General Aptitude (GA)

Q.1 – Q.5 Carry ONE mark Each

Q.1 If '→' denotes increasing order of intensity, then the meaning of the words

[walk → jog → sprint] is analogous to [bothered → _____ → daunted].

Which one of the given options is appropriate to fill the blank?

(A) phased

(B) phrased

(C) fazed

(D) fused

Q.2 Two wizards try to create a spell using all the four elements, *water*, *air*, *fire*, and *earth*. For this, they decide to mix all these elements in all possible orders. They also decide to work independently. After trying all possible combination of elements, they conclude that the spell does not work.

How many attempts does each wizard make before coming to this conclusion, independently?

(A) 24

(B) 48

(C) 16

(D) 12

Q.3 In an engineering college of 10,000 students, 1,500 like neither their core branches nor other branches. The number of students who like their core branches is $1/4^{th}$ of the number of students who like other branches. The number of students who like both their core and other branches is 500.

The number of students who like their core branches is

(A) 1,800

(B) 3,500

(C) 1,600

(D) 1,500

Q.4 For positive non-zero real variables x and y, if

$$\ln\left(\frac{x+y}{2}\right) = \frac{1}{2}[\ln(x) + \ln(y)]$$

then, the value of $\frac{x}{y} + \frac{y}{x}$ is

(A) 1

(B) 1/2

(C) 2

(D) 4

Q.5 In the sequence 6, 9, 14, x, 30, 41, a possible value of x is

(A) 25

(B) 21

(C) 18

(D) 20

Q.6 – Q.10 Carry TWO marks Each

Q.6 Sequence the following sentences in a coherent passage.

P: This fortuitous geological event generated a colossal amount of energy and heat that resulted in the rocks rising to an average height of 4 km across the contact zone.

Q: Thus, the geophysicists tend to think of the Himalayas as an active geological event rather than as a static geological feature.

R: The natural process of the cooling of this massive edifice absorbed large quantities of atmospheric carbon dioxide, altering the earth's atmosphere and making it better suited for life.

S: Many millennia ago, a breakaway chunk of bedrock from the Antarctic Plate collided with the massive Eurasian Plate.

(A) QPSR

(B) QSPR

(C) SPRQ

(D) SRPQ

Q.7 A person sold two different items at the same price. He made 10% profit in one item, and 10% loss in the other item. In selling these two items, the person made a total of

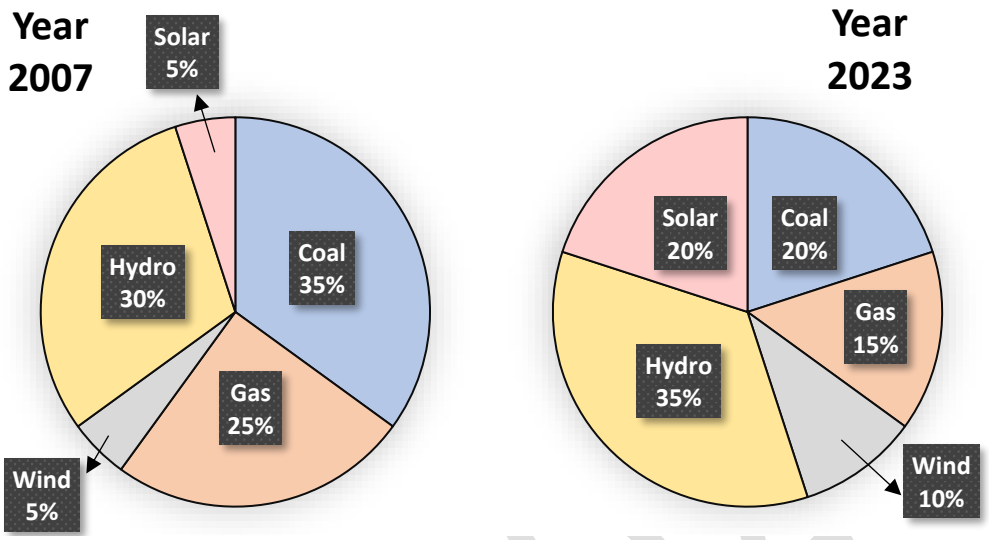
(A) 1% profit

(B) 2% profit

(C) 1% loss

(D) 2% loss

Q.8 The pie charts depict the shares of various power generation technologies in the total electricity generation of a country for the years 2007 and 2023.



The renewable sources of electricity generation consist of Hydro, Solar and Wind. Assuming that the total electricity generated remains the same from 2007 to 2023, what is the percentage increase in the share of the renewable sources of electricity generation over this period?

(A) 25%

(B) 50%

(C) 77.5%

(D) 62.5%

Q.9 A cube is to be cut into 8 pieces of equal size and shape. Here, each cut should be straight and it should not stop till it reaches the other end of the cube.

The minimum number of such cuts required is

(A) 3

(B) 4

(C) 7

(D) 8

Q.10 In the 4 × 4 array shown below, each cell of the first three rows has either a cross (X) or a number.

1	X	4	3
X	5	5	4
3	X	6	X

The number in a cell represents the count of the immediate neighboring cells (left, right, top, bottom, diagonals) NOT having a cross (X). Given that the last row has no crosses (X), the sum of the four numbers to be filled in the last row is

(A) 11

(B) 10

(C) 12

(D) 9

General Aptitude (GA)

Q.1 – Q.5 Carry ONE mark Each

Q.1 If '→' denotes increasing order of intensity, then the meaning of the words [dry → arid → parched] is analogous to [diet → fast → _____].

Which one of the given options is appropriate to fill the blank?

(A) starve

(B) reject

(C) feast

(D) deny

Q.2 If two distinct non-zero real variables x and y are such that $(x + y)$ is proportional to $(x - y)$ then the value of $\frac{x}{y}$

(A) depends on xy

(B) depends only on x and not on y

(C) depends only on y and not on x

(D) is a constant

Q.3 Consider the following sample of numbers:

9, 18, 11, 14, 15, 17, 10, 69, 11, 13

The median of the sample is

(A) 13.5

(B) 14

(C) 11

(D) 18.7

Q.4 The number of coins of ₹1, ₹5, and ₹10 denominations that a person has are in the ratio 5:3:13. Of the total amount, the percentage of money in ₹5 coins is

(A) 21%

(B) $14\frac{2}{7}\%$

(C) 10%

(D) 30%

Q.5 For positive non-zero real variables p and q, if

$$\log\,(p^2 + q^2) = \log p + \log q + 2\log 3\,,$$

then, the value of $\frac{p^4+q^4}{p^2q^2}$ is

(A) 79

(B) 81

(C) 9

(D) 83

Q.6 – Q.10 Carry TWO marks Each

Q.6 In the given text, the blanks are numbered (i)–(iv). Select the best match for all the blanks.

Steve was advised to keep his head _____(i)_____ before heading _____(ii)_____ to bat; for, while he had a head _____(iii)_____ batting, he could only do so with a cool head _____(iv)_____ his shoulders.

(A)	(i) down	(ii) down	(iii) on	(iv) for
(B)	(i) on	(ii) down	(iii) for	(iv) on
(C)	(i) down	(ii) out	(iii) for	(iv) on
(D)	(i) on	(ii) out	(iii) on	(iv) for

Q.7 A rectangular paper sheet of dimensions 54 cm × 4 cm is taken. The two longer edges of the sheet are joined together to create a cylindrical tube. A cube whose surface area is equal to the area of the sheet is also taken.

Then, the ratio of the volume of the cylindrical tube to the volume of the cube is

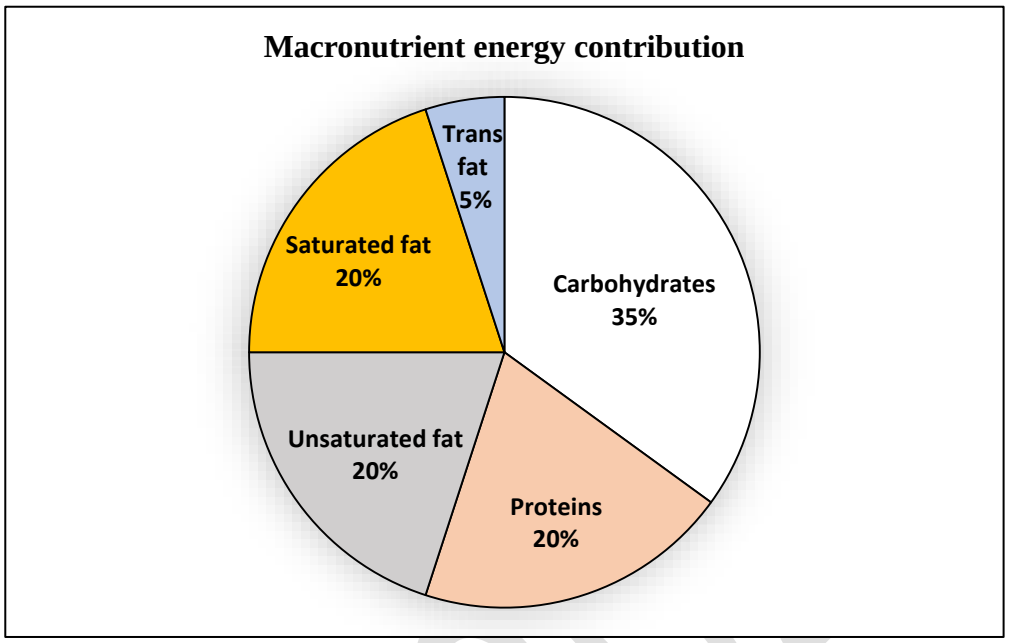
(A) $1/\pi$

(B) $2/\pi$

(C) $3/\pi$

(D) $4/\pi$

Q.8 The pie chart presents the percentage contribution of different macronutrients to a typical 2,000 kcal diet of a person.



The typical energy density (kcal/g) of these macronutrients is given in the table.

Macronutrient	Energy density (kcal/g)
Carbohydrates	4
Proteins	4
Unsaturated fat	9
Saturated fat	9
Trans fat	9

The total fat (all three types), in grams, this person consumes is

(A) 44.4

(B) 77.8

(C) 100

(D) 3,600

Q.9 A rectangular paper of 20 cm × 8 cm is folded 3 times. Each fold is made along the line of symmetry, which is perpendicular to its long edge. The perimeter of the final folded sheet (in cm) is

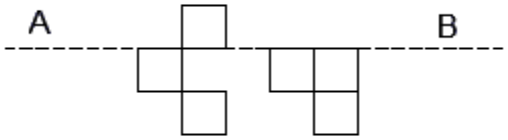
(A) 18

(B) 24

(C) 20

(D) 21

Q.10 The least number of squares to be added in the figure to make AB a line of symmetry is



(A) 6

(B) 4

(C) 5

(D) 7

General Aptitude (GA)

Q.1 – Q.5 Carry ONE mark Each

Q.1	We reached the station late, and _____ missed the train.
(A)	near
(B)	nearly
(C)	utterly
(D)	mostly
Q.2	Kind : _____ : : Often : Frequently (By word meaning)
(A)	Mean
(B)	Type
(C)	Cruel
(D)	Kindly

Q.3	A series of natural numbers $F_1,\ F_2,\ F_3,\ F_4,\ F_5,\ F_6,\ F_7,$ ... obeys $F_{n+1} = F_n + F_{n-1}$ for all integers $n \geq 2$. If $F_6 = 37$, and $F_7 = 60$, then what is F_1 ?
(A)	4
(B)	5
(C)	8
(D)	9

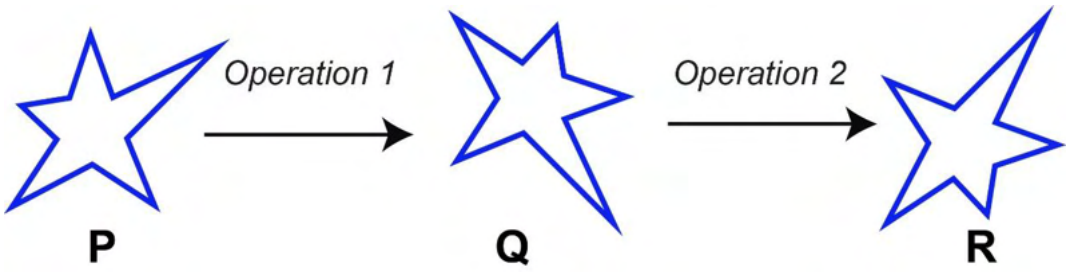
Q.4	A survey for a certain year found that 90% of pregnant women received medical care at least once before giving birth. Of these women, 60% received medical care from doctors, while 40% received medical care from other healthcare providers. Given this information, which one of the following statements can be inferred with *certainty*?
(A)	More than half of the pregnant women received medical care at least once from a doctor.
(B)	Less than half of the pregnant women received medical care at least once from a doctor.
(C)	More than half of the pregnant women received medical care at most once from a doctor.
(D)	Less than half of the pregnant women received medical care at most once from a doctor.
Q.5	Looking at the surface of a smooth 3-dimensional object from the outside, which one of the following options is TRUE?
(A)	The surface of the object must be concave everywhere.
(B)	The surface of the object must be convex everywhere.
(C)	The surface of the object may be concave in some places and convex in other places.
(D)	The object can have edges, but no corners.

Q.6 – Q.10 Carry TWO marks Each

Q.6	The country of Zombieland is in distress since more than 75% of its working population is suffering from serious health issues. Studies conducted by competent health experts concluded that a complete lack of physical exercise among its working population was one of the leading causes of their health issues. As one of the measures to address the problem, the Government of Zombieland has decided to provide monetary incentives to those who ride bicycles to work. Based only on the information provided above, which one of the following statements can be logically inferred with *certainty*?
(A)	All the working population of Zombieland will henceforth ride bicycles to work.
(B)	Riding bicycles will ensure that all of the working population of Zombieland is free of health issues.
(C)	The health experts suggested to the Government of Zombieland to declare riding bicycles as mandatory.
(D)	The Government of Zombieland believes that riding bicycles is a form of physical exercise.

Q.7	Consider two functions of time (t), $$f(t) = 0.01\, t^2$$ $$g(t) = 4\, t$$ where $0 < t < \infty$. Now consider the following two statements: (i) For some $t > 0$, $g(t) > f(t)$. (ii) There exists a T, such that $f(t) > g(t)$ for all $t > T$. Which one of the following options is TRUE?
(A)	only (i) is correct
(B)	only (ii) is correct
(C)	both (i) and (ii) are correct
(D)	neither (i) nor (ii) is correct

Q.8	Which one of the following sentence sequences creates a coherent narrative? (i) Once on the terrace, on her way to her small room in the corner, she notices the man right away. (ii) She begins to pant by the time she has climbed all the stairs. (iii) Mina has bought vegetables and rice at the market, so her bags are heavy. (iv) He was leaning against the parapet, watching the traffic below.
(A)	(i), (ii), (iv), (iii)
(B)	(ii), (iii), (i), (iv)
(C)	(iv), (ii), (i), (iii)
(D)	(iii), (ii), (i), (iv)
Q.9	$f(x)$ and $g(y)$ are functions of x and y, respectively, and $f(x)=g(y)$ for all real values of x and y. Which one of the following options is *necessarily* TRUE for all x and y?
(A)	$f(x)=0$ and $g(y)=0$
(B)	$f(x)=g(y)=$ constant
(C)	$f(x)\neq$ constant and $g(y)\neq$ constant
(D)	$f(x)+g(y)=f(x)-g(y)$

Q.10	Which one of the options best describes the transformation of the 2-dimensional figure **P** to **Q**, and then to **R**, as shown?
	
(A)	*Operation 1*: A clockwise rotation by 90º about an axis perpendicular to the plane of the figure *Operation 2*: A reflection along a horizontal line
(B)	*Operation 1*: A counter clockwise rotation by 90º about an axis perpendicular to the plane of the figure *Operation 2*: A reflection along a horizontal line
(C)	*Operation 1*: A clockwise rotation by 90º about an axis perpendicular to the plane of the figure *Operation 2*: A reflection along a vertical line
(D)	*Operation 1*: A counter clockwise rotation by 180º about an axis perpendicular to the plane of the figure *Operation 2*: A reflection along a vertical line

GATE 2022 General Aptitude (GA)

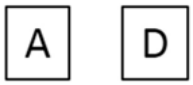
Q.1 – Q.5 Carry ONE mark each.

Q.1	The _____ is too high for it to be considered _____.
(A)	fair / fare
(B)	faer / fair
(C)	fare / fare
(D)	fare / fair

Q.2	A function $y(x)$ is defined in the interval $[0, 1]$ on the x-axis as $$y(x) = \begin{cases} 2 & \text{if } 0 \le x < \frac{1}{3} \\ 3 & \text{if } \frac{1}{3} \le x < \frac{3}{4} \\ 1 & \text{if } \frac{3}{4} \le x \le 1 \end{cases}$$ Which one of the following is the area under the curve for the interval $[0, 1]$ on the x-axis?
(A)	$\frac{5}{6}$
(B)	$\frac{6}{5}$
(C)	$\frac{13}{6}$
(D)	$\frac{6}{13}$

Q.3	Let r be a root of the equation $x^2 + 2x + 6 = 0$. Then the value of the expression $(r + 2)(r + 3)(r + 4)(r + 5)$ is
(A)	51
(B)	-51
(C)	126
(D)	-126

Q.4	Given below are four statements. Statement 1: All students are inquisitive. Statement 2: Some students are inquisitive. Statement 3: No student is inquisitive. Statement 4: Some students are not inquisitive. From the given four statements, find the two statements that **CANNOT BE TRUE** simultaneously, assuming that there is at least one student in the class.
(A)	Statement 1 and Statement 3
(B)	Statement 1 and Statement 2
(C)	Statement 2 and Statement 4
(D)	Statement 3 and Statement 4

Q.5	A palindrome is a word that reads the same forwards and backwards. In a game of words, a player has the following two plates painted with letters.  From the additional plates given in the options, which one of the combinations of additional plates would allow the player to construct a five-letter palindrome. The player should use all the five plates exactly once. The plates can be rotated in their plane.
(A)	
(B)	
(C)	
(D)	

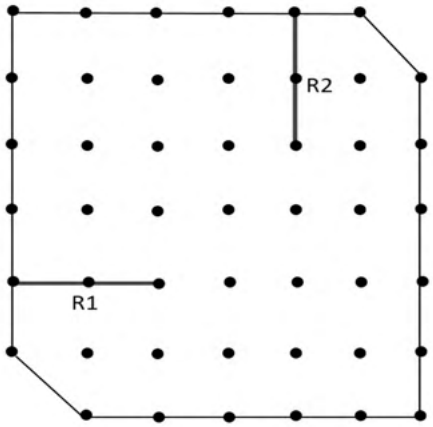
Q. 6 – Q. 10 Carry TWO marks each.

Q.6	Some people believe that "what gets measured, improves". Some others believe that "what gets measured, gets gamed". One possible reason for the difference in the beliefs is the work culture in organizations. In organizations with good work culture, metrics help improve outcomes. However, the same metrics are counterproductive in organizations with poor work culture. Which one of the following is the CORRECT logical inference based on the information in the above passage?
(A)	Metrics are useful in organizations with poor work culture
(B)	Metrics are useful in organizations with good work culture
(C)	Metrics are always counterproductive in organizations with good work culture
(D)	Metrics are never useful in organizations with good work culture

Q.7	In a recently conducted national entrance test, boys constituted 65% of those who appeared for the test. Girls constituted the remaining candidates and they accounted for 60% of the qualified candidates. Which one of the following is the correct logical inference based on the information provided in the above passage?
(A)	Equal number of boys and girls qualified
(B)	Equal number of boys and girls appeared for the test
(C)	The number of boys who appeared for the test is less than the number of girls who appeared
(D)	The number of boys who qualified the test is less than the number of girls who qualified

Q.8	A box contains five balls of same size and shape. Three of them are green coloured balls and two of them are orange coloured balls. Balls are drawn from the box one at a time. If a green ball is drawn, it is not replaced. If an orange ball is drawn, it is replaced with another orange ball. First ball is drawn. What is the probability of getting an orange ball in the next draw?
(A)	$\frac{1}{2}$
(B)	$\frac{8}{25}$
(C)	$\frac{19}{50}$
(D)	$\frac{23}{50}$

Q.9	The corners and mid-points of the sides of a triangle are named using the distinct letters P, Q, R, S, T and U, but not necessarily in the same order. Consider the following statements: • The line joining P and R is parallel to the line joining Q and S. • P is placed on the side opposite to the corner T. • S and U cannot be placed on the same side. Which one of the following statements is correct based on the above information?
(A)	P cannot be placed at a corner
(B)	S cannot be placed at a corner
(C)	U cannot be placed at a mid-point
(D)	R cannot be placed at a corner

Q.10	A plot of land must be divided between four families. They want their individual plots to be similar in shape, not necessarily equal in area. The land has equally spaced poles, marked as dots in the below figure. Two ropes, R1 and R2, are already present and cannot be moved. What is the least number of **additional** straight ropes needed to create the desired plots? A single rope can pass through three poles that are aligned in a straight line. 
(A)	2
(B)	4
(C)	5
(D)	3

General Aptitude (GA)

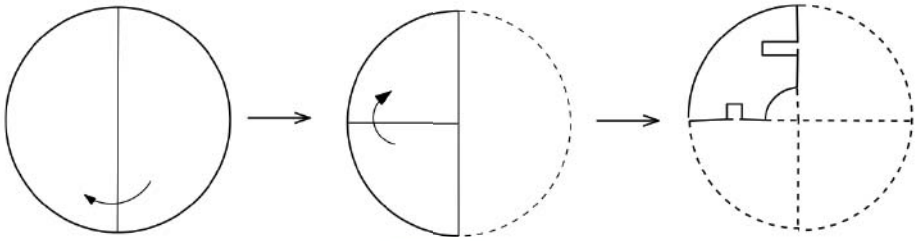
Q.1 – Q.5 Multiple Choice Question (MCQ), carry ONE mark each (for each wrong answer: – 1/3).

Q.1	The ratio of boys to girls in a class is 7 to 3. Among the options below, an acceptable value for the total number of students in the class is:
(A)	21
(B)	37
(C)	50
(D)	73

Q.2	A polygon is convex if, for every pair of points, P and Q belonging to the polygon, the line segment PQ lies completely inside or on the polygon. Which one of the following is NOT a convex polygon?
(A)	
(B)	
(C)	
(D)	

Q.3	Consider the following sentences: (i) Everybody in the class is prepared for the exam. (ii) Babu invited Danish to his home because he enjoys playing chess. Which of the following is the CORRECT observation about the above two sentences?
(A)	(i) is grammatically correct and (ii) is unambiguous
(B)	(i) is grammatically incorrect and (ii) is unambiguous
(C)	(i) is grammatically correct and (ii) is ambiguous
(D)	(i) is grammatically incorrect and (ii) is ambiguous

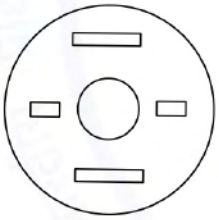
Q.4



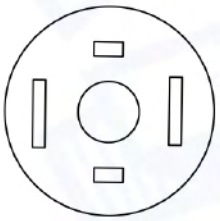
A circular sheet of paper is folded along the lines in the directions shown. The paper, after being punched in the final folded state as shown and unfolded in the reverse order of folding, will look like _____.

(A)

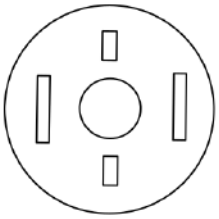
(B)



(C)



(D)



Q.5	_____ is to *surgery* as *writer* is to _____ Which one of the following options maintains a similar logical relation in the above sentence?
(A)	Plan, outline
(B)	Hospital, library
(C)	Doctor, book
(D)	Medicine, grammar

Q. 6 – Q. 10 Multiple Choice Question (MCQ), carry TWO marks each (for each wrong answer: – 2/3).

Q.6	We have 2 rectangular sheets of paper, M and N, of dimensions 6 cm x 1 cm each. Sheet M is rolled to form an open cylinder by bringing the short edges of the sheet together. Sheet N is cut into equal square patches and assembled to form the largest possible closed cube. Assuming the ends of the cylinder are closed, the ratio of the volume of the cylinder to that of the cube is _____
(A)	$\frac{\pi}{2}$
(B)	$\frac{3}{\pi}$
(C)	$\frac{9}{\pi}$
(D)	3π

Q.7

Items	Cost (₹)	Profit %	Marked Price (₹)
P	5,400	---	5,860
Q	---	25	10,000

Details of prices of two items P and Q are presented in the above table. The ratio of cost of item P to cost of item Q is 3:4. Discount is calculated as the difference between the marked price and the selling price. The profit percentage is calculated as the ratio of the difference between selling price and cost, to the cost $\left(\text{Profit } \% = \frac{\text{Selling price} - \text{Cost}}{\text{Cost}} \times 100\right)$.

The discount on item Q, as a percentage of its marked price, is _____

(A) 25

(B) 12.5

(C) 10

(D) 5

Q.8	There are five bags each containing identical sets of ten distinct chocolates. One chocolate is picked from each bag. The probability that at least two chocolates are identical is _____
(A)	0.3024
(B)	0.4235
(C)	0.6976
(D)	0.8125

Q.9	Given below are two statements 1 and 2, and two conclusions I and II. Statement 1: All bacteria are microorganisms. Statement 2: All pathogens are microorganisms. Conclusion I: Some pathogens are bacteria. Conclusion II: All pathogens are not bacteria. Based on the above statements and conclusions, which one of the following options is logically CORRECT?
(A)	Only conclusion I is correct
(B)	Only conclusion II is correct
(C)	Either conclusion I or II is correct.
(D)	Neither conclusion I nor II is correct.

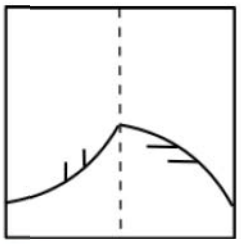
Q.10	Some people suggest anti-obesity measures (AOM) such as displaying calorie information in restaurant menus. Such measures sidestep addressing the core problems that cause obesity: poverty and income inequality. Which one of the following statements summarizes the passage?
(A)	The proposed AOM addresses the core problems that cause obesity.
(B)	If obesity reduces, poverty will naturally reduce, since obesity causes poverty.
(C)	AOM are addressing the core problems and are likely to succeed.
(D)	AOM are addressing the problem superficially.

General Aptitude (GA)

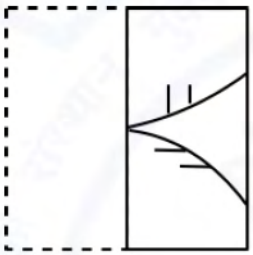
Q.1 – Q.5 Multiple Choice Question (MCQ), carry ONE mark each (for each wrong answer: – 1/3).

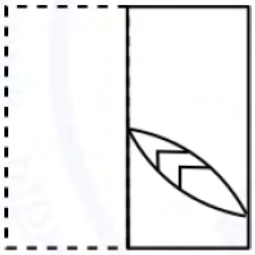
Q.1	Gauri said that she can play the keyboard _____ her sister.
(A)	as well as
(B)	as better as
(C)	as nicest as
(D)	as worse as

Q.2

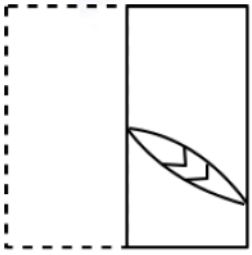


A transparent square sheet shown above is folded along the dotted line. The folded sheet will look like _____.

(A) 

(B) 

(C) 

(D) 

Q.3	If θ is the angle, in degrees, between the longest diagonal of the cube and any one of the edges of the cube, then, cos θ=
(A)	$\frac{1}{2}$
(B)	$\frac{1}{\sqrt{3}}$
(C)	$\frac{1}{\sqrt{2}}$
(D)	$\frac{\sqrt{3}}{2}$

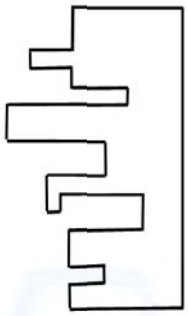
Q.4	If $\left(x-\frac{1}{2}\right)^2-\left(x-\frac{3}{2}\right)^2=x+2$, then the value of x is:
(A)	2
(B)	4
(C)	6
(D)	8

Q.5	Pen : Write :: Knife : _____ Which one of the following options maintains a similar logical relation in the above?
(A)	Vegetables
(B)	Sharp
(C)	Cut
(D)	Blunt

Q. 6 – Q. 10 Multiple Choice Question (MCQ), carry TWO marks each (for each wrong answer: – 2/3).

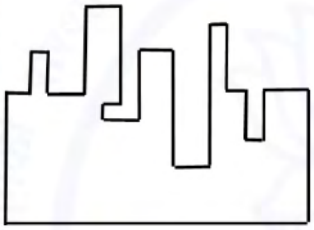
Q.6	Listening to music during exercise improves exercise performance and reduces discomfort. Scientists researched whether listening to music while studying can help students learn better and the results were inconclusive. Students who needed external stimulation for studying fared worse while students who did not need any external stimulation benefited from music. Which one of the following statements is the CORRECT inference of the above passage?
(A)	Listening to music has no effect on learning and a positive effect on physical exercise.
(B)	Listening to music has a clear positive effect both on physical exercise and on learning.
(C)	Listening to music has a clear positive effect on physical exercise. Music has a positive effect on learning only in some students.
(D)	Listening to music has a clear positive effect on learning in all students. Music has a positive effect only in some students who exercise.

Q.7

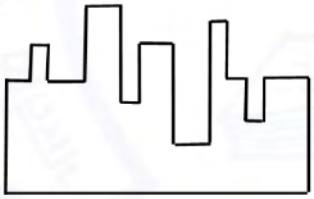


A jigsaw puzzle has 2 pieces. One of the pieces is shown above. Which one of the given options for the missing piece when assembled will form a rectangle? The piece can be moved, rotated or flipped to assemble with the above piece.

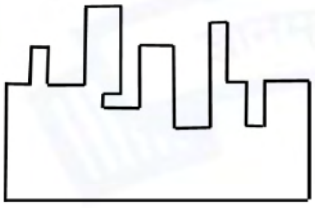
(A)



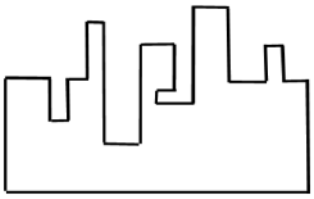
(B)



(C)

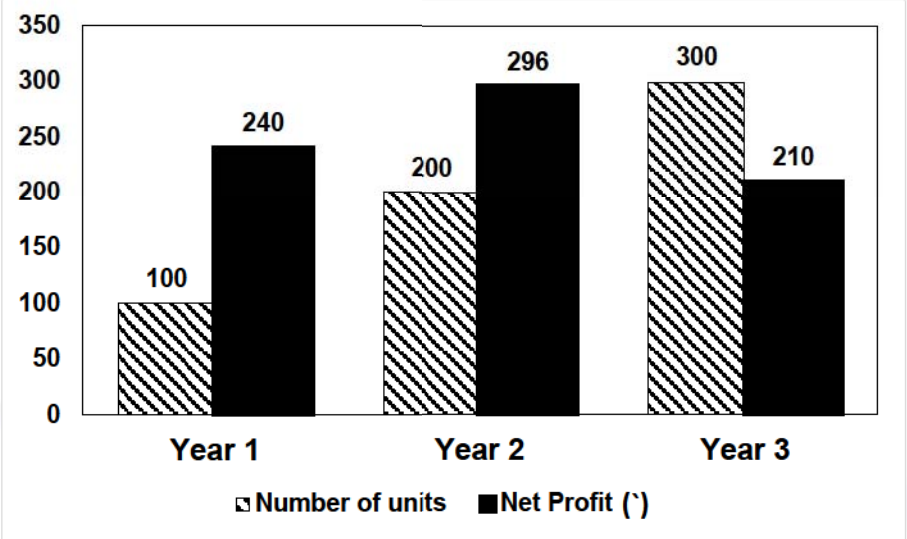


(D)



Q.8	The number of students in three classes is in the ratio 3:13:6. If 18 students are added to each class, the ratio changes to 15:35:21. The total number of students in all the three classes in the beginning was:
(A)	22
(B)	66
(C)	88
(D)	110

Q.9



The number of units of a product sold in three different years and the respective net profits are presented in the figure above. The cost/unit in Year 3 was `1, which was half the cost/unit in Year 2. The cost/unit in Year 3 was one-third of the cost/unit in Year 1. Taxes were paid on the selling price at 10%, 13% and 15% respectively for the three years. Net profit is calculated as the difference between the selling price and the sum of cost and taxes paid in that year.

The ratio of the selling price in Year 2 to the selling price in Year 3 is _____.

A)	4:3
(B)	1:1
(C)	3:4
(D)	1:2

Q.10	Six students P, Q, R, S, T and U, with distinct heights, compare their heights and make the following observations. Observation I: S is taller than R. Observation II: Q is the shortest of all. Observation III: U is taller than only one student. Observation IV: T is taller than S but is not the tallest. The number of students that are taller than R is the same as the number of students shorter than _____.
(A)	T
(B)	R
(C)	S
(D)	P

CS: Computer Sc. and Information Technology

GA - General Aptitude

Q1 - Q5 carry one mark each.

Q.No. 1 Raman is confident of speaking English_____six months as he has been practising regularly_____the last three weeks.

(A) during, for

(B) for, since

(C) for, in

(D) within, for

Q.No. 2 His knowledge of the subject was excellent but his classroom performance was_____.

(A) extremely poor

(B) good

(C) desirable

(D) praiseworthy

Q.No. 3 Select the word that fits the analogy:

Cook : Cook :: Fly : _____

(A) Flyer

(B) Flying

(C) Flew

(D) Flighter

Q.No. 4 The dawn of the 21st century witnessed the melting glaciers oscillating between giving too much and too little to billions of people who depend on them for fresh water. The UN climate report estimates that without deep cuts to man-made emissions, at least 30% of the northern hemisphere's surface permafrost could melt by the end of the century. Given this situation of imminent global exodus of billions of people displaced by rising seas, nation-states need to rethink their carbon footprint for political concerns, if not for environmental ones.

Which one of the following statements can be inferred from the given passage?

(A) Nation-states do not have environmental concerns.

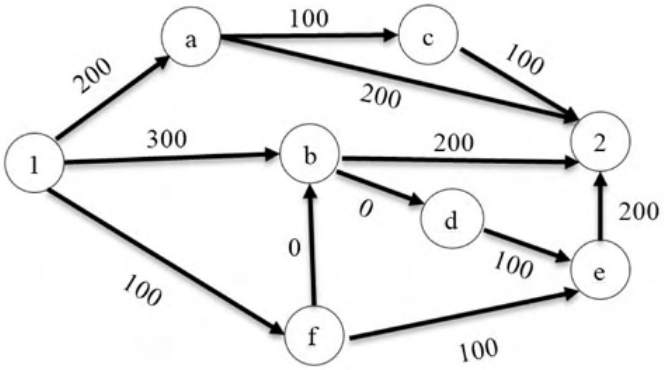
(B) Nation-states are responsible for providing fresh water to billions of people.

(C) Billions of people are responsible for man-made emissions.

(D) Billions of people are affected by melting glaciers.

Q.No. 5

There are multiple routes to reach from node 1 to node 2, as shown in the network.



The cost of travel on an edge between two nodes is given in rupees. Nodes 'a', 'b', 'c', 'd', 'e', and 'f' are toll booths. The toll price at toll booths marked 'a' and 'e' is Rs. 200, and is Rs. 100 for the other toll booths. Which is the cheapest route from node 1 to node 2?

(A) 1-a-c-2

(B) 1-f-b-2

(C) 1-b-2

(D) 1-f-e-2

Q6 - Q10 carry two marks each.

Q.No. 6 Goods and Services Tax (GST) is an indirect tax introduced in India in 2017 that is imposed on the supply of goods and services, and it subsumes all indirect taxes except few. It is a destination-based tax imposed on goods and services used, and it is not imposed at the point of origin from where goods come. GST also has a few components specific to state governments, central government and Union Territories (UTs).

Which one of the following statements can be inferred from the given passage?

(A) GST is imposed on the production of goods and services.

(B) GST includes all indirect taxes.

(C) GST does not have a component specific to UT.

(D) GST is imposed at the point of usage of goods and services.

Q.No. 7 If P = 3, R = 27, T = 243, then Q + S = _____.

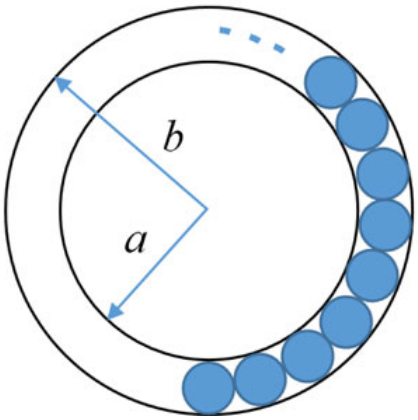
(A) 40

(B) 80

(C) 90

(D) 110

Q.No. 8 The figure below shows an annular ring with outer and inner radii as b and a, respectively. The annular space has been painted in the form of blue colour circles touching the outer and inner periphery of annular space. If maximum n number of circles can be painted, then the unpainted area available in annular space is_____.



(A) $\pi\left[(b^2-a^2)-\frac{n}{4}(b-a)^2\right]$

(B) $\pi[(b^2-a^2)-n(b-a)^2]$

(C) $\pi\left[(b^2-a^2)+\frac{n}{4}(b-a)^2\right]$

(D) $\pi[(b^2-a^2)+n(b-a)^2]$

Q.No. 9 Two straight lines are drawn perpendicular to each other in X-Y plane. If α and β are the acute angles the straight lines make with the X-axis, then $\alpha+\beta$ is_____.

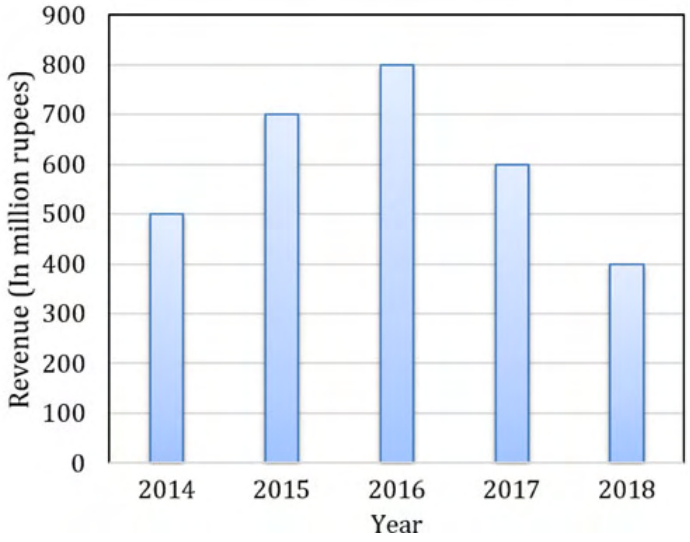
(A) $60°$

(B) $90°$

(C) $120°$

(D) $180°$

Q.No. 10 The total revenue of a company during 2014-2018 is shown in the bar graph. If the total expenditure of the company in each year is 500 million rupees, then the aggregate profit or loss (in percentage) on the total expenditure of the company during 2014-2018 is ____.



(A) 16.67 % profit

(B) 16.67 % loss

(C) 20 % profit

(D) 20 % loss

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Q1 - Q25 carry one mark each.

Q.No. 1 Consider the functions

I. e^{-x}

II. $x^2-\sin x$

III. $\sqrt{x^3+1}$

Which of the above functions is/are increasing everywhere in [0,1]?

(A) III only

(B) II only

(C) II and III only

(D) I and III only

Q.No. 2

Q. 1 – Q. 5 carry one mark each.

Q.1 The expenditure on the project _____ as follows: equipment Rs.20 lakhs, salaries Rs.12 lakhs, and contingency Rs.3 lakhs.

(A) break down (B) break (C) breaks down (D) breaks

Q.2 The search engine's business model _____ around the fulcrum of trust.

(A) revolves (B) plays (C) sinks (D) bursts

Q.3 Two cars start at the same time from the same location and go in the same direction. The speed of the first car is 50 km/h and the speed of the second car is 60 km/h. The number of hours it takes for the distance between the two cars to be 20 km is ___.

(A) 1 (B) 2 (C) 3 (D) 6

Q.4 Ten friends planned to share equally the cost of buying a gift for their teacher. When two of them decided not to contribute, each of the other friends had to pay Rs 150 more. The cost of the gift was Rs. ____.

(A) 666 (B) 3000 (C) 6000 (D) 12000

Q.5 A court is to a judge as _____ is to a teacher.

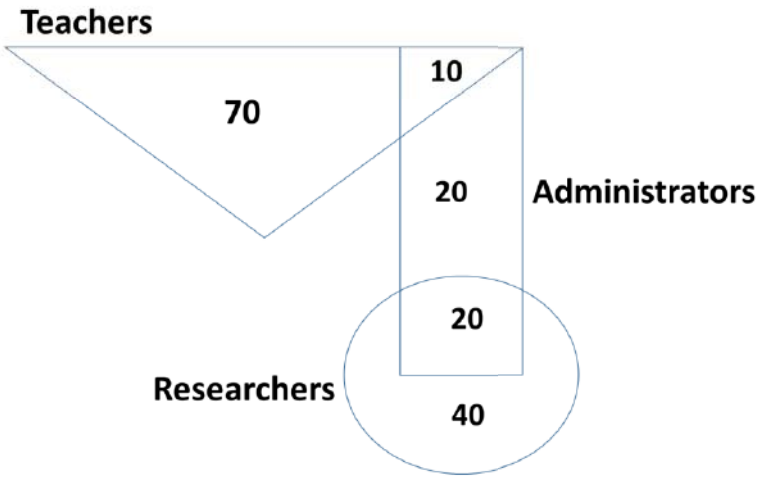
(A) a student (B) a punishment (C) a syllabus (D) a school

Q. 6 – Q. 10 carry two marks each.

Q.6 The police arrested four criminals – P, Q, R and S. The criminals knew each other. They made the following statements:
P says "Q committed the crime."
Q says "S committed the crime."
R says "I did not do it."
S says "What Q said about me is false."
Assume only one of the arrested four committed the crime and only one of the statements made above is true. Who committed the crime?

(A) P (B) R (C) S (D) Q

Q.7 In the given diagram, teachers are represented in the triangle, researchers in the circle and administrators in the rectangle. Out of the total number of the people, the percentage of administrators shall be in the range of _____.



(A) 0 to 15 (B) 16 to 30 (C) 31 to 45 (D) 46 to 60

Q.8 "A recent High Court judgement has sought to dispel the idea of begging as a disease — which leads to its stigmatization and criminalization — and to regard it as a symptom. The underlying disease is the failure of the state to protect citizens who fall through the social security net."

Which one of the following statements can be inferred from the given passage?

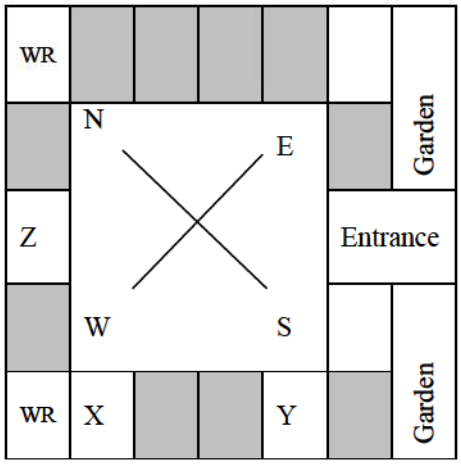
(A) Beggars are lazy people who beg because they are unwilling to work
(B) Beggars are created because of the lack of social welfare schemes
(C) Begging is an offence that has to be dealt with firmly
(D) Begging has to be banned because it adversely affects the welfare of the state

Q.9 In a college, there are three student clubs. Sixty students are only in the Drama club, 80 students are only in the Dance club, 30 students are only in the Maths club, 40 students are in both Drama and Dance clubs, 12 students are in both Dance and Maths clubs, 7 students are in both Drama and Maths clubs, and 2 students are in all the clubs. If 75% of the students in the college are not in any of these clubs, then the total number of students in the college is _____.

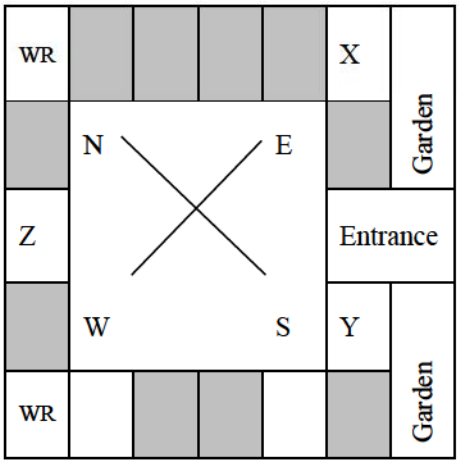
(A) 1000 (B) 975 (C) 900 (D) 225

Q.10 Three of the five students allocated to a hostel put in special requests to the warden. Given the floor plan of the vacant rooms, select the allocation plan that will accommodate all their requests.
Request by X: Due to pollen allergy, I want to avoid a wing next to the garden.
Request by Y: I want to live as far from the washrooms as possible, since I am very sensitive to smell.
Request by Z: I believe in Vaastu and so want to stay in the South-west wing.
The shaded rooms are already occupied. WR is washroom.

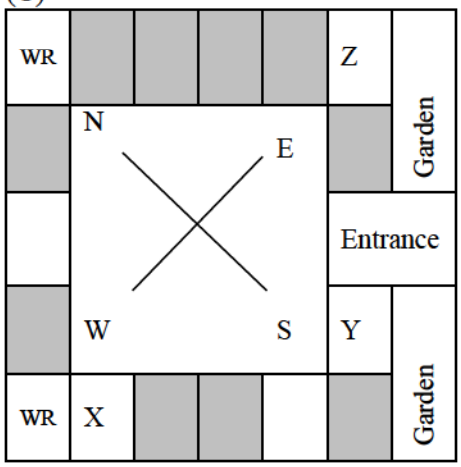
(A)



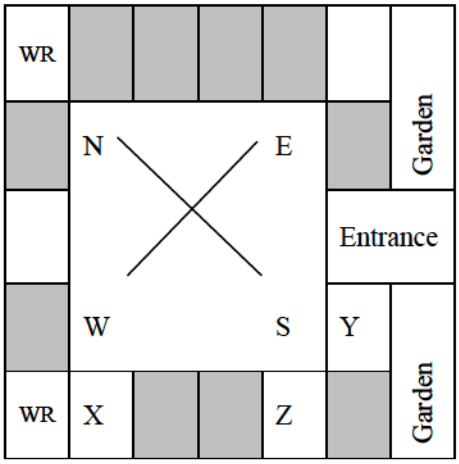
(B)



(C)



(D)



END OF THE QUESTION PAPER

Q. 1 – Q. 5 carry one mark each.

Q.1 "From where are they bringing their books? _____ bringing _____ books from _____."

The words that best fill the blanks in the above sentence are

(A) Their, they're, there
(B) They're, their, there
(C) There, their, they're
(D) They're, there, there

Q.2 "A _____ investigation can sometimes yield new facts, but typically organized ones are more successful."

The word that best fills the blank in the above sentence is

(A) meandering (B) timely (C) consistent (D) systematic

Q.3 The area of a square is d. What is the area of the circle which has the diagonal of the square as its diameter?

(A) πd (B) πd^2 (C) $\frac{1}{4}\pi d^2$ (D) $\frac{1}{2}\pi d$

Q.4 What would be the smallest natural number which when divided either by 20 or by 42 or by 76 leaves a remainder of 7 in each case?

(A) 3047 (B) 6047 (C) 7987 (D) 63847

Q.5 What is the missing number in the following sequence?

2, 12, 60, 240, 720, 1440, _____, 0

(A) 2880 (B) 1440 (C) 720 (D) 0

Q. 6 – Q. 10 carry two marks each.

Q.6 In appreciation of the social improvements completed in a town, a wealthy philanthropist decided to gift Rs 750 to each male senior citizen in the town and Rs 1000 to each female senior citizen. Altogether, there were 300 senior citizens eligible for this gift. However, only 8/9th of the eligible men and 2/3rd of the eligible women claimed the gift. How much money (in Rupees) did the philanthropist give away in total?

(A) 1,50,000
(B) 2,00,000
(C) 1,75,000
(D) 1,51,000

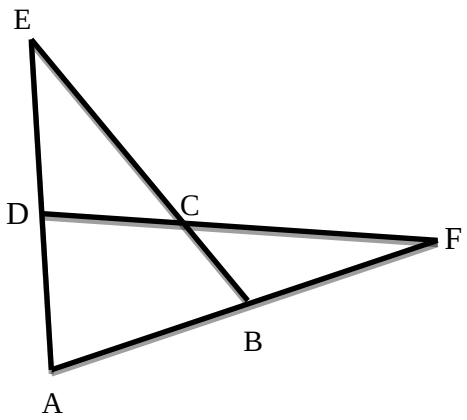
Q.7 If $pqr \neq 0$ and $p^{-x} = \frac{1}{q}, q^{-y} = \frac{1}{r}, r^{-z} = \frac{1}{p}$, what is the value of the product xyz?

(A) -1
(B) $\frac{1}{pqr}$
(C) 1
(D) pqr

Q.8 In a party, 60% of the invited guests are male and 40% are female. If 80% of the invited guests attended the party and if all the invited female guests attended, what would be the ratio of males to females among the attendees in the party?

(A) 2:3
(B) 1:1
(C) 3:2
(D) 2:1

Q.9 In the figure below, $\angle DEC + \angle BFC$ is equal to _____ .



(A) $\angle BCD - \angle BAD$
(B) $\angle BAD + \angle BCF$
(C) $\angle BAD + \angle BCD$
(D) $\angle CBA + \angle ADC$

Q.10 A six sided unbiased die with four green faces and two red faces is rolled seven times. Which of the following combinations is the most likely outcome of the experiment?

(A) Three green faces and four red faces.
(B) Four green faces and three red faces.
(C) Five green faces and two red faces.
(D) Six green faces and one red face.

END OF THE QUESTION PAPER

Question Number : 56 **Correct : 1 Wrong : -0.33**

After Rajendra Chola returned from his voyage to Indonesia, he _____ to visit the temple in Thanjavur.

(A) was wishing (B) is wishing (C) wished (D) had wished

Question Number : 57 **Correct : 1 Wrong : -0.33**

Research in the workplace reveals that people work for many reasons _____.

(A) money beside (B) beside money (C) money besides (D) besides money

Question Number : 58 **Correct : 1 Wrong : -0.33**

Rahul, Murali, Srinivas and Arul are seated around a square table. Rahul is sitting to the left of Murali. Srinivas is sitting to the right of Arul. Which of the following pairs are seated opposite each other?

(A) Rahul and Murali
(B) Srinivas and Arul
(C) Srinivas and Murali
(D) Srinivas and Rahul

Question Number : 59 **Correct : 1 Wrong : -0.33**

Find the smallest number y such that $y \times 162$ is a perfect cube.

(A) 24 (B) 27 (C) 32 (D) 36

Question Number : 60 **Correct : 1 Wrong : -0.33**

The probability that a k-digit number does NOT contain the digits 0, 5, or 9 is

(A) 0.3^k (B) 0.6^k (C) 0.7^k (D) 0.9^k

Question Number : 61 **Correct : 2 Wrong : -0.66**

"The hold of the nationalist imagination on our colonial past is such that anything inadequately or improperly nationalist is just not history."

Which of the following statements best reflects the author's opinion?

(A) Nationalists are highly imaginative.
(B) History is viewed through the filter of nationalism.
(C) Our colonial past never happened.
(D) Nationalism has to be both adequately and properly imagined.

Question Number : 62 **Correct : 2 Wrong : -0.66**

Six people are seated around a circular table. There are at least two men and two women. There are at least three right-handed persons. Every woman has a left-handed person to her immediate right. None of the women are right-handed. The number of women at the table is

(A) 2 (B) 3 (C) 4 (D) Cannot be determined

Question Number : 63 **Correct : 2 Wrong : -0.66**

The expression $\frac{(x+y)-|x-y|}{2}$ is equal to

(A) the maximum of x and y
(B) the minimum of x and y
(C) 1
(D) none of the above

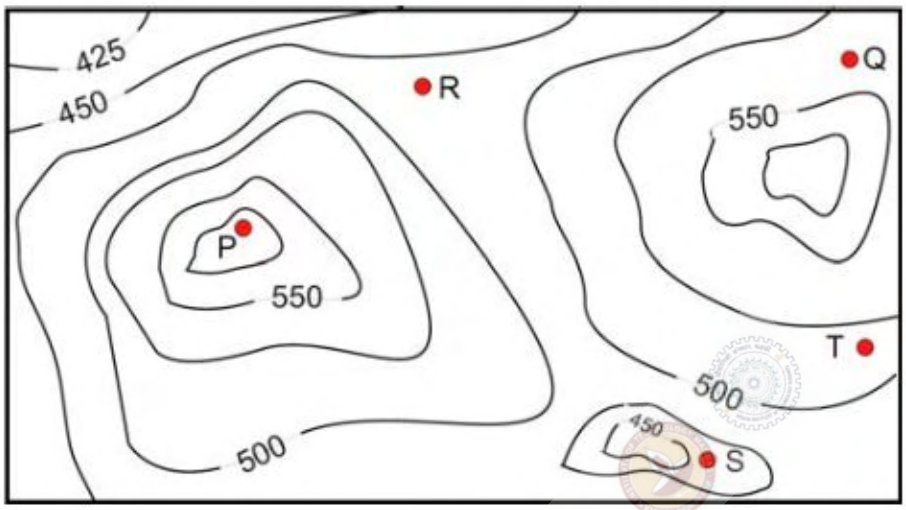
Question Number : 64 **Correct : 2 Wrong : -0.66**

Arun, Gulab, Neel and Shweta must choose one shirt each from a pile of four shirts coloured red, pink, blue and white respectively. Arun dislikes the colour red and Shweta dislikes the colour white. Gulab and Neel like all the colours. In how many different ways can they choose the shirts so that no one has a shirt with a colour he or she dislikes?

(A) 21 (B) 18 (C) 16 (D) 14

Question Number : 65 **Correct : 2 Wrong : -0.66**

A contour line joins locations having the same height above the mean sea level. The following is a contour plot of a geographical region. Contour lines are shown at 25 m intervals in this plot. If in a flood, the water level rises to 525 m, which of the villages P, Q, R, S, T get submerged?



(A) P, Q (B) P, Q, T (C) R, S, T (D) Q, R, S

Question Number : 56 **Correct : 1 Wrong : -0.33**

Choose the option with words that are not synonyms.

(A) aversion, dislike
(B) luminous, radiant
(C) plunder, loot
(D) yielding, resistant

Question Number : 57 **Correct : 1 Wrong : -0.33**

Saturn is _____ to be seen on a clear night with the naked eye.

(A) enough bright (B) bright enough (C) as enough bright (D) bright as enough

Question Number : 58 **Correct : 1 Wrong : -0.33**

There are five buildings called V, W, X, Y and Z in a row (not necessarily in that order). V is to the West of W. Z is to the East of X and the West of V. W is to the West of Y. Which is the building in the middle?

(A) V (B) W (C) X (D) Y

Question Number : 59 **Correct : 1 Wrong : -0.33**

A test has twenty questions worth 100 marks in total. There are two types of questions. Multiple choice questions are worth 3 marks each and essay questions are worth 11 marks each. How many multiple choice questions does the exam have?

(A) 12 (B) 15 (C) 18 (D) 19

Question Number : 60 **Correct : 1 Wrong : -0.33**

There are 3 red socks, 4 green socks and 3 blue socks. You choose 2 socks. The probability that they are of the same colour is

(A) 1/5 (B) 7/30 (C) 1/4 (D) 4/15

Question Number : 61 **Correct : 2 Wrong : -0.66**

"We lived in a culture that denied any merit to literary works, considering them important only when they were handmaidens to something seemingly more urgent – namely ideology. This was a country where all gestures, even the most private, were interpreted in political terms."

The author's belief that ideology is not as important as literature is revealed by the word:

(A) 'culture' (B) 'seemingly' (C) 'urgent' (D) 'political'

Question Number : 62 **Correct : 2 Wrong : -0.66**

There are three boxes. One contains apples, another contains oranges and the last one contains both apples and oranges. All three are known to be incorrectly labelled. If you are permitted to open just one box and then pull out and inspect only one fruit, which box would you open to determine the contents of all three boxes?

(A) The box labelled 'Apples'
(B) The box labelled 'Apples and Oranges'
(C) The box labelled 'Oranges'
(D) Cannot be determined

Question Number : 63 **Correct : 2 Wrong : -0.66**

X is a 30 digit number starting with the digit 4 followed by the digit 7. Then the number X^3 will have

(A) 90 digits (B) 91 digits (C) 92 digits (D) 93 digits

Question Number : 64 **Correct : 2 Wrong : -0.66**

The number of roots of $e^x + 0.5x^2 - 2 = 0$ in the range $[-5, 5]$ is

(A) 0 (B) 1 (C) 2 (D) 3

Question Number : 65 **Correct : 2 Wrong : -0.66**

An air pressure contour line joins locations in a region having the same atmospheric pressure. The following is an air pressure contour plot of a geographical region. Contour lines are shown at 0.05 bar intervals in this plot.

If the possibility of a thunderstorm is given by how fast air pressure rises or drops over a region, which of the following regions is most likely to have a thunderstorm?

(A) P (B) Q (C) R (D) S

Q. 1 – Q. 5 carry one mark each.

Q.1 Out of the following four sentences, select the most suitable sentence with respect to grammar and usage.

(A) I will not leave the place until the minister does not meet me.

(B) I will not leave the place until the minister doesn't meet me.

(C) I will not leave the place until the minister meet me.

(D) I will not leave the place until the minister meets me.

Q.2 A rewording of something written or spoken is a _____.

(A) paraphrase (B) paradox (C) paradigm (D) paraffin

Q.3 Archimedes said, "Give me a lever long enough and a fulcrum on which to place it, and I will move the world."

The sentence above is an example of a _____ statement.

(A) figurative (B) collateral

(C) literal (D) figurine

Q.4 If 'relftaga' means carefree, 'otaga' means careful and 'fertaga' means careless, which of the following could mean 'aftercare'?

(A) zentaga (B) tagafer (C) tagazen (D) relffer

Q.5 A cube is built using 64 cubic blocks of side one unit. After it is built, one cubic block is removed from every corner of the cube. The resulting surface area of the body (in square units) after the removal is _____.

(A) 56 (B) 64 (C) 72 (D) 96

Q. 6 – Q. 10 carry two marks each.

Q.6 A shaving set company sells 4 different types of razors, Elegance, Smooth, Soft and Executive. Elegance sells at Rs. 48, Smooth at Rs. 63, Soft at Rs. 78 and Executive at Rs. 173 per piece. The table below shows the numbers of each razor sold in each quarter of a year.

Quarter \ Product	Elegance	Smooth	Soft	Executive
Q1	27300	20009	17602	9999
Q2	25222	19392	18445	8942
Q3	28976	22429	19544	10234
Q4	21012	18229	16595	10109

Which product contributes the greatest fraction to the revenue of the company in that year?

(A) Elegance (B) Executive (C) Smooth (D) Soft

Q.7 Indian currency notes show the denomination indicated in at least seventeen languages. If this is not an indication of the nation's diversity, nothing else is.

Which of the following can be logically inferred from the above sentences?

(A) India is a country of exactly seventeen languages.

(B) Linguistic pluralism is the only indicator of a nation's diversity.

(C) Indian currency notes have sufficient space for all the Indian languages.

(D) Linguistic pluralism is strong evidence of India's diversity.

Q.8 Consider the following statements relating to the level of poker play of four players **P**, **Q**, **R** and **S**.

I. **P** always beats **Q**
II. **R** always beats **S**
III. **S** loses to **P** only sometimes
IV. **R** always loses to **Q**

Which of the following can be logically inferred from the above statements?

(i) **P** is likely to beat all the three other players
(ii) **S** is the absolute worst player in the set

(A) (i) only (B) (ii) only (C) (i) and (ii) (D) neither (i) nor (ii)

Q.9 If $f(x) = 2x^7 + 3x - 5$, which of the following is a factor of f(x)?

(A) (x^3+8) (B) (x-1) (C) (2x-5) (D) (x+1)

Q.10 In a process, the number of cycles to failure decreases exponentially with an increase in load. At a load of 80 units, it takes 100 cycles for failure. When the load is halved, it takes 10000 cycles for failure. The load for which the failure will happen in 5000 cycles is _____.

(A) 40.00 (B) 46.02 (C) 60.01 (D) 92.02

END OF THE QUESTION PAPER

Q. 1 – Q. 5 carry one mark each.

Q.1 The man who is now Municipal Commissioner worked as _____.

(A) the security guard at a university

(B) a security guard at the university

(C) a security guard at university

(D) the security guard at the university

Q.2 Nobody knows how the Indian cricket team is going to cope with the difficult and seamer-friendly wickets in Australia.

Choose the option which is closest in meaning to the underlined phrase in the above sentence.

(A) put up with (B) put in with (C) put down to (D) put up against

Q.3 Find the odd one in the following group of words.

mock, deride, praise, jeer

(A) mock (B) deride (C) praise (D) jeer

Q.4 Pick the odd one from the following options.

(A) CADBE (B) JHKIL (C) XVYWZ (D) ONPMQ

Q.5 In a quadratic function, the value of the product of the roots (α, β) is 4. Find the value of

$$\frac{\alpha^n + \beta^n}{\alpha^{-n} + \beta^{-n}}$$

(A) n^4 (B) 4^n (C) 2^{2n-1} (D) 4^{n-1}

Q. 6 – Q. 10 carry two marks each.

Q.6 Among 150 faculty members in an institute, 55 are connected with each other through Facebook® and 85 are connected through WhatsApp®. 30 faculty members do not have Facebook® or WhatsApp® accounts. The number of faculty members connected only through Facebook® accounts is _____.

(A) 35 (B) 45 (C) 65 (D) 90

Q.7 Computers were invented for performing only high-end useful computations. However, it is no understatement that they have taken over our world today. The internet, for example, is ubiquitous. Many believe that the internet itself is an unintended consequence of the original invention. With the advent of mobile computing on our phones, a whole new dimension is now enabled. One is left wondering if all these developments are good or, more importantly, required.

Which of the statement(s) below is/are logically valid and can be inferred from the above paragraph?

(i) The author believes that computers are not good for us.
(ii) Mobile computers and the internet are both intended inventions

(A) (i) only (B) (ii) only (C) both (i) and (ii) (D) neither (i) nor (ii)

Q.8 All hill-stations have a lake. Ooty has two lakes.

Which of the statement(s) below is/are logically valid and can be inferred from the above sentences?

(i) Ooty is not a hill-station.
(ii) No hill-station can have more than one lake.

(A) (i) only

(B) (ii) only

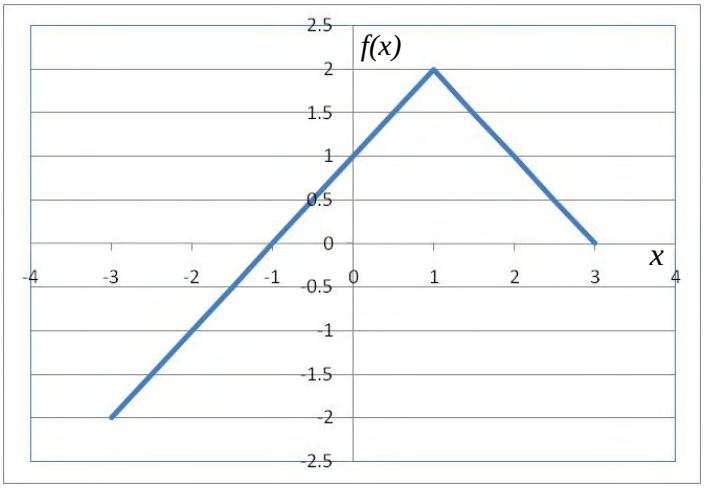
(C) both (i) and (ii)

(D) neither (i) nor (ii)

Q.9 In a 2 × 4 rectangle grid shown below, each cell is a rectangle. How many rectangles can be observed in the grid?

(A) 21 (B) 27 (C) 30 (D) 36

Q.10



Choose the correct expression for *f(x)* given in the graph.

(A) $f(x) = 1 - |x - 1|$

(B) $f(x) = 1 + |x - 1|$

(C) $f(x) = 2 - |x - 1|$

(D) $f(x) = 2 + |x - 1|$

END OF THE QUESTION PAPER

Graduate Aptitude Test in Engineering

Notations :

1.Options shown in green color and with ✔ icon are correct.

2.Options shown in red color and with ✖ icon are incorrect.

Question Paper Name: CS: COMPUTER SCIENCE AND INFORMATION TECHNOLOGY 7th Feb Shift1
Number of Questions: 65
Total Marks: 100.0

Wrong answer for MCQ will result in negative marks, (-1/3) for 1 mark Questions and (-2/3) for 2 marks Questions.

General Aptitude

Number of Questions: 10
Section Marks: 15.0

Q.1 to Q.5 carry 1 mark each & Q.6 to Q.10 carry 2 marks each.

Question Number : 1 Question Type : MCQ

Didn't you buy _____ when you went shopping?

(A) any paper (B) much paper (C) no paper (D) a few paper

Options :

1. ✔ A
2. ✖ B
3. ✖ C
4. ✖ D

Question Number : 2 Question Type : MCQ

Which of the following options is the closest in meaning to the sentence below?

She enjoyed herself immensely at the party.

(A) She had a terrible time at the party

(B) She had a horrible time at the party

(C) She had a terrific time at the party

(D) She had a terrifying time at the party

Options :

1. ✖ A
2. ✖ B
3. ✔ C
4. ✖ D

Question Number : 3 Question Type : MCQ

Which one of the following combinations is incorrect?

(A) Acquiescence - Submission
(B) Wheedle - Roundabout
(C) Flippancy - Lightness
(D) Profligate - Extravagant

Options :

1. ✖ A
2. ✔ B
3. ✖ C
4. ✖ D

Question Number : 4 Question Type : MCQ

Based on the given statements, select the most appropriate option to solve the given question.

If two floors in a certain building are 9 feet apart, how many steps are there in a set of stairs that extends from the first floor to the second floor of the building?

Statements:

(I) Each step is 3/4 foot high.
(II) Each step is 1 foot wide.

(A) Statement I alone is sufficient, but statement II alone is not sufficient.
(B) Statement II alone is sufficient, but statement I alone is not sufficient.
(C) Both statements together are sufficient, but neither statement alone is sufficient.
(D) Statement I and II together are not sufficient.

Options :

1. ✔ A
2. ✖ B
3. ✖ C
4. ✖ D

Question Number : 5 Question Type : MCQ

Given Set A = {2, 3, 4, 5} and Set B = {11, 12, 13, 14, 15}, two numbers are randomly selected, one from each set. What is the probability that the sum of the two numbers equals 16?

(A) 0.20 (B) 0.25 (C) 0.30 (D) 0.33

Options :

1. ✔ A
2. ✖ B
3. ✖ C
4. ✖ D

Question Number : 6 Question Type : MCQ

Select the alternative meaning of the underlined part of the sentence.

The chain snatchers took to their heels when the police party arrived.

(A) took shelter in a thick jungle
(B) open indiscriminate fire
(C) took to flight
(D) unconditionally surrendered

Options :

1. ✖ A
2. ✖ B
3. ✔ C
4. ✖ D

Question Number : 7 Question Type : MCQ

The given statement is followed by some courses of action. Assuming the statement to be true, decide the correct option.

Statement:

There has been a significant drop in the water level in the lakes supplying water to the city.

Course of action:

(I) The water supply authority should impose a partial cut in supply to tackle the situation.
(II) The government should appeal to all the residents through mass media for minimal use of water.
(III) The government should ban the water supply in lower areas.

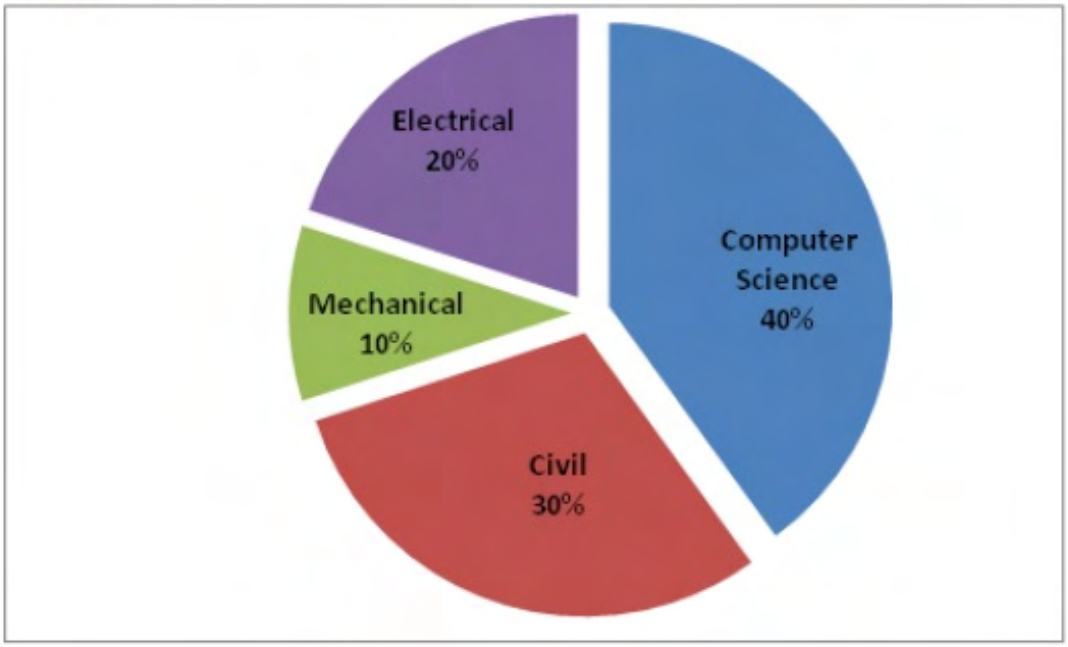
(A) Statements I and II follow.
(B) Statements I and III follow.
(C) Statements II and III follow.
(D) All statements follow.

Options :

1. ✔ A
2. ✖ B
3. ✖ C
4. ✖ D

Question Number : 8 Question Type : NAT

The pie chart below has the breakup of the number of students from different departments in an engineering college for the year 2012. The proportion of male to female students in each department is 5:4. There are 40 males in Electrical Engineering. What is the difference between the numbers of female students in the Civil department and the female students in the Mechanical department?



Correct Answer:
32

Question Number : 9 Question Type : MCQ

The probabilities that a student passes in Mathematics, Physics and Chemistry are m, p, and c respectively. Of these subjects, the student has 75% chance of passing in at least one, a 50% chance of passing in at least two and a 40% chance of passing in exactly two. Following relations are drawn in m, p, c:

(I) $p + m + c = 27/20$
(II) $p + m + c = 13/20$
(III) $(p) \times (m) \times (c) = 1/10$

(A) Only relation I is true.
(B) Only relation II is true.
(C) Relations II and III are true.
(D) Relations I and III are true.

Options :

1. ✖ A
2. ✖ B
3. ✖ C
4. ✔ D

Question Number : 10 Question Type : MCQ

The number of students in a class who have answered correctly, wrongly, or not attempted each question in an exam, are listed in the table below. The marks for each question are also listed. There is no negative or partial marking.

Q No.	Marks	Answered Correctly	Answered Wrongly	Not Attempted
1	2	21	17	6
2	3	15	27	2
3	1	11	29	4
4	2	23	18	3
5	5	31	12	1

What is the average of the marks obtained by the class in the examination?

(A) 2.290 (B) 2.970 (C) 6.795 (D) 8.795

Options :

1. ✖ A
2. ✖ B
3. ✔ C
4. ✖ D

Computer Science and Information Technology

Number of Questions:	55
Section Marks:	85.0

Q.11 to Q.35 carry 1 mark each & Q.36 to Q.65 carry 2 marks each.

Question Number : 11 Question Type : MCQ

If $g(x)=1-x$ and $h(x)=\frac{x}{x-1}$, then $\frac{g(h(x))}{h(g(x))}$ is:

(A) $\frac{h(x)}{g(x)}$ (B) $\frac{-1}{x}$ (C) $\frac{g(x)}{h(x)}$ (D) $\frac{x}{(1-x)^2}$

Options :

1. ✔ A
2. ✖ B
3. ✖ C
4. ✖ D

Question Number : 12 Question Type : MCQ

$\lim_{x\to\infty} x^{1/x}$ is

(A) ∞ (B) 0 (C) 1 (D) Not defined

Options :

1. ✖ A

Graduate Aptitude Test in Engineering

Notations :

1.Options shown in green color and with ✔ icon are correct.

2.Options shown in red color and with ✖ icon are incorrect.

Question Paper Name: CS: COMPUTER SCIENCE AND INFORMATION TECHNOLOGY 7th Feb Shift2
Number of Questions: 65
Total Marks: 100.0

Wrong answer for MCQ will result in negative marks, (-1/3) for 1 mark Questions and (-2/3) for 2 marks Questions.

General Aptitude

Number of Questions: 10
Section Marks: 15.0

Q.1 to Q.5 carry 1 mark each & Q.6 to Q.10 carry 2 marks each.

Question Number : 1 Question Type : MCQ

We _____ our friend's birthday and we _____ how to make it up to him.

(A) completely forgot --- don't just know
(B) forgot completely --- don't just know
(C) completely forgot --- just don't know
(D) forgot completely --- just don't know

Options :

1. ✖ A
2. ✖ B
3. ✔ C
4. ✖ D

Question Number : 2 Question Type : MCQ

Choose the statement where underlined word is used correctly.

(A) The industrialist had a personnel jet.
(B) I write my experience in my personnel diary.
(C) All personnel are being given the day off.
(D) Being religious is a personnel aspect.

Options :

1. ✖ A
2. ✖ B
3. ✔ C
4. ✖ D

Question Number : 3 Question Type : MCQ

A generic term that includes various items of clothing such as a skirt, a pair of trousers and a shirt is

(A) fabric (B) textile (C) fibre (D) apparel

Options :

1. ✖ A
2. ✖ B
3. ✖ C
4. ✔ D

Question Number : 4 Question Type : MCQ

Based on the given statements, select the most appropriate option to solve the given question.

What will be the total weight of 10 poles each of same weight?

Statements:
(I) One fourth of the weight of a pole is 5 Kg.
(II) The total weight of these poles is 160 kg more than the total weight of two poles.

(A) Statement I alone is not sufficient.
(B) Statement II alone is not sufficient.
(C) Either I or II alone is sufficient.
(D) Both statements I and II together are not sufficient.

Options :

1. ✖ A
2. ✖ B
3. ✔ C
4. ✖ D

Question Number : 5 Question Type : MCQ

Consider a function $f(x) = 1 - |x|$ on $-1 \leq x \leq 1$. The value of x at which the function attains a maximum, and the maximum value of the function are:

(A) 0, −1 (B) −1, 0 (C) 0, 1 (D) −1, 2

Options :

1. ✖ A
2. ✖ B
3. ✔ C
4. ✖ D

Question Number : 6 Question Type : MCQ

Out of the following four sentences, select the most suitable sentence with respect to grammar and usage:

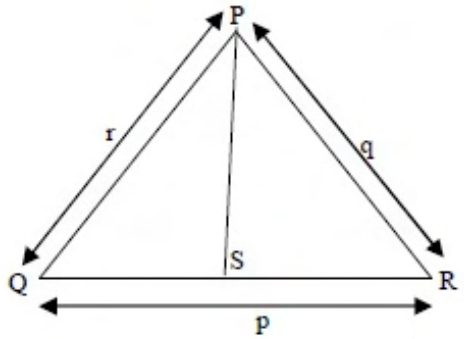
(A) Since the report lacked needed information, it was of no use to them.
(B) The report was useless to them because there were no needed information in it.
(C) Since the report did not contain the needed information, it was not real useful to them.
(D) Since the report lacked needed information, it would not had been useful to them.

Options :

1. ✔ A
2. ✖ B
3. ✖ C
4. ✖ D

Question Number : 7 Question Type : MCQ

In a triangle PQR, PS is the angle bisector of ∠QPR and ∠QPS = 60°. What is the length of PS?



(A) $\frac{(q+r)}{qr}$

(B) $\frac{qr}{(q+r)}$

(C) $\sqrt{(q^2+r^2)}$

(D) $\frac{(q+r)^2}{qr}$

Options :

1. ✖ A
2. ✔ B
3. ✖ C
4. ✖ D

Question Number : 8 Question Type : NAT

If p, q, r, s are distinct integers such that:
f (p, q, r, s) = max (p, q, r, s)
g (p, q, r, s) = min (p, q, r, s)
h (p, q, r, s) = remainder of (p × q) / (r × s) if (p × q) > (r × s) or remainder of (r × s) / (p × q) if (r × s) > (p × q)

Also a function fgh (p, q, r, s) = f (p, q, r, s) × g (p, q, r, s) × h (p, q, r, s)
Also the same operations are valid with two variable functions of the form f (p, q).
What is the value of fg (h (2,5,7,3), 4,6,8)?

Correct Answer :

8

Question Number : 9 Question Type : MCQ

If the list of letters, P, R, S, T, U is an arithmetic sequence, which of the following are also in arithmetic sequence?

I. 2P, 2R, 2S, 2T, 2U
II. P−3, R−3, S−3, T−3, U−3
III. P^2, R^2, S^2, T^2, U^2

(A) I only
(B) I and II
(C) II and III
(D) I and III

Options :

1. ✖ A
2. ✔ B
3. ✖ C
4. ✖ D

Question Number : 10 Question Type : MCQ

Four branches of a company are located at M, N, O, and P. M is north of N at a distance of 4 km; P is south of O at a distance of 2 km; N is southeast of O by 1 km. What is the distance between M and P in km?

(A) 5.34 (B) 6.74 (C) 28.5 (D) 45.49

Options :

1. ✔ A
2. ✖ B
3. ✖ C
4. ✖ D

Computer Science and Information Technology

Number of Questions:	55
Section Marks:	85.0

Q.11 to Q.35 carry 1 mark each & Q.36 to Q.65 carry 2 marks each.

Question Number : 11 Question Type : MCQ

Consider the following two statements.

*S*1: If a candidate is known to be corrupt, then he will not be elected
*S*2: If a candidate is kind, he will be elected

Which one of the following statements follows from *S*1 and *S*2 as per sound inference rules of logic?

(A) If a person is known to be corrupt, he is kind
(B) If a person is not known to be corrupt, he is not kind
(C) If a person is kind, he is not known to be corrupt
(D) If a person is not kind, he is not known to be corrupt

Graduate Aptitude Test in Engineering

Notations :

1.Options shown in green color and with ✔ icon are correct.

2.Options shown in red color and with ✖ icon are incorrect.

Question Paper Name: CS: COMPUTER SCIENCE AND INFORMATION TECHNOLOGY 8th Feb Shift1
Number of Questions: 65
Total Marks: 100.0

Wrong answer for MCQ will result in negative marks, (-1/3) for 1 mark Questions and (-2/3) for 2 marks Questions.

General Aptitude

Number of Questions: 10
Section Marks: 15.0

Q.1 to Q.5 carry 1 mark each & Q.6 to Q.10 carry 2 marks each.

Question Number : 1 Question Type : MCQ

Extreme focus on syllabus and studying for tests has become such a dominant concern of Indian students that they close their minds to anything _____ to the requirements of the exam.

(A) related (B) extraneous (C) outside (D) useful

Options :

1. ✖ A
2. ✔ B
3. ✖ C
4. ✖ D

Question Number : 2 Question Type : MCQ

Select the pair that best expresses a relationship similar to that expressed in the pair:

Children : Pediatrician

(A) Adult : Orthopaedist
(B) Females : Gynaecologist
(C) Kidney : Nephrologist
(D) Skin : Dermatologist

Options :

1. ✖ A
2. ✔ B
3. ✖ C
4. ✖ D

Question Number : 3 Question Type : MCQ

The Tamil version of _____ John Abraham-starrer *Madras Cafe* _____cleared by the Censor Board with no cuts last week, but the film's distributors _____ no takers among the exhibitors for a release in Tamil Nadu _____ this Friday.

(A) Mr., was, found, on
(B) a, was, found, at
(C) the, was, found, on
(D) a, being, find at

Options :

1. ✖ A
2. ✖ B
3. ✔ C
4. ✖ D

Question Number : 4 Question Type : MCQ

If ROAD is written as URDG, then SWAN should be written as:

(A) VXDQ
(B) VZDQ
(C) VZDP
(D) UXDQ

Options :

1. ✖ A
2. ✔ B
3. ✖ C
4. ✖ D

Question Number : 5 Question Type : MCQ

A function f(x) is linear and has a value of 29 at $x = -2$ and 39 at $x = 3$. Find its value at $x = 5$.

(A) 59 (B) 45 (C) 43 (D) 35

Options :

1. ✖ A
2. ✖ B
3. ✔ C
4. ✖ D

Question Number : 6 Question Type : MCQ

Alexander turned his attention towards India, since he had conquered Persia.

Which one of the statements below is logically valid and can be inferred from the above sentence?

(A) Alexander would not have turned his attention towards India had he not conquered Persia.

(B) Alexander was not ready to rest on his laurels, and wanted to march to India.

(C) Alexander was completely in control of his army and could command it to move towards India.

(D) Since Alexander's kingdom extended to Indian borders after the conquest of Persia, he was keen to move further.

Options :

1. ✔ A
2. ✖ B
3. ✖ C
4. ✖ D

Question Number : 7 Question Type : MCQ

Most experts feel that in spite of possessing all the technical skills required to be a batsman of the highest order, he is unlikely to be so due to lack of requisite temperament. He was guilty of throwing away his wicket several times after working hard to lay a strong foundation. His critics pointed out that until he addressed this problem, success at the highest level will continue to elude him.

Which of the statement(s) below is/are logically valid and can be inferred from the above passage?

(i) He was already a successful batsman at the highest level.
(ii) He has to improve his temperament in order to become a great batsman.
(iii) He failed to make many of his good starts count.
(iv) Improving his technical skills will guarantee success.

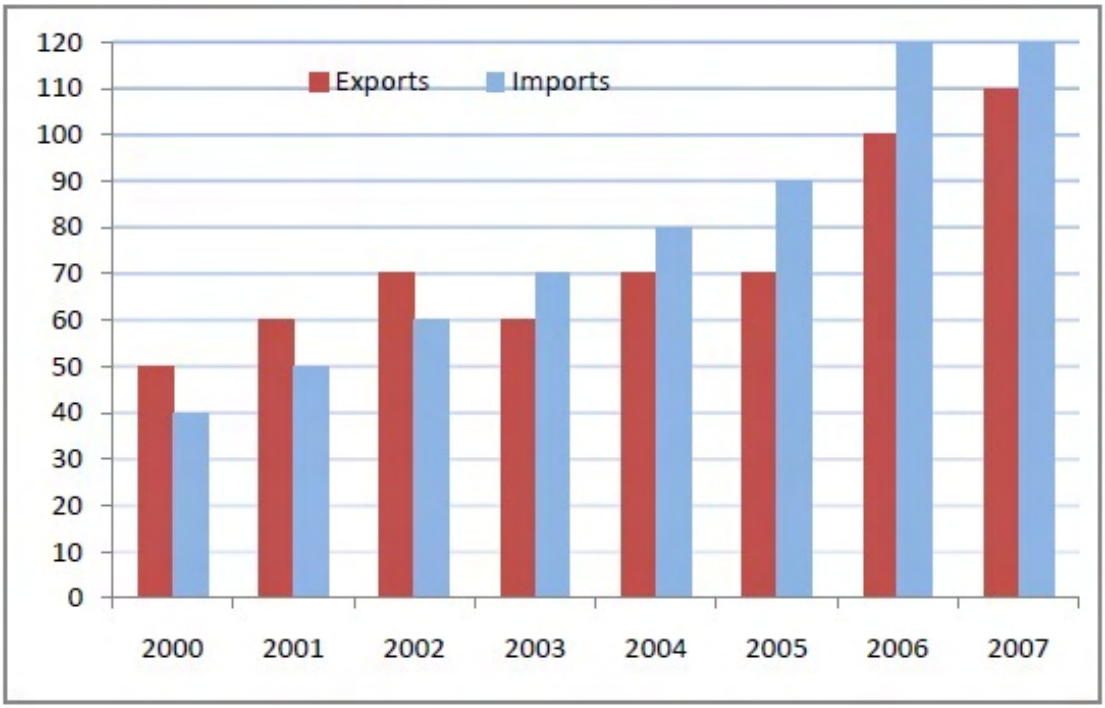
(A) (iii) and (iv)
(B) (ii) and (iii)
(C) (i), (ii) and (iii)
(D) (ii) only

Options :

1. ✖ A
2. ✔ B
3. ✖ C
4. ✖ D

Question Number : 8 Question Type : NAT

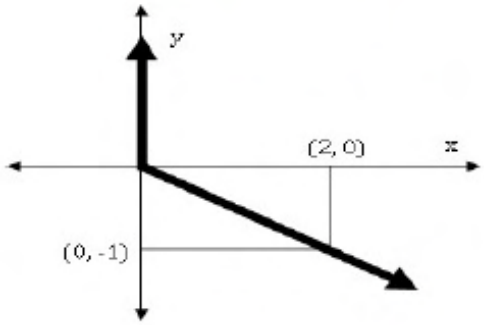
The exports and imports (in crores of Rs.) of a country from the year 2000 to 2007 are given in the following bar chart. In which year is the combined percentage increase in imports and exports the highest?



Correct Answer:
2006

Question Number : 9 Question Type : MCQ

Choose the most appropriate equation for the function drawn as a thick line, in the plot below.



(A) $x = y - |y|$ (B) $x = -(y - |y|)$ (C) $x = y + |y|$ (D) $x = -(y + |y|)$

Options :

1. ✖ A
2. ✔ B
3. ✖ C
4. ✖ D

Question Number : 10 Question Type : MCQ

The head of a newly formed government desires to appoint five of the six selected members P, Q, R, S, T, and U to portfolios of Home, Power, Defense, Telecom, and Finance. U does not want any portfolio if S gets one of the five. R wants either Home or Finance or no portfolio. Q says that if S gets either Power or Telecom, then she must get the other one. T insists on a portfolio if P gets one.

Which is the valid distribution of portfolios?

(A) P-Home, Q-Power, R-Defense, S-Telecom, T-Finance
(B) R-Home, S-Power, P-Defense, Q-Telecom, T-Finance
(C) P-Home, Q-Power, T-Defense, S-Telecom, U-Finance
(D) Q-Home, U-Power, T-Defense, R-Telecom, P-Finance

Options :

1. ✖ A
2. ✔ B
3. ✖ C
4. ✖ D

Computer Science and Information Technology

Number of Questions:	55
Section Marks:	85.0

Q.11 to Q.35 carry 1 mark each & Q.36 to Q.65 carry 2 marks each.

Q. 1 – Q. 5 carry one mark each.

Q.1 Which of the following options is the closest in meaning to the phrase underlined in the sentence below?

It is fascinating to see life forms cope with varied environmental conditions.

(A) adopt to (B) adapt to (C) adept in (D) accept with

Q.2 Choose the most appropriate word from the options given below to complete the following sentence.

He could not understand the judges awarding her the first prize, because he thought that her performance was quite _____.

(A) superb (B) medium (C) mediocre (D) exhilarating

Q.3 In a press meet on the recent scam, the minister said, "The buck stops here". What did the minister convey by the statement?

(A) He wants all the money
(B) He will return the money
(C) He will assume final responsibility
(D) He will resist all enquiries

Q.4 If $(z + 1/z)^2 = 98$, compute $(z^2 + 1/z^2)$.

Q.5 The roots of $ax^2 + bx + c = 0$ are real and positive. *a*, *b* and *c* are real. Then $ax^2 + b|x| + c = 0$ has

(A) no roots
(B) 2 real roots
(C) 3 real roots
(D) 4 real roots

Q. 6 – Q. 10 carry two marks each.

Q.6 The Palghat Gap (or Palakkad Gap), a region about 30 km wide in the southern part of the Western Ghats in India, is lower than the hilly terrain to its north and south. The exact reasons for the formation of this gap are not clear. It results in the neighbouring regions of Tamil Nadu getting more rainfall from the South West monsoon and the neighbouring regions of Kerala having higher summer temperatures.

What can be inferred from this passage?

(A) The Palghat gap is caused by high rainfall and high temperatures in southern Tamil Nadu and Kerala
(B) The regions in Tamil Nadu and Kerala that are near the Palghat Gap are low-lying
(C) The low terrain of the Palghat Gap has a significant impact on weather patterns in neighbouring parts of Tamil Nadu and Kerala
(D) Higher summer temperatures result in higher rainfall near the Palghat Gap area

Q.7 Geneticists say that they are very close to confirming the genetic roots of psychiatric illnesses such as depression and schizophrenia, and consequently, that doctors will be able to eradicate these diseases through early identification and gene therapy.

On which of the following assumptions does the statement above rely?

(A) Strategies are now available for eliminating psychiatric illnesses
(B) Certain psychiatric illnesses have a genetic basis
(C) All human diseases can be traced back to genes and how they are expressed
(D) In the future, genetics will become the only relevant field for identifying psychiatric illnesses

Q.8 Round-trip tickets to a tourist destination are eligible for a discount of 10% on the total fare. In addition, groups of 4 or more get a discount of 5% on the total fare. If the one way single person fare is Rs 100, a group of 5 tourists purchasing round-trip tickets will be charged Rs _____.

Q.9 In a survey, 300 respondents were asked whether they own a vehicle or not. If yes, they were further asked to mention whether they own a car or scooter or both. Their responses are tabulated below. What percent of respondents do not own a scooter?

		Men	Women
Own vehicle	Car	40	34
	Scooter	30	20
	Both	60	46
Do not own vehicle		20	50

Q.10 When a point inside of a tetrahedron (a solid with four triangular surfaces) is connected by straight lines to its corners, how many (new) internal planes are created with these lines? _____

END OF THE QUESTION PAPER

Q. 1 – Q. 5 carry one mark each.

Q.1 Choose the most appropriate phrase from the options given below to complete the following sentence.

India is a post-colonial country because

(A) it was a former British colony
(B) Indian Information Technology professionals have colonized the world
(C) India does not follow any colonial practices
(D) India has helped other countries gain freedom

Q.2 Who _____ was coming to see us this evening?

(A) you said (B) did you say
(C) did you say that (D) had you said

Q.3 Match the columns.

Column 1	Column 2
1) eradicate	P) misrepresent
2) distort	Q) soak completely
3) saturate	R) use
4) utilize	S) destroy utterly

(A) 1:S, 2:P, 3:Q, 4:R (B) 1:P, 2:Q, 3:R, 4:S
(C) 1:Q, 2:R, 3:S, 4:P (D) 1:S, 2:P, 3:R, 4:Q

Q.4 What is the average of all multiples of 10 from 2 to 198?

(A) 90 (B) 100 (C) 110 (D) 120

Q.5 The value of $\sqrt{12+\sqrt{12+\sqrt{12+\cdots}}}$ is

(A) 3.464 (B) 3.932 (C) 4.000 (D) 4.444

Q. 6 – Q. 10 carry two marks each.

Q.6 The old city of Koenigsberg, which had a German majority population before World War 2, is now called Kaliningrad. After the events of the war, Kaliningrad is now a Russian territory and has a predominantly Russian population. It is bordered by the Baltic Sea on the north and the countries of Poland to the south and west and Lithuania to the east respectively. Which of the statements below can be inferred from this passage?

(A) Kaliningrad was historically Russian in its ethnic make up
(B) Kaliningrad is a part of Russia despite it not being contiguous with the rest of Russia
(C) Koenigsberg was renamed Kaliningrad, as that was its original Russian name
(D) Poland and Lithuania are on the route from Kaliningrad to the rest of Russia

Q.7 The number of people diagnosed with dengue fever (contracted from the bite of a mosquito) in north India is twice the number diagnosed last year. Municipal authorities have concluded that measures to control the mosquito population have failed in this region.

Which one of the following statements, if true, does not contradict this conclusion?

(A) A high proportion of the affected population has returned from neighbouring countries where dengue is prevalent
(B) More cases of dengue are now reported because of an increase in the Municipal Office's administrative efficiency
(C) Many more cases of dengue are being diagnosed this year since the introduction of a new and effective diagnostic test
(D) The number of people with malarial fever (also contracted from mosquito bites) has increased this year

Q.8 If x is real and $|x^2 - 2x + 3| = 11$, then possible values of $|-x^3 + x^2 - x|$ include

(A) 2, 4 (B) 2, 14 (C) 4, 52 (D) 14, 52

Q.9 The ratio of male to female students in a college for five years is plotted in the following line graph. If the number of female students doubled in 2009, by what percent did the number of male students increase in 2009?

Q.10 At what time between 6 $a.m.$ and 7 $a.m.$ will the minute hand and hour hand of a clock make an angle closest to 60°?

(A) 6: 22 $a.m.$ (B) 6: 27 $a.m.$
(C) 6: 38 $a.m.$ (D) 6: 45 $a.m.$

END OF THE QUESTION PAPER

Q. 1 – Q. 5 carry one mark each.

Q.1 While trying to collect (I) an envelope from under the table (II), Mr. X fell down (III) and was losing consciousness (IV).

Which one of the above underlined parts of the sentence is NOT appropriate?

(A) I (B) II (C) III (D) IV

Q.2 If she _____ how to calibrate the instrument, she _____ done the experiment.

(A) knows, will have (B) knew, had
(C) had known, could have (D) should have known, would have

Q.3 Choose the word that is opposite in meaning to the word "coherent".

(A) sticky (B) well-connected (C) rambling (D) friendly

Q.4 Which number does not belong in the series below?
2, 5, 10, 17, 26, 37, 50, 64

(A) 17 (B) 37 (C) 64 (D) 26

Q.5 The table below has question-wise data on the performance of students in an examination. The marks for each question are also listed. There is no negative or partial marking in the examination.

Q No.	Marks	Answered Correctly	Answered Wrongly	Not Attempted
1	2	21	17	6
2	3	15	27	2
3	2	23	18	3

What is the average of the marks obtained by the class in the examination?

(A) 1.34 (B) 1.74 (C) 3.02 (D) 3.91

Q. 6 – Q. 10 carry two marks each.

Q.6 A dance programme is scheduled for 10.00 a.m. Some students are participating in the programme and they need to come an hour earlier than the start of the event. These students should be accompanied by a parent. Other students and parents should come in time for the programme. The instruction you think that is appropriate for this is

(A) Students should come at 9.00 a.m. and parents should come at 10.00 a.m.
(B) Participating students should come at 9.00 a.m. accompanied by a parent, and other parents and students should come by 10.00 a.m.
(C) Students who are not participating should come by 10.00 a.m. and they should not bring their parents. Participating students should come at 9.00 a.m.
(D) Participating students should come before 9.00 a.m. Parents who accompany them should come at 9.00 a.m. All others should come at 10.00 a.m.

Q.7 By the beginning of the 20th century, several hypotheses were being proposed, suggesting a paradigm shift in our understanding of the universe. However, the clinching evidence was provided by experimental measurements of the position of a star which was directly behind our sun.

Which of the following inference(s) may be drawn from the above passage?

(i) Our understanding of the universe changes based on the positions of stars
(ii) Paradigm shifts usually occur at the beginning of centuries
(iii) Stars are important objects in the universe
(iv) Experimental evidence was important in confirming this paradigm shift

(A) (i), (ii) and (iv) (B) (iii) only (C) (i) and (iv) (D) (iv) only

Q.8 The Gross Domestic Product (GDP) in Rupees grew at 7% during 2012-2013. For international comparison, the GDP is compared in US Dollars (USD) after conversion based on the market exchange rate. During the period 2012-2013 the exchange rate for the USD increased from Rs. 50/ USD to Rs. 60/ USD. India's GDP in USD during the period 2012-2013

(A) increased by 5 %
(B) decreased by 13%
(C) decreased by 20%
(D) decreased by 11%

Q.9 The ratio of male to female students in a college for five years is plotted in the following line graph. If the number of female students in 2011 and 2012 is equal, what is the ratio of male students in 2012 to male students in 2011?

(A) 1:1 (B) 2:1 (C) 1.5:1 (D) 2.5:1

Q.10 Consider the equation: $(7526)_8 - (Y)_8 = (4364)_8$, where $(X)_N$ stands for X to the base N. Find Y.

(A) 1634 (B) 1737 (C) 3142 (D) 3162

END OF THE QUESTION PAPER

General Aptitude (GA) Questions

Q.56 to Q.60 carry one mark each.

Q.56 Which one of the following options is the closest in meaning to the word given below?

Nadir

(A) Highest (B) Lowest (C) Medium (D) Integration

Q.57 Complete the sentence:
Universalism is to particularism as diffuseness is to _____.

(A) specificity (B) neutrality (C) generality (D) adaptation

Q.58 What will be the maximum sum of 44, 42, 40, ... ?

(A) 502 (B) 504 (C) 506 (D) 500

Q.59 Were you a bird, you _____ in the sky.

(A) would fly (B) shall fly (C) should fly (D) shall have flown

Q.60 Choose the grammatically **INCORRECT** sentence:

(A) He is of Asian origin.
(B) They belonged to Africa.
(C) She is an European.
(D) They migrated from India to Australia.

Q.61 to Q.65 carry two marks each.

Q.61 Find the sum of the expression

$$\frac{1}{\sqrt{1}+\sqrt{2}}+\frac{1}{\sqrt{2}+\sqrt{3}}+\frac{1}{\sqrt{3}+\sqrt{4}}+.....+\frac{1}{\sqrt{80}+\sqrt{81}}$$

(A) 7 (B) 8
(C) 9 (D) 10

Q.62 Out of all the 2-digit integers between 1 and 100, a 2-digit number has to be selected at random. What is the probability that the selected number is not divisible by 7?

(A) 13/90 (B) 12/90 (C) 78/90 (D) 77/90

Q.63 After several defeats in wars, Robert Bruce went in exile and wanted to commit suicide. Just before committing suicide, he came across a spider attempting tirelessly to have its net. Time and again, the spider failed but that did not deter it to refrain from making attempts. Such attempts by the spider made Bruce curious. Thus, Bruce started observing the near-impossible goal of the spider to have the net. Ultimately, the spider succeeded in having its net despite several failures. Such act of the spider encouraged Bruce not to commit suicide. And then, Bruce went back again and won many a battle, and the rest is history.

Which one of the following assertions is best supported by the above information?

(A) Failure is the pillar of success.
(B) Honesty is the best policy.
(C) Life begins and ends with adventures.
(D) No adversity justifies giving up hope.

Q.64 A tourist covers half of his journey by train at 60 km/h, half of the remainder by bus at 30 km/h and the rest by cycle at 10 km/h. The average speed of the tourist in km/h during his entire journey is

(A) 36 (B) 30 (C) 24 (D) 18

Q.65 The current erection cost of a structure is *Rs*. 13,200. If the labour wages per day increase by 1/5 of the current wages and the working hours decrease by 1/24 of the current period, then the new cost of erection in *Rs*. is

(A) 16,500 (B) 15,180 (C) 11,000 (D) 10,120

END OF THE QUESTION PAPER

General Aptitude (GA) Questions

Q. 56 – Q. 60 carry one mark each.

Q.56 The cost function for a product in a firm is given by $5q^2$, where q is the amount of production. The firm can sell the product at a market price of ₹ 50 per unit. The number of units to be produced by the firm such that the profit is maximized is

(A) 5 (B) 10 (C) 15 (D) 25

Q.57 Choose the most appropriate alternative from the options given below to complete the following sentence:

Despite several _____ the mission succeeded in its attempt to resolve the conflict.

(A) attempts (B) setbacks (C) meetings (D) delegations

Q.58 Which one of the following options is the closest in meaning to the word given below?

Mitigate

(A) Diminish (B) Divulge (C) Dedicate (D) Denote

Q.59 Choose the grammatically **INCORRECT** sentence:

(A) They gave us the money back less the service charges of Three Hundred rupees.
(B) This country's expenditure is not less than that of Bangladesh.
(C) The committee initially asked for a funding of Fifty Lakh rupees, but later settled for a lesser sum.
(D) This country's expenditure on educational reforms is very less.

Q.60 Choose the most appropriate alternative from the options given below to complete the following sentence:

Suresh's dog is the one _____ was hurt in the stampede.

(A) that (B) which (C) who (D) whom

Q. 61 - Q. 65 carry two marks each.

Q.61 **Wanted Temporary, Part-time persons for the post of Field Interviewer to conduct personal interviews to collect and collate economic data. Requirements: High School-pass, must be available for Day, Evening and Saturday work. Transportation paid, expenses reimbursed.**

Which one of the following is the best inference from the above advertisement?

(A) Gender-discriminatory
(B) Xenophobic
(C) Not designed to make the post attractive
(D) Not gender-discriminatory

Q.62 A political party orders an arch for the entrance to the ground in which the annual convention is being held. The profile of the arch follows the equation $y = 2x - 0.1x^2$ where y is the height of the arch in meters. The maximum possible height of the arch is

(A) 8 meters (B) 10 meters (C) 12 meters (D) 14 meters

Q.63 An automobile plant contracted to buy shock absorbers from two suppliers X and Y. X supplies 60% and Y supplies 40% of the shock absorbers. All shock absorbers are subjected to a quality test. The ones that pass the quality test are considered reliable. Of X's shock absorbers, 96% are reliable. Of Y's shock absorbers, 72% are reliable.

The probability that a randomly chosen shock absorber, which is found to be reliable, is made by Y is

(A) 0.288 (B) 0.334 (C) 0.667 (D) 0.720

Q.64 Which of the following assertions are **CORRECT**?

P: Adding 7 to each entry in a list adds 7 to the mean of the list
Q: Adding 7 to each entry in a list adds 7 to the standard deviation of the list
R: Doubling each entry in a list doubles the mean of the list
S: Doubling each entry in a list leaves the standard deviation of the list unchanged

(A) P, Q (B) Q, R (C) P, R (D) R, S

Q.65 Given the sequence of terms, AD CG FK JP, the next term is

(A) OV (B) OW (C) PV (D) PW

END OF THE QUESTION PAPER

General Aptitude (GA) Questions

Q. 56 – Q. 60 carry one mark each.

Q.56 Which of the following options is the closest in the meaning to the word below:
Inexplicable

(A) Incomprehensible
(B) Indelible
(C) Inextricable
(D) Infallible

Q.57 If Log (P) = (1/2)Log (Q) = (1/3) Log (R), then which of the following options is **TRUE**?

(A) $P^2 = Q^3R^2$ (B) $Q^2 = PR$ (C) $Q^2 = R^3P$ (D) $R = P^2Q^2$

Q.58 Choose the most appropriate word(s) from the options given below to complete the following sentence.
I contemplated _____ Singapore for my vacation but decided against it.

(A) to visit
(B) having to visit
(C) visiting
(D) for a visit

Q.59 Choose the most appropriate word from the options given below to complete the following sentence.
If you are trying to make a strong impression on your audience, you cannot do so by being understated, tentative or _____.

(A) hyperbolic
(B) restrained
(C) argumentative
(D) indifferent

Q.60 Choose the word from the options given below that is most nearly opposite in meaning to the given word:
Amalgamate

(A) merge
(B) split
(C) collect
(D) separate

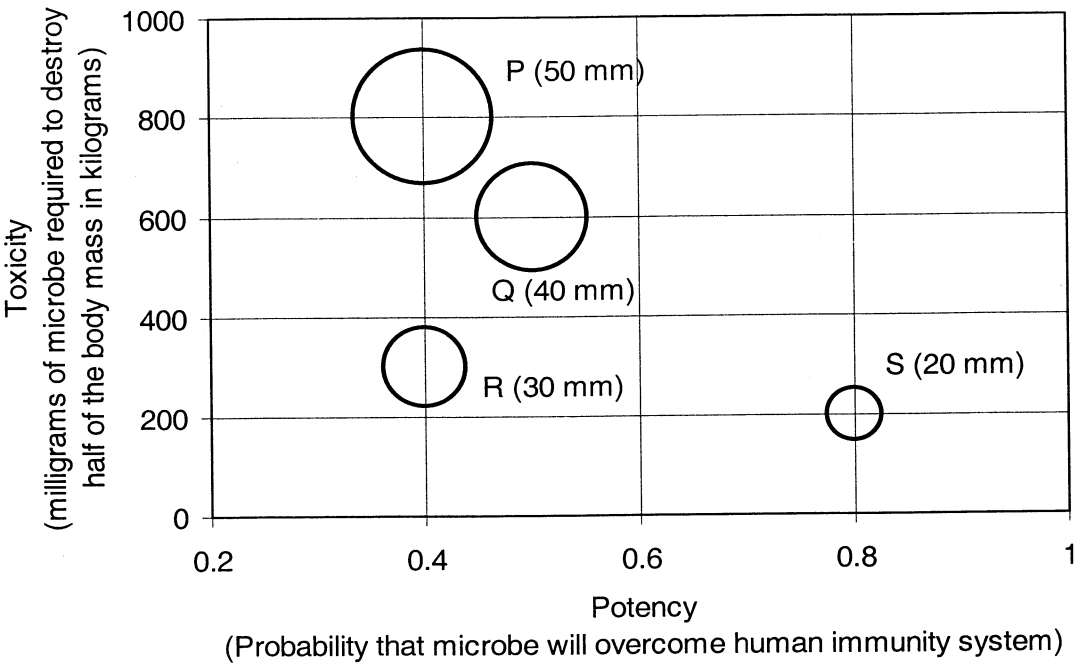
Q. 61 to Q. 65 carry two marks each.

Q.61 **Few school curricula include a unit on how to deal with bereavement and grief, and yet all students at some point in their lives suffer from losses through death and parting.**

Based on the above passage which topic would not be included in a unit on bereavement?

(A) how to write a letter of condolence
(B) what emotional stages are passed through in the healing process
(C) what the leading causes of death are
(D) how to give support to a grieving friend

Q.62 P, Q, R and S are four types of dangerous microbes recently found in a human habitat. The area of each circle with its diameter printed in brackets represents the growth of a single microbe surviving human immunity system within 24 hours of entering the body. The danger to human beings varies proportionately with the toxicity, potency and growth attributed to a microbe shown in the figure below:



A pharmaceutical company is contemplating the development of a vaccine against the most dangerous microbe. Which microbe should the company target in its first attempt?

(A) P (B) Q (C) R (D) S

Q.63 The variable cost (V) of manufacturing a product varies according to the equation V= 4q, where q is the quantity produced. The fixed cost (F) of production of same product reduces with q according to the equation F = 100/q. How many units should be produced to minimize the total cost (V+F)?

(A) 5 (B) 4 (C) 7 (D) 6

Q.64 A transporter receives the same number of orders each day. Currently, he has some pending orders (backlog) to be shipped. If he uses 7 trucks, then at the end of the 4th day he can clear all the orders. Alternatively, if he uses only 3 trucks, then all the orders are cleared at the end of the 10th day. What is the minimum number of trucks required so that there will be no pending order at the end of the 5th day?

(A) 4 (B) 5 (C) 6 (D) 7

Q.65 A container originally contains 10 litres of pure spirit. From this container 1 litre of spirit is replaced with 1 litre of water. Subsequently, 1 litre of the mixture is again replaced with 1 litre of water and this process is repeated one more time. How much spirit is now left in the container?

(A) 7.58 litres (B) 7.84 litres (C) 7 litres (D) 7.29 litres

END OF THE QUESTION PAPER

General Aptitude (GA) Questions

Q.56 – Q.60 carry one mark each.

Q.56 *Choose the most appropriate word from the options given below to complete the following sentence:*
His rather casual remarks on politics _____ his lack of seriousness about the subject.

(A) masked
(B) belied
(C) betrayed
(D) suppressed

Q.57 *Which of the following options is the closest in meaning to the word below:*
Circuitous

(A) cyclic
(B) indirect
(C) confusing
(D) crooked

Q.58 *Choose the most appropriate word from the options given below to complete the following sentence:*
If we manage to _____ our natural resources, we would leave a better planet for our children.

(A) uphold
(B) restrain
(C) cherish
(D) conserve

Q.59 25 persons are in a room. 15 of them play hockey, 17 of them play football and 10 of them play both hockey and football. Then the number of persons playing neither hockey nor football is:

(A) 2 (B) 17 (C) 13 (D) 3

Q.60 *The question below consists of a pair of related words followed by four pairs of words. Select the pair that best expresses the relation in the original pair.*
Unemployed : Worker

(A) fallow : land
(B) unaware : sleeper
(C) wit : jester
(D) renovated : house

Q.61 – Q.65 carry two marks each.

Q.61 If 137 + 276 = 435 how much is 731 + 672?

(A) 534 (B) 1403 (C) 1623 (D) 1513

Q.62 Hari (H), Gita (G), Irfan (I) and Saira (S) are siblings (i.e. brothers and sisters). All were born on 1st January. The age difference between any two successive siblings (that is born one after another) is less than 3 years. Given the following facts:

i. Hari's age + Gita's age > Irfan's age + Saira's age.
ii. The age difference between Gita and Saira is 1 year. However, Gita is not the oldest and Saira is not the youngest.
iii. There are no twins.

In what order were they born (oldest first)?

(A) HSIG (B) SGHI (C) IGSH (D) IHSG

Q.63 **Modern warfare has changed from large scale clashes of armies to suppression of civilian populations. Chemical agents that do their work silently appear to be suited to such warfare; and regretfully, there exist people in military establishments who think that chemical agents are useful tools for their cause.**

Which of the following statements best sums up the meaning of the above passage:

(A) Modern warfare has resulted in civil strife.
(B) Chemical agents are useful in modern warfare.
(C) Use of chemical agents in warfare would be undesirable.
(D) People in military establishments like to use chemical agents in war.

Q.64 5 skilled workers can build a wall in 20 days; 8 semi-skilled workers can build a wall in 25 days; 10 unskilled workers can build a wall in 30 days. If a team has 2 skilled, 6 semi-skilled and 5 unskilled workers, how long will it take to build the wall?

(A) 20 days (B) 18 days (C) 16 days (D) 15 days

Q.65 Given digits 2, 2, 3, 3, 3, 4, 4, 4, 4 how many distinct 4 digit numbers greater than 3000 can be formed?

(A) 50 (B) 51 (C) 52 (D) 54

END OF THE QUESTION PAPER