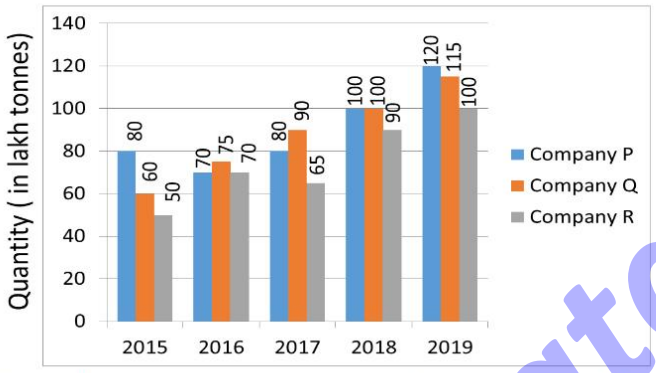
✓ 3. $\frac{3}{5}$

✗ 4. $\frac{4}{5}$

Question ID : **6549788817**
Status : **Not Answered**
Chosen Option : **--**

Q.21 The given bar graph indicates the production of sugar (in lakh tonnes) by three different sugar companies P, Q and R from the year 2015 to 2019. Study the bar graph and answer the question that follows.

Production of sugar by companies P, Q and R from 2015 to 2019



The ratio of the average production of sugar by company P from the year 2015 to 2019 to the average production of sugar by company R from the year 2015 to 2019 is:

Ans

✓ 1. 6 : 5

✗ 2. 7 : 6

✗ 3. 8 : 5

✗ 4. 7 : 5

Question ID : **6549787507**
Status : **Not Answered**
Chosen Option : **--**

Q.22 When a number M is divided by 7, the reminder is 6. What is the reminder if the square of M is divided by 7?

Ans

✗ 1. 4

✓ 2. 1

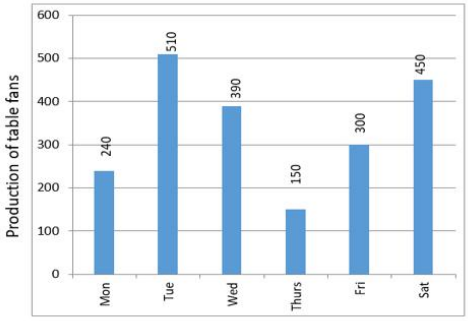
✗ 3. 3

✗ 4. 2

Question ID : **6549788814**
Status : **Not Answered**
Chosen Option : **--**

Gagan Pratap Maths

Q.23 Study the given bar graph and answer the question that follows.
The bar graph shows the production of table fans in a factory for one week.



The ratio of the total production of table fans on Tuesday and Wednesday together to that on Thursday and Friday together is:

Ans
✔ 1. 2 : 1
✘ 2. 4 : 3
✘ 3. 3 : 1
✘ 4. 3 : 2

Question ID : **6549787304**
Status : **Not Answered**
Chosen Option : **--**

Q.24 From a point P that is at a distance of 15 cm from centre O of a circle of radius 9 cm, in the same plane, a pair of tangents PQ and PR is drawn to the circle. The area of quadrilateral PQOR is:

Ans
✘ 1. 114 cm^2
✔ 2. 108 cm^2
✘ 3. 118 cm^2
✘ 4. 106 cm^2

Question ID : **6549787293**
Status : **Not Answered**
Chosen Option : **--**

Q.25 A shopkeeper bought 840 kg of rice. A part of it was sold at 25% profit and the remaining at 10% loss and on the whole, the profit was 15%. What was the quantity of rice which was sold at 10% loss?

Ans
✔ 1. 240 kg
✘ 2. 220 kg
✘ 3. 340 kg
✘ 4. 260 kg

Question ID : **6549787289**
Status : **Not Answered**
Chosen Option : **--**

Gagan Pratap Maths