

**Directions of Test**

|                  |                       |                        |    |                   |          |
|------------------|-----------------------|------------------------|----|-------------------|----------|
| <b>Test Name</b> | Actual XAT 2018 Paper | <b>Total Questions</b> | 99 | <b>Total Time</b> | 180 Mins |
|------------------|-----------------------|------------------------|----|-------------------|----------|

| Section Name         | No. of Questions | Marks per Question | Negative Marking |
|----------------------|------------------|--------------------|------------------|
| Verbal Ability       | 26               | 1                  | 1/4              |
| AR & Decision Making | 21               | 1                  | 1/4              |
| Quant & DI           | 27               | 1                  | 1/4              |
| GK                   | 25               | 1                  | 1/4              |

**Section : Verbal Ability**

**DIRECTIONS for the question:** Complete the sentence by filling in the appropriate blank/blanks from the options provided.

**Question No. : 1**

The payoff from \_\_\_\_\_ in education is so \_\_\_\_\_ and \_\_\_\_\_ that it is almost \_\_\_\_\_ as a predictor of economic change over a five to ten year period.

Fill in the blanks meaningfully, in the above statement, from the following options.

- A) Expenditure, small, insignificant, irrelevant    B) Productivity, small, erratic, useless  
 C) Expenditure, fast, significant, powerful    D) Investment, slow, erratic, useless    E) Investment, slow, predictable, irrelevant

**DIRECTIONS for the question :** Read the passage and answer the question based on it.

**Question No. : 2**

A spirit that lives in this world and does not wear the shirt of love, such an existence in a deep disgrace.  
 Be foolish in love, because love is all there is.  
 There is no way into presence except through love exchange.  
 If someone asks. But what is love? Answer, dissolving the will.  
 True freedom comes to those who have escaped the question of freewill and fate.  
 Love is an emperor. The two worlds play across him. He barely notices their tumbling game.  
 Love and lover live in eternity. Other desires are substitute for that way of being.  
 How long do you lay embracing a corpse? Love rather the soul, which cannot be held.  
 Anything born in spring dies in the fall, but love is not seasonal.  
 With wine pressed from grapes, except a hangover.  
 But this love path has no expectations. You are uneasy riding the body?  
 Dismount, travel lighter. Wings will be given.  
 Be clear like mirror holding nothing.  
 Be clean of pictures and the worry that comes with images.  
 Gaze into what is not ashamed or afraid of any truth.  
 Contain all human faces in your own without any judgement of them.  
 Be pure emptiness. What is inside of that? You ask, *Silence is all I can say.*  
 Lovers have some secrets they keep.

How are the words "freewill", "fate" and "will" used in the poem above?

- A) All the three words are opposites of love    B) These words are used as a hallmark of an intelligent person  
 C) Freewill and will connote self-determination while fate connotes loss of control  
 D) These are used as something that corpses do not possess  
 E) Freewill and will are synonymous while fate is an antonym to both

**Question No. : 3**

Which of the following is the closest interpretation of "lovers have some secrets that they keep"?

- A) The secret refers to profundity of knowledge    B) The secret is not to have any secret  
C) The secret refers to freedom from emptiness    D) The secret refers to being a fine judge of human quality  
E) The secret is about loving someone as much as you-love yourself

**DIRECTION for the question:** Answer the question based on the information given in the passage.

**Question No. : 4**

The size of oceanic waves is a function of the velocity of the wind and of fetch, the length of the surface of the water subject to those winds. The average impact of waves against a coastline is a function of the size of the waves and the shape of the sea bottom. The degree of erosion on coastline is a function of the average impact of waves and the geologic composition of the coastline.

According to the above paragraph, which of the following options will be true?

- A) The fetch of wind is related to the shape of the sea bottom  
B) The size of oceanic waves will not fluctuate far from average  
C) The size of oceanic wave is correlated with the shape of the sea bottom  
D) Degree of erosion on coastline is not related with the velocity of wind  
E) Degree of erosion on coastline is related to shape of the sea-bottom

**DIRECTIONS for the question :** Read the passage and answer the question based on it.

**Question No. : 5**

Labor and capital are the opposite poles of capitalist society. This polarity begins in each enterprise and is realized on a national and even international scale as a giant duality of classes which dominates the social structure. And yet this polarity is incorporated in a necessary identity between the two. Whatever its form, whether as money or commodities or means of production, capital is labor: It is labor that has been performed in the past, the objectified product of preceding phases of the cycle of production which becomes capital only through appropriation by the capitalist and its use in the accumulation of more capital. At the same time, as living labor which is purchased by the capitalist to set the production process into motion, labor is capital. That portion of money capital which is set aside for the payment of labor, the portion which in each cycle is converted into living labor power, is the portion of capital which stands for and corresponds to the working population, and upon which the latter subsists. Before it is anything else, therefore, the working class is the animate part of capital, the part which will set in motion the process that yields to the total capital its increment of surplus value. As such, the working class is first of all, raw material for exploitation. This working class lives a social and political existence of its own, outside the direct grip of capital. It protests and submits, rebels or is integrated into bourgeois society, sees itself as a class or loses sight of its own existence, in accordance with the forces that act upon it and the moods, conjunctures, and conflicts of social and political life. But since, in its permanent existence, it is the living part of capital, its occupational structure, modes of work, and distribution on through the industries of society are determined by the ongoing processes of the accumulation of capital. It is seized, released, flung into various parts of the social machinery and expelled by others, not in accord with its own will or self-activity, but in accord with the movement of capital.

While labor is capital, It is poles apart from each other because:

- A) Labor does not have a will of its own    B) The will of capital overpowers the will of labor  
C) Capital is labor performed in the past    D) Labor exists outside the direct grip of capital  
E) Labor is the animate part of capital

**Question No. : 6**

According to the passage, what does the working class subsists on?

- A) The benevolence of the bourgeois society    B) The living labor    C) Capital which is same as labor  
D) The labor that is performed in the past    E) Living labor purchased by the capitalist

**Question No. : 7**

Which of the following statements will be true, according to the passage?

- A) Capital exploits the working class
- B) Working class when converted into capital is exploited by the bourgeois
- C) Working class is exploited by the conflicts of social and political life
- D) The pursuit of capital accumulation results in exploitation of the working class
- E) Working class is the raw material for capital.

**DIRECTIONS for the question:** Read the passage and answer the question based on it.

**Question No. : 8**

If history doesn't follow any stable rules, and if we cannot predict its future course, why study it? It often seems that the chief aim of science is to predict the future- meteorologists are expected to forecast whether tomorrow will bring rain or sunshine; economists should know whether devaluing the currency will avert or precipitate an economic crisis; good doctors foresee whether chemotherapy or radiation therapy will be more successful in curing lung cancer. Similarly, historians are asked to examine the actions of our ancestors so that we can repeat their wise decisions and void their mistakes. But it never works like that because the present is just too different from the past. It is a waste of time to study Hannibal's tactics in the Second Punic War so as to copy them in the Third World War. What worked well in cavalry battles will not necessarily be of much benefit in cyber warfare. Science is not just about predicting the future, though. Scholars in all fields often seek to broaden our horizons, thereby opening before us new and unknown futures. This is especially true of history. Though historians occasionally try their hand at prophecy (without notable success), the study of history aims above all to make us aware of possibilities we don't normally consider. Historians study the past not in order to repeat it, but in order to be liberated from it. Each and every one of us has been born into a given historical reality, ruled by particular norms and values, and managed by a unique economic and political system. We take this reality for granted, thinking it is natural, inevitable and immutable. We forget that our world was created by an accidental chain of events, and that history shaped not only our technology, politics and society, but also our thoughts, fears and dreams. The cold hand of the past emerges from the grave of our ancestor, grips us by the neck and directs our gaze towards a single future. We have felt that grip from the moment we were born, so we assume that it is natural and inescapable part of who we are. Therefore we seldom try to shake ourselves free, and envision alternative futures. Studying history aims to loosen the grip of the past. It enables us to turn our head this way and that, begin to notice possibilities that our ancestors could not imagine, or didn't want us to imagine. By observing the accidental chain of events that led us here, we realise how our very thoughts and dreams took shape- and we can begin to think and dream differently. Studying history will not tell us what to choose, but at least it gives us more options.

Based on the passage, which of the following options would be the most appropriate for citizens to learn history?

- A) British names of streets in India should not be changed
- B) Every street in India should display a plaque that lists all its previous names
- C) British names of streets in India should be changed to Indian names along with an explanation of their history
- D) Names of Indian streets should be based on suggestions generated through an opinion poll
- E) Names of Indian streets should be periodically changed

**Question No. : 9**

Which of the following options is the closest to the essence of the passage?

- A) History, unlike Physics, does not help predict future
- B) History deals with long time periods
- C) History documents the past events related to specific people
- D) There is no strict cause and effect relationship in history
- E) History has the potential to make us eclectic

**DIRECTION for the question:** Answer the question based on the information given in the passage.

**Question No. : 10**

- A. A historian successfully predicted a political crisis based on similar events of the last century.
- B. Using the latest technology, doctors could decipher the microbe causing the disease.
- C. Students who prepared for an examination by perusing past 10 years' question papers did not do well in the examination.
- D. A tribe in Andaman learns to predict epidemic outbreaks by listening to the stories of how their ancestors predicted the past outbreaks.

Which of the statement(s) above, if true would contradict the view of the author?

- A) A and B only   B) C and D only   C) B and C only   D) A and D only   E) A, B and D only

**DIRECTIONS for the question:** Choose the most logical order of sentences from among the given choices to construct a coherent paragraph.

**Question No. : 11**

- A. It is less appealing, but morally more urgent, to understand the actions of the perpetrators.
- B. It is easy to sanctify policies or identities by the deaths of the victims.
- C. The victims were people; a true identification with them would involve grasping their lives rather than grasping at their deaths.
- D. The moral danger, after all, is never that one might become a victim but that one might be a perpetrator or a bystander.
- E. By definition the victims are dead, and unable to defend themselves from the use that others make of their deaths.

Rank the above five statements so as to make it a logical sequence:

- A) A,B,C,E,D   B) E,C,B,D,A   C) C,E,B,A,D   D) C,A,B,D,E   E) E,C,A,B,D

**DIRECTION for the question:** Answer the question based on the information given in the passage.

**Question No. : 12**

A manager seeks approval for conducting a training programme on 'openness'. He puts forward the following arguments in favour of the program to his CEO.

Which of the following arguments is the least likely to have a logical fallacy?

- A) We did a pilot training program with a group of employees. Post the program, one of the participants was open to new ideas.
- B) This program should be good for our organisation since it is designed by a leading consultant.
- C) Internal studies conducted across groups and locations showed that 'openness' increases innovation
- D) We have only two options; we can either train our employees on 'openness' or suffer the consequences.
- E) If you really care about the organization, you should approve this training program

**DIRECTION for the question:** Answer the question based on the information given in the passage.

**Question No. : 13**

Arti is planning for higher studies and her future goals include working as a manager of non-profit organization designed to provide assistance to under-represented populations. Arti researched the mission statements of various colleges and discovered that college X, a small private college with a fee of Rs. 8 lakhs per year, was dedicated to producing compassionate and curious leaders. College Y, a large institute with a fee of Rs. 9 lakh per year, promoted itself as a leading research facility. Based on her research, she decided to apply to college X rather than college Y.

Which of the following options is the most likely explanation of Arti's decision?

- A) A direct relationship exists between a college's cost and quality of the education it provides
- B) Students apply to smaller colleges that offer more personalized attention from professors.
- C) A large research university cannot prepare students for a career as a non-profit executive
- D) Students apply to colleges with mission statements that align with their goals
- E) The best colleges have the best mission statements. Hence, students select a college with the best mission statement.

**DIRECTIONS for the question:** Read the passage and answer the question based on it.

**Question No. : 14**

Rene Descartes' assertion that ideas may be held true with certainty if they are "clear and distinct" provides the context for Peirce's title, "How to Make Our Ideas Clear." Peirce argued that an idea may seem clear if it is familiar. Distinctness depends on having good definitions, and while definitions are desirable they do not yield any new knowledge or certainty of the truth of empirical propositions. Peirce argues that thought needs more than a sense of clarity; it also needs a method for making ideas clear. Once we have made an idea clear, then we can begin the task of determining its truth. The method that Peirce offers came to be known as the pragmatic method and the epistemology on which it depends is pragmatism. Peirce rejected Descartes' method of doubt. We cannot doubt something, for the sake of method, that we do not doubt in fact. In a later essay he would state as his rule "Dismiss make-believes". This refers to Descartes' method of doubting things, in the safety of his study, such things as the existence of the material world, which he did not doubt when he went out on the street. Peirce proposed that a philosophical investigation can begin from only one state of mind, namely, the state of mind in which we find ourselves when we begin. If any of us examines our state of mind, we find two kinds of thoughts: beliefs and doubts. Peirce had presented the interaction of doubt and belief in an earlier essay "The Fixation of Belief". Beliefs and doubts are distinct. Beliefs consist of states of mind in which we would make a statement; doubts are states in which we would ask a question. We experience a doubt as a sense of uneasiness and hesitation. Doubt serves as an irritant that causes us to appease it by answering a question and thereby fixing a belief and putting the mind rest on that issue. A common example of a doubt would be arriving in an unfamiliar city and not being sure of the location of our destination address in relation to our present location. We overcome this doubt and fix a belief by getting the directions. Once we achieve a belief, we can take the necessary action to reach our destination. Peirce defines a belief subjectively as something of which we are aware and which appeases the doubt. Objectively, a belief is a rule of action. The whole purpose of thought consists in overcoming a doubt and attaining a belief. Peirce acknowledges that some people like to think about things or argue about them without caring to find a true belief but he asserts that such dilettantism does not constitute thought. The beliefs that we hold determine how we will act. If we believe rightly or wrongly, that the building that we are trying to reach sits one, block to our north, we will walk in that direction. We have beliefs about matters of fact near and far. For example, we believe in the real objects in front of us and we believe generally accepted historical statements. We also believe in relations of ideas such as that seven and five equal twelve. In addition to these we have many beliefs about science, politics, economics and religion and so on. Some of our beliefs may be false since we are capable of error. To believe something means to think that it is true.

According to Peirce, for a particular thought, which of the following statements will be correct?

- A) A belief always leads to a doubt
- B) A doubt always leads to a belief
- C) A doubt and a belief may co-exist
- D) A belief and a doubt are not related
- E) A doubt may lead to a belief

**Question No. : 15**

"A candidate has applied for XAT". According to Peirce, it indicates that:

- A) The candidate has a belief in the XAT application process.
- B) The candidate has a belief that XAT is a good test of ability
- C) The candidate is doubtful about her/his performance in XAT
- D) The candidate believes that s/he will perform well in XAT
- E) The candidate has a doubt about her/his performance in other MBA entrance examinations.

**Question No. : 16**

Which of the following words is closest in meaning to "dilettantism"?

- A) Belief B) Doubt C) Guess D) Surety E) Unlikelihood

**Question No. : 17**

A person thinks that s/he has to keep awake for twenty hours in a day to score well in an examination, but is awake for only fifteen hours. For the above statement, which of the following options will be right, according to Peirce?

- A) This person believes in a minimum sleep of 10 hours B) This person does not have a true belief  
C) It is a counter-argument of Pierce theory D) It is only a thought, nothing to do with action  
E) The person does not have a doubt

**Question No. : 18**

Which of the following sentences contains correct and meaningful usage of the underlined words?

- A) Vikram's approach to the problem was unique from Harpreet's, and he hadn't expected no criticism from her.  
B) Vikram's approach to the problem was different from Harpreet's, but he hadn't expected no criticism from her.  
C) Vikram's approach to the problem was different from Harpreet's, but he had expected no criticism from her.  
D) Vikram's approach to the problem was unique from Harpreet's, further he hadn't expected no criticism from her.  
E) Vikram's approach to the problem was different from Harpreet's and he had expected no criticism from her.

**DIRECTIONS for the question:** Complete the sentence by filling in the appropriate blank/blanks from the options provided.

**Question No. : 19**

The Lannisters had \_\_\_\_\_ gold than the Tyrells until the Lannister army sacked High garden and took The Tyrell fortune to pay back the Iron Bank. On the other hand, the Northern Army has \_\_\_\_\_ than 10,000 men and therefore, Jon needs to bend the knee to Daenerys.

What happens in the story next is dependent on George R. Martin, the writer of the series. For \_\_\_\_\_, he has not written anything further and we hope George R. Martin will get around to finishing the book \_\_\_\_\_. But as it happens, \_\_\_\_\_ book releases are delayed.

Fill in the blanks meaningfully, in the above paragraph, from the following options

- A) less, fewer, some time, sometime, sometimes B) fewer, less, sometime, some time, sometimes  
C) less, fewer, sometime, some time, sometimes D) fewer, less, sometimes, sometime, some time  
E) fewer, less, some time, sometime, sometimes

**DIRECTIONS for the question:** Read the passage and answer the question based on it.

**Question No. : 20**

It is sometimes said that consciousness is a mystery in the sense that we have no idea what it is. This is clearly not true. What could be better known to us than our own feelings and experiences? The mystery of consciousness is not what consciousness is, but why it is.

Modern brain imaging techniques have provided us with a rich body of correlations between physical processes in the brain and the experiences had by the person whose brain it is. We know, for example, that a person undergoing stimulation in her or his ventromedial hypothalamus feels hunger. The problem is that no one knows why these correlations hold, it seems perfectly conceivable that ventromedial hypothalamus stimulation could do its job in the brain without giving rise to any kind of feeling at all. No one has even the beginnings of an explanation of why some physical systems, such as the human brain, have experiences. This is the difficulty David Chalmers famously called 'the hard problem of consciousness'.

Materialists hope that we will one day be able to explain consciousness in purely physical terms. But this project now has a long history of failure. The problem with materialist approaches to the hard problem is that they always end up avoiding the issue by redefining what we mean by 'consciousness'. They start off by declaring that they are going to solve the hard problem, to explain experience; but somewhere along the way they start using the word 'consciousness' to refer not to experience but to some complex behavioural functioning associated with experience, such as the ability of a person to monitor their internal states or to process information about the environment. Explaining complex behaviours is an important scientific endeavour. But the hard problem of consciousness cannot be solved by changing the subject. In spite of these difficulties, many scientists and philosophers maintain optimism that materialism will prevail. At every point in this glorious history, it is claimed, philosophers have declared that certain phenomena are too special to be explained by physical science- light, chemistry, life-only to be subsequently proven wrong by the relentless march of scientific progress.

Before Galileo it was generally assumed that matter had sensory qualities: tomatoes were red, paprika was spicy, flowers were sweet-smelling. How could an equation capture the taste of spicy paprika? And 'if sensory qualities can't be captured in a mathematical vocabulary, it seemed to follow that a mathematical vocabulary could never capture the complete nature of matter. Galileo's solution was to strip matter of its sensory qualities and put them in the soul (as we might put it, in the mind). The sweet smell isn't really in the flowers, but in the soul (mind) of the person smelling them... Even colours for Galileo aren't on the surfaces of the objects themselves, but in the soul of the person observing them. And if matter in itself has no sensory qualities, then it's possible in principle to describe the material world in the purely quantitative vocabulary of mathematics. This was the birth of mathematical physics. Galileo didn't deny the existence of the sensory qualities. If Galileo were to time travel to the present day and be told that scientific materialists are having a problem explaining consciousness in purely physical terms, he would no doubt reply, "Of course they do, I created physical science by taking consciousness out of the physical world!"

Which of the following statements captures the essence of the passage?

- A) Materialists redefine the hard problem by changing the issues
- B) The hard problem cannot be solved by materialists
- C) Materialists can explain the reasons humans see a particular colour
- D) Materialists and philosophers agree on the concept of consciousness
- E) The hard problem can best be solved by segregation

**Question No. : 21**

Which of the following options would most likely be an example of the hard problem?

- A) Feeling the heat while holding a glass of hot water
- B) Experience joy after doing well in an examination
- C) What makes us tired after walking for 20 kilometres?
- D) Why we prostrate in front of a deity?
- E) Why do humans take birth?

**Question No. : 22**

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

- A) The passage argues that science could uncover all mysteries of the world.
- B) The passage argues that science could uncover all mysteries of the world by giving alternative explanations
- C) The passage argues that science could never uncover all the mysteries of nature.
- D) The passage argues that science and consciousness are two different domains.
- E) The passage argues that nature is so mysterious that humans are not even aware of the phenomena that can be researched.

**DIRECTION for the question:** Answer the question based on the information given in the passage.

**Question No. : 23**

"Music probably does something interesting," explains neuropsychologist Catherine Loveday of the University of Westminster. "It stimulates the brain in a very powerful way, because of our emotional connection with it". Unlike brain-games, playing an instrument is a rich and complex experience. This is because it's integrating information from senses like vision, hearing and touch, along with fine movements. This can result in long-lasting changes in the brain. This can also be applicable in the business world. Go through the following statements:

- A. Playing a musical instrument is a unique experience Involving vision, hearing and touch.
- B. Instrumental musicians are far more creative than vocalists.
- C. Playing brain games does not integrate various senses and movements as much as playing a musical instrument.
- D. Integrating the five senses is critical in the business world.

Which of the above statements can definitely be interpreted based on the passage above?

- A) Statement A only    B) Statement A and B    C) Statement C only    D) Statement A and C    E) Statement C and D

**DIRECTIONS for the question:** Complete the sentence by filling in the appropriate blank/blanks from the options provided.

**Question No. : 24**

Though he thought of himself as a/an \_\_\_\_\_ person, his boss's abusive behaviour made him talk back. However, as he engaged in a/an \_\_\_\_\_ with his boss, all he got in response was a/an \_\_\_\_\_, which only filled him with \_\_\_\_\_.

Fill in the blanks meaningfully, in the above statement, from the following options:

- A) nonchalant, remonstrance, philippic, ennui    B) insouciant, philippic, remonstrance, ennui
- C) philippic, remonstrance, ennui, insouciance    D) ennui, philippic, insouciance, remonstrance
- E) nonchalant, ennui, philippic, remonstrance

**DIRECTIONS for the question:** Choose the most logical order of sentences from among the given choices to construct a coherent paragraph.

**Question No. : 25**

- A. But its most advanced formulation is called superstring theory, which even predicts the precise number of dimensions: ten.
- B. However, the theory has already swept across the major physics research laboratories of the world and has irrevocably altered the scientific landscape of modern physics, generating a staggering number of research papers in the scientific literature (over 5,000 by one count).
- C. Scientifically, the hyperspace theory goes by the names of Kaluza-Klein theory and supergravity.
- D. The usual three dimensions of space (length, width and breadth) and one of time are now extended by six more spatial dimensions.
- E. We caution that the theory of hyperspace has not yet been experimentally confirmed and would, in fact, be exceedingly difficult to prove in the laboratory.

Read the above five statements so as to make it a logical sequence:

- A) C,A,D,E,B    B) C,D,A,E,B    C) E,A,D,C,B    D) C,A,D,B,E    E) B,E,C,A,D

**DIRECTION for the question:** Answer the question based on the information given in the passage.

**Question No. : 26**

Indian religious and ethical space is different from that of the western countries. The Vedas, The Upanishads, The Bhagavad Gita, The Ramayana and The Mahabharat etc. enrich Indian religious and social space. Details of the treatment of human values and Dharmas have a long tradition. They are often compared, contrasted and debated by the characters of in the Ramayana and the Mahabharata. In the process, it has given birth to a tradition of dharma, which has been transferred from generation to generation. Ethical discourse was not a one-time affair. From time to time, religious leaders from various regions of India nourished and strengthened the Indian ethical arena. Tiruvalluvar (second century B.C.), Kabir from Uttar Pradesh (fifteenth century A.D.), Nanak from Punjab (fifteenth century A.D.), Basavesware of Karnataka Twelfth century A.D.), Sri Chaitanya (Sixteenth century) were prominent.

Which of the following assumptions will make the above paragraph redundant?

- A) All religious leaders, mentioned in a paragraph, preach the same message and it is transferred from one generation to the next.
- B) Western religious spaces do not have details of treatment of principle of Dharma.
- C) Ramayana and Mahabharata have made it possible for religious leaders to build the tradition
- D) Western civilizations have been traversed by a different kind of religious leaders
- E) Western ethical and religious space has a long tradition of treatment of human values and Dharma.

**Section : AR & Decision Making**

**DIRECTIONS for the question:** Read the following information and choose the best alternative:

**Question No. : 27**

Satyender heads a branch of a Micro-Finance company. The company provides small-size loans catering to rural households. As the head of the branch, he supervises three collection officers-Palani, Sayed and Godwin. Palani was recently transferred by the company from another branch.

Sayed feared Palani's transfer may pull down the performance of the branch, as he felt Palani was transferred to due to his poor performance in the previous branch. Which of the following information will most likely assuage Sayed's fear?

- A) In the past 12 years, as the head of the branch, Satyender has exceeded targets every time.
- B) Palani has been a top performer in the organization; his performance has deteriorated only in the last three years
- C) The branch's performance has been good for the past 10 years; Sayed has joined the organization 3 years back.
- D) When Sayed joined as a fresher in this branch, others in the branch had feared that he might bring down the performance of the branch.
- E) While calculating the branch's performance, the branch head has the choice to exclude new joiner's performance.

**Question No. : 28**

Satyender heads a branch of a Micro-Finance company. The company provides small-size loans catering to rural households. As the head of the branch, he supervises three collection officers-Palani, Sayed and Godwin. Palani was recently transferred by the company from another branch.

Three months later, Palani submitted local travel bills to Satyender for reimbursement. Satyender realized that the bill amount was 30% higher than expected. Which of the following options, if true, will enable Satyender take a decision that shall set a precedent, which is least likely to be misused in the future?

- A) Palani being a new to the area uses autorickshaws which are more expensive than personal motorcycles used by other collection officers.
- B) Unlike his colleagues, Palani's house has very poor public transport connectivity
- C) Unlike his colleagues, Palani's sales territory has a powerful competitor.
- D) Unlike his colleagues, Palani's customers can meet him only during weekends
- E) Unlike his colleagues, Palani has to visit customers repeatedly as they require additional persuasion.

**Question No. : 29**

Satyender heads a branch of a Micro-Finance company. The company provides small-size loans catering to rural households. As the head of the branch, he supervises three collection officers—Paiani, Sayed and Godwin. Paiani was recently transferred by the company from another branch.

Satyender is allocating territories to his subordinates for the coming financial year. So far, Paiani's performance has been poor and this allocation will decide his future in the organization. Which of the following information will be the least useful to Satyender in taking a fair allocation decision?

- A) Sayed's territory has shown consistently good performance in the past three years
- B) Sayed's territory faces stiff competition from a well-known brand
- C) A new territory that faces competition from two relatively unknown brands
- D) Godwin's territory has shown consistent results in the past three years
- E) Godwin's territory performance has been flat for the past two years

**DIRECTIONS for the question:** Read the following information and choose the best alternative:

**Question No. : 30**

Lal & Sons, a family business, comprises three different companies in three different industries. Sudarshan Lai was heading this entire business from the inception. Two years ago, he hired three managers, one for each company and Chhaganlal Jha as Chief Executive Officer (CEO) to look after the entire business. These three managers are reporting to the CEO. However, Sudarshan Lai and his family still own the entire business, though they are not involved in day to day operations.

Two years after the handing over, Sudarshan was concerned that none of the companies, except one, is profitable. Which of the following information, if true, will most likely reduce Sudarshan's concerns?

- A) A leading financial institution recently advised its investors to purchase the shares of the two loss making companies with a long term outlook.
- B) The Corporation's performance has been stagnant for three years, before Sudarshan handed it over to professionals.
- C) The best performing division belongs to an industry, which is growing in double digits.
- D) People holding senior positions have been replaced two years ago by fresh and young talent.
- E) The rate at which employees are leaving the best performing division is higher than the industry average

**Question No. : 31**

Lal & Sons, a family business, comprises three different companies in three different industries. Sudarshan Lai was heading this entire business from the inception. Two years ago, he hired three managers, one for each company and Chhaganlal Jha as Chief Executive Officer (CEO) to look after the entire business. These three managers are reporting to the CEO. However, Sudarshan Lai and his family still own the entire business, though they are not involved in day to day operations.

One of the senior employees who left Lal & Sons in recent past has explained Sudarshan that the long cherished values of the organization as well as respect for elders, job security etc. are being-compromised. Which of the following options, if true, will indicate to Sudarshan that the employees are misleading him?

- A) The replaced employees have been average performers for many years
- B) When senior employees were assigned to lead challenging but critical positions in the organization, they resigned.
- C) The senior employees were replaced by people below them and not from outside the organization
- D) The replaced senior employees had only 4 more years of service and were not compensated for the pre-mature termination.
- E) The number of senior employees voluntarily leaving this organization is lower than the industry average

**Question No. : 32**

Lal & Sons, a family business, comprises three different companies in three different industries. Sudarshan Lai was heading this entire business from the inception. Two years ago, he hired three managers, one for each company and Chhaganlal Jha as Chief Executive Officer (CEO) to look after the entire business. These three managers are reporting to the CEO. However, Sudarshan Lai and his family still own the entire business, though they are not involved in day to day operations.

Chhaganlal Jha, the CEO, was certain that someone in his leadership team was leaking information to Sudarshan Lai, well before Chhaganlal communicated. Given the following options, how best should Chhaganlal Jha respond to this situation?

- A) Chhaganlal should request Sudarshan to kindly wait for him to communicate as informal sources may lead to misinformation.
- B) Chhaganlal should complain about this to Sudarshan and threaten to resign.
- C) Chhaganlal should request his team to continue passing information, since it brings down the communication barrier.
- D) Chhaganlal should understand that this is bound to happen and should not bother.
- E) Chhaganlal should threaten his team that one of them will be fired by this weekend if this practice of passing information doesn't stop immediately.

**DIRECTIONS for the question:** Read the following information and choose the best alternative:

**Question No. : 33**

Rose is the Queen of Kingdom A and Emily is the Queen of Kingdom B; both share a common border. They also share a border with Kingdom C, a much larger kingdom, ruled by King Jonathan who has expansive ambitions. Though individually their armies were no match to his might, together their armies were more powerful than King Jonathan's army.

Jonathan's kingdom also bordered Kingdom K on the opposite side, making Kingdom C a buffer state between Kingdoms A, B and K. Kingdom K is ruled by King Summer Sault, who united a group of warring and belligerent tribes under his aegis. Kingdom K and Kingdom C had continuous skirmishes with each other.

Jonathan realized that he has limited arms and ammunition to fight on all the three fronts simultaneously. Therefore, he planned to double the arms and ammunition which will take a few years. When this news reached Emily and Rose they held a secret meeting to discuss the situation.

Which of the following actions, by Emily and Rose, will be the best suited to delay Jonathan's plan?

- A) Emily and Rose should send arms and ammunition to Summer Sault or the next few years.
- B) The two queens should meet Jonathan and attempt to sign a peace pact.
- C) Emily and Rose should also double their armies.
- D) Emily and Rose should attack Jonathan immediately
- E) The two queens should ignore the news.

**Question No. : 34**

Rose is the Queen of Kingdom A and Emily is the Queen of Kingdom B; both share a common border. They also share a border with Kingdom C, a much larger kingdom, ruled by King Jonathan who has expansive ambitions. Though individually their armies were no match to his might, together their armies were more powerful than King Jonathan's army.

Jonathan's kingdom also bordered Kingdom K on the opposite side, making Kingdom C a buffer state between Kingdoms A, B and K. Kingdom K is ruled by King Summer Sault, who united a group of warring and belligerent tribes under his aegis. Kingdom K and Kingdom C had continuous skirmishes with each other.

Jonathan aims to invade and annex Kingdom K once and for all? Which of the following options will best enable him to accomplish the ambition?

- A) He should request the cooperation of Queen Rose and Queen Emily.
- B) He should sign a peace pact with Queen Rose and Queen Emily.
- C) He should try and create a rift between two Queens.
- D) He should secretly invest in doubling his army, by reducing all other expenditure.
- E) He should attack all three kingdoms simultaneously; giving them no time to cooperate.

**Question No. : 35**

Rose is the Queen of Kingdom A and Emily is the Queen of Kingdom B; both share a common border. They also share a border with Kingdom C, a much larger kingdom, ruled by King Jonathan who has expansive ambitions. Though individually their armies were no match to his might, together their armies were more powerful than King Jonathan's army.

Jonathan's kingdom also bordered Kingdom K on the opposite side, making Kingdom C a buffer state between Kingdoms A, B and K. Kingdom K is ruled by King Summer Sault, who united a group of warring and belligerent tribes under his aegis. Kingdom K and Kingdom C had continuous skirmishes with each other.

King Summer Sault was growing tired of the warring tribes, who slowed down the overall economic development of Kingdom K. Which of the following is the best option for King Summer Sault to focus on economic development?

- A) Align with Jonathan to eliminate one or two of the tribes and instill fear in others.
- B) Align with the two Queens to eliminate a few tribes and unify the rest.
- C) Design annual economic plans, with each plan named after a different tribe
- D) Create a rift among the tribes and instigate a civil war.
- E) Request Jonathan to send teachers, doctors and artists to improve economic development of Kingdom K.

**DIRECTIONS for the question:** Read the following information and choose the best alternative:

**Question No. : 36**

Ava is the CEO of Ratan Brothers, a bicycle manufacturing company. The organization is doing well financially, with a steadily increasing share price. Recently, Ava promoted Bhushan, her nephew, to the position of head of procurement after he completed five years in the organization. After the promotion, he was automatically inducted into the quality council headed by Ava.

Dev and Sons is a supplier to Ratan Brothers. It supplies "ball bearings", an important part of any bicycle. After Bhushan took over, he switched to a new supplier citing quality deficiencies in Dev and Sons' product. Dev and Sons responded by publicly declaring that quality was not compromised. Further, it alleged that its competitor bribed Bhushan to get the contract.

Post this public allegation, the share price of Ratan Brothers started falling? Which of the following is the best option for Ava to immediately stem the falling stock prices?

- A) Fire Bhushan, blacklist Dev and Sons and inform the press
- B) Issue a press statement that a committee has been formed to look into the matter.
- C) Issue a press statement that the company's quality standards have increased and that anyone is welcome to scrutinize the relevant documents.
- D) Cancel the remaining order and call for a fresh tender
- E) Do nothing, as Bhushan, as the head of procurement, has the right to decide on the supplier.

**DIRECTIONS for the question:** Read the following information and choose the best alternative:

**Question No. : 37**

Ava is the CEO of Ratan Brothers, a bicycle manufacturing company. The organization is doing well financially, with a steadily increasing share price. Recently, Ava promoted Bhushan, her nephew, to the position of head of procurement after he completed five years in the organization. After the promotion, he was automatically inducted into the quality council headed by Ava.

Dev and Sons is a supplier to Ratan Brothers. It supplies "ball bearings", an important part of any bicycle. After Bhushan took over, he switched to a new supplier citing quality deficiencies in Dev and Sons' product. Dev and Sons responded by publicly declaring that quality was not compromised. Further, it alleged that its competitor bribed Bhushan to get the contract.

Under pressure from media and suppliers, Ava constituted a cross-functional committee of senior executives to investigate Dev and Sons' allegation against Bhushan. The committee exonerated Bhushan. However, rumours within the organization began to spread that the decision was influenced by nepotism. Which of the following should be the best response from Ava?

- A) Do nothing, as the committee has exonerated Bhushan.
- B) Force Bhushan to resign temporarily. Make an independent enquiry, if found innocent, reinstate Bhushan.
- C) Communicate to all shareholders that these kinds of practices are very common in organizations.
- D) Sack all those employees who questioned the authority of Ava
- E) Explain in a town hall meeting, open to all the employees, how the decision to exonerate Bhushan was taken.

**DIRECTIONS for the question:** Read the following information and choose the best alternative:

**Question No. : 38**

Ava is the CEO of Ratan Brothers, a bicycle manufacturing company. The organization is doing well financially, with a steadily increasing share price. Recently, Ava promoted Bhushan, her nephew, to the position of head of procurement after he completed five years in the organization. After the promotion, he was automatically inducted into the quality council headed by Ava.

Dev and Sons is a supplier to Ratan Brothers. It supplies "ball bearings", an important part of any bicycle. After Bhushan took over, he switched to a new supplier citing quality deficiencies in Dev and Sons' product. Dev and Sons responded by publicly declaring that quality was not compromised. Further, it alleged that its competitor bribed Bhushan to get the contract.

A few months after the issue of Dev and Sons, a vigilance committee discovered some financial irregularities attributable to Bhushan in his earlier stint as a senior manager in marketing. The board of directors was concerned about this and demanded a response from the CEO. Ava contemplated following responses:

A few months after the issue of Dev and Sons, a vigilance committee discovered some financial irregularities attributable to Bhushan in his earlier stint as a senior manager in marketing. The board of directors was concerned about this and demanded a response from the CEO. Ava contemplated following responses:

- A. She would resign from the post of CEO, since as the CEO she is ultimately responsible for everything in the organization.
- B. Sack Bhushan immediately and make the reason public.
- C. Have a town hall meeting with all the employees and deny any financial irregularities in the organization
- D. Communicable to the board that as the CEO, the organization's financial health is her top priority, on which she has delivered stellar performance in the last five years.
- E. Inform the board that Bhushan was promoted because his initiatives helped the company immensely

Which of the following sequence of actions is the most appropriate for Ava?

- A) E,B,A
- B) E,D,C
- C) A,B,C
- D) B,A,D
- E) C,D,A

**DIRECTIONS for the question:** Read the information given below and answer the question that follows.

**Question No. : 39**

A courier service has offices at three locations: Jamshedpur, Kharagpur and Howrah. Its employees travel by trains from one location to another for pick-up and delivery. It takes 40 minutes for an employee to travel from any railway station to the nearest office another 40 minutes for coming back); the paperwork to deliver the parcel the respective office takes an additional 10 minutes. Assume employees do not waste any time.

Employees have the option to choose from any of the trains, whose timetable is given in the table below. Assume all trains travel on time and there is no time gap between arrival and departure of a train. Further, assume that the employee boards the train as soon as it arrives at the station.

|                    |       |       |       |       |       |
|--------------------|-------|-------|-------|-------|-------|
| Train Numbers →    | T101  | T102  | T103  | T104  | T105  |
| Jamshedpur Station | 06:00 | 07:30 | 10:15 | 15:00 | 17:00 |
| Kharagpur Station  | 07:30 | 09:05 | 12:05 | 16:50 | 18:25 |
| Howrah Station     | 09:05 | 11:10 | 14:30 | 19:00 | 20:30 |
| Train Number→      | T201  | T202  | T203  | T204  | T205  |
| Howrah Station     | 06:30 | 08:30 | 10:30 | 14:30 | 16:00 |
| Kharagpur Station  | 08:15 | 10:40 |       | 16:15 | 17:55 |
| Jamshedpur Station | 10:20 | 12:35 | 14:00 | 17:45 | 20:00 |

What will be the minimum time required to deliver a parcel at Kharagpur office from Jamshedpur station and come back to Jamshedpur station?

- A) 4 hours 25 minutes    B) 5 hours 5 minutes    C) 6 hours 35 minutes    D) 7 hours 30 minutes    E) None of the above

**Question No. : 40**

An employee, starting from Howrah station, has to deliver one parcel Kharagpur office and another parcel at Jamshedpur office. His task starts the moment he boards the train at Howrah station, and gets completed immediately after delivering the second parcel? Which of the following trains should he board at Howrah station to minimize the time required to complete his task?

- A) T201    B) T202    C) T204    D) Both option A and option B    E) Both option B and option C

**Question No. : 41**

An employee, starting from Kharagpur station, has to deliver one parcel at Howrah office and another parcel at Jamshedpur office. His task starts the moment he boards the train at Kharagpur station, and gets completed immediately after delivering the second parcel. Which of the following trains should he board at Kharagpur station to minimize the time required to complete the task?

- A) T102    B) T103    C) T202    D) T203    E) Both option B and option D

**DIRECTIONS for the question:** Read the following information and choose the best alternative:

**Question No. : 42**

Three persons A, B and C, lived on an island hill. A lived on the top of the Island hill, B occupied the middle portion of the hill and C occupied the bottom of the hill. The top of the hill received good rainfall, the main source of water in the hill, though this portion of the hill had few trees. The middle of the hill however was lush with trees offering timber. The bottom of the hill had a good amount of stones and sand. A, B and C assessed their wealth in terms of ownership of timber, water, stones and sand available in the island hill only. During heavy rains, stones and sand from the top and middle portion of the hill rolled over to the bottom. When the rains stopped, both A and B claimed that some stones rolled down from their lands to the land occupied by C. They wanted the stones back. But C argued that rolling down of stones is a natural process.

All three approached a wise man for the settlement of the ownership dispute? Which of the following is the best option available for the wise man?

- A) Award ownership of stones to A.    B) Permit A to build a dam so that B and C are deprived of water.  
C) Award ownership of stones to C, as stones rolled down naturally    D) Award equal rights to all three over all the resources  
E) Award A, ownership of water and C, ownership of stones

**Question No. : 43**

The wise man studied the situation carefully and proposed the following actions:

- A. The governing body of the United Federation of Islands, of which the island hill is a part, should take ownership of all the three properties and construct houses for the three.  
B. Each person should own one third of each of the resources.  
C. The three persons should arrive at the value of resources by trading the resources among them.

Which of the following is the **most appropriate** in the **best Interests** of A, B and C?

- A) A only    B) B only    C) C only    D) A and B only    E) All of A, B and C

**DIRECTIONS for the question:** Read the following information and choose the best alternative:

**Question No. : 44**

Ramesh, the owner of an auto-component manufacturing company in Sanand, had just turned after attending the funeral of his employee, Pankaj Kumar, who had died of cancer at the age of 35. Pankaj was a hardworking and sincere employee with impeccable performance record. Pankaj was the sole bread earner for his family with negligible savings and was survived by his wife and two school going children. His wife will get around 8 lakh rupees accrued to Pankaj as social security benefit.

A large number of employees wanted the organization to employ Pankaj's wife on compassionate grounds that she could support her family. Though Ramesh was sympathetic to the demand, he realized that this could set a precedence, where the organization will have to provide jobs for everyone with similar conditions. In the future, in fact, only recently Ramesh had refused a request for a job to the daughter of an employee, who had died a few months before he was to retire.

Ramesh formed a committee to look into this matter and the committee came up with the following suggestions:

- A. Create a fund to take care of immediate family expenses.  
B. Finance the school and college education of his children.  
C. Sponsor the vocational education of his wife and subsequently help her find  
D. Purchase insurance for all the family members.  
E. Request all employees of the organization to contribute towards the welfare of their family

Which of the following options, from the above suggestions, will be the **most sustainable** for Pankaj's family?

- A) A and B    B) B and C    C) C and D    D) D and E    E) C and E

**Question No. : 45**

Ramesh, along with senior managers, was in the process of designing a policy to deal with such issues in the future?

Which of the following policy statements will be the least amenable to misuse in the future?

- A) The firm should provide one job to any of direct dependents of the deceased employee.
- B) The firm should provide one job to any dependent, if employee dies during the service.
- C) The firm should provide one job to any dependent, if the family does not have any other support and employee dies during service.
- D) The firm should provide help to the dependent family members in pursuing good education and employment
- E) The firm shall constitute a committee, with fair representation from all stakeholders, to decide on the course of action based on specifics of the case.

**DIRECTIONS for the question:** Read the following information and choose the best alternative:

**Question No. : 46**

Madhuri Apte, a busy professional rents out her studio apartment located in South Mumbai. Since she stays Away from the studio apartment, she uses a networked lock to monitor the property remotely. Each customer gets a temporary and unique access code for the digital lock that enables them to enter the studio apartment for the duration of stay. The apartment's entrance door can also be opened with physical keys and Madhuri Apte has two such keys in her possession.

Madhuri Apte has employed a cleaner who has a permanent access code to enter the apartment for cleaning every day. She is available only between 15:00 hrs and 17:00hrs.

Madhuri Apte's apartment caters largely to international customers. A customer typically stays for 3 days, paying an average rent of \$125 per day.

While Madhuri Apte's studio apartment gets food feedback on other aspects, many seem unhappy as they found the operation of the digital lock complicated.

Which of the following option is the best for Madhuri Apte in this context?

- A) Madhuri should switch to a physical lock.
- B) Madhuri, on request, should send one of the physical keys five days ahead of customer's arrival at an extra charge of \$75.
- C) Madhuri should request the cleaner to explain the working of the digital access code to customers for an extra charge
- D) Madhuri should do nothing as digital locks shall be the norm in the future.
- E) Madhuri should create a video manual on "how to use the digital access code" and e-mail it to the customers before their arrival.

**Question No. : 47**

Madhuri's apartment received good feedback from the guest except with respect to the operation of the digital lock. She decided to leave a spare physical key in the house for her guests. Recently some of the guests had forgotten to leave the key behind during checkout. Making a spare key will cost \$500 and will take about 10 days to arrive. She was confused if she should continue leaving the spare key and was looking for a way out. Which of the following would be the best way out for her?

- A) Keep digital lock as the only option and communicate to customers
- B) Be present during checkout to ensure the key is returned
- C) Request the cleaner to be present during checkout
- D) Send polite reminders to guests before checkout date and on the day of checkout to leave the key behind
- E) Charge security deposit of \$100 which will be forfeited if the keys are not left behind.

**Section : Quant & DI**

**DIRECTIONS for the question:** Solve the following question and mark the best possible option.

**Question No. : 48**

Find the value of the expression:  $10 + 10^3 + 10^6 + 10^9$

- A) 1010101010
- B) 1001000010
- C) 1001000110
- D) 1001001010
- E) 100010001010

**DIRECTIONS for the question:** Solve the following question and mark the best possible option.

**Question No. : 49**

Abdul, Bimal, Charlie and Dilbar can finish a task in 10, 12, 15 and 18 days respectively. They can either choose to work or remain absent on a particular day. If 50% of the total work gets completed after 3 days, then, which of the following options is possible?

- A) Each of them worked for exactly 2 days.
- B) Bimal and Dilbar worked for 1 day each, Charlie worked for 2 days and Abdul worked for all 3 days.
- C) Abdul and Charlie worked for 2 days each, Dilbar worked for 1 day and Bimal worked for all 3 days.
- D) Abdul and Dilbar worked for 2 days each, Charlie worked for 1 day and Bimal worked for all 3 days
- E) Abdul and Charlie worked for 1 day, Bimal worked for 2 days and Dilbar worked for all 3 days.

**DIRECTIONS for the question:** Solve the following question and mark the best possible option.

**Question No. : 50**

If the diagonals of a rhombus of side 15 cm are in the ratio 3: 4, find the area of the rhombus

- A) 54 sq. cm.
- B) 108 sq. cm.
- C) 144 sq. cm.
- D) 200 sq. cm.
- E) None of the above

**DIRECTIONS for the question:** Solve the following question and mark the best possible option.

**Question No. : 51**

The price of products is P. A shopkeeper raises its price by X% and then offers a discount of Y% on the raised price. The discounted price again becomes P. If Y is the difference between X and Y, then find X?

- A) 20
- B) 25
- C) 50
- D) 100
- E) None of the above

**DIRECTIONS for the question:** Solve the following question and mark the best possible option.

**Question No. : 52**

A mixture comprises water and liquids A and B. The volume of water is 1/3rd of the total mixture and the volume of liquids A and B are in the ratio 5: 3. To remove the water, the mixture is passed through a porous medium which completely absorbs the water and partially absorbs liquid A. Altogether this porous medium absorbs 200 ml of the initial mixture. If the ratio of volume of liquids A and B in the residual concentrated mixture becomes 7: 9 then find the volume of water absorbed by the porous medium.

- A) 60 ml
- B) 200/3 ml
- C) 80 ml
- D) 100 ml
- E) 120 ml

**DIRECTIONS for the question:** Solve the following question and mark the best possible option.

**Question No. : 53**

A coin of radius 3 cm is randomly dropped on a square floor full of square shaped tiles of side 10 cm each. What is the probability that the coin will land completely within a tile? In other words, the coin should not cross the edge of any tile.

- A) 0.91
- B) 0.5
- C) 0.49
- D) 0.36
- E) 0.16

**DIRECTIONS for the question:** Solve the following question and mark the best possible option.

**Question No. : 54**

It takes 2 litres to paint the surface of a solid sphere. If this solid sphere is sliced into 4 identical pieces, how many litres will be required to paint all the surfaces of these 4 pieces?

- A) 2.2 litres
- B) 2.5 litres
- C) 3.0 litres
- D) 4.0 litres
- E) None of the above

**DIRECTIONS for the question:** Solve the following question and mark the best possible option.

**Question No. : 55**

Every day a person walks at a constant speed,  $V_1$  for 30 minutes. On a particular day, after walking for 10 minutes at  $V_1$  (he rested for 5 minutes). He finished the remaining distance of his regular walk at a constant speed,  $V_2$ , in another 30 minutes. On that day, find the ratio of  $V_2$  and his average speed. (i.e. total distance covered/total time taken including resting time).

- A) 1:1   B) 1:2   C) 2:3   D) 2:1   E) None of the above

**DIRECTIONS for the question:** Solve the following question and mark the best possible option.

**Question No. : 56**

A boat, stationed at the north of a lighthouse, is making an angle of  $30^\circ$  with the top of the lighthouse. Simultaneously, another boat, stationed at the East of the same lighthouse is making an angle of  $45^\circ$  with the top of the lighthouse. What will be the shortest distance between these two boats? The height of the lighthouse is 300 feet. Assume both the boats are of negligible dimensions.

- A) 300 feet   B)  $600/\sqrt{3}$    C)  $300\sqrt{3}$    D) 600 feet   E) None of the above

**DIRECTIONS for the question:** Solve the following question and mark the best possible option.

**Question No. : 57**

Two different quadratic equations have a common root. Let the three unique roots of the two equations be A, B and C- all of them are positive integers. If  $(A + B + C) = 41$  and the product of the roots of one of the equations is 35, which of the following options is definitely correct?

- A) The common root is 29   B) The smallest among the roots is 1.   C) One of the roots is 5.  
D) Product of the roots of the other equation is 5   E) All of the above are possible, but none are definitely correct

**DIRECTIONS for the question:** Solve the following question and mark the best possible option.

**Question No. : 58**

An antique store has a collection of eight clocks. At a particular moment, the displayed times on screen of the eight clocks were as follows: 1:55 pm, 2:03 pm, 2:11 pm, 2:24 pm, 2:45 pm, 3:19 pm and 4:14 pm. If the displayed times of all eight clocks form a mathematical series, then what was the displayed time on the remaining clock?

- A) 01:53 pm   B) 01:58 pm   C) 2:18 pm   D) 03:08 pm   E) 05:08 pm

**DIRECTIONS for the question:** Solve the following question and mark the best possible option.

**Question No. : 59**

The number of boys in a school was 30 more than the number of girls. Subsequently, a few more girls joined the same school. Consequently, the ratio of boys and girls became 3: 5. Find the minimum number of girls, who joined subsequently.

- A) 31   B) 51   C) 52   D) 55   E) Solutions not possible

**DIRECTIONS for the question:** Solve the following question and mark the best possible option.

**Question No. : 60**

A girl travels along a straight line, from point A to B at a constant speed,  $V_1$  meters/sec for T seconds. Next, she travels from point B to C along a straight line at a constant speed of  $V_2$  metres/sec for another T seconds. BC makes an angle  $105^\circ$  with AB. If CA makes an angle  $30^\circ$  with BC, how much time will she take to travel back from Point C to A at a constant speed of  $V_2$  meters/sec, if she travels along a straight line from C to A?

- A)  $0.5(\sqrt{3}-1)T$    B) T   C)  $0.5(\sqrt{3}+1)T$    D)  $\sqrt{3}T$    E) None of the above

**DIRECTIONS for the question:** Solve the following question and mark the best possible option.

**Question No. : 61**

In the final semester, an engineering college offers three elective courses and, one mandatory course. A student has to register for exactly three courses: two electives and the mandatory course. The registration in three of the four courses is: 45, 55 and 70. What will be the number of students in the elective with the lowest registration?

- A) 35   B) 40   C) 42   D) 45   E) Either B or D

**DIRECTIONS for the question:** Solve the following question and mark the best possible option.

**Question No. : 62**

X and Y are the digits at the unit's place of the numbers (408X) and (789Y) when  $X \neq Y$ . However, the digits at the unit's place of the numbers (408X)63 and (789Y)85 are the same. What will be the possible value(s) of  $(X + Y)$ ? Example: If  $M = 3$  then the digit at unit's place of the number (2M) is 3 (as the number is 23) and the digit at unit's place of the number (2M)2 is 9 (as 232 is 529).

- A) 9   B) 10   C) 11   D) 12   E) None of the above

**DIRECTIONS for the question:** Solve the following question and mark the best possible option.

**Question No. : 63**

If  $2 \leq 5|x-1| \times |y+3| \leq 5$  and both x and y are negative integers, find the number of possible combinations of x and y.

- A) 4   B) 5   C) 6   D) 8   E) 10

**DIRECTIONS for the question:** Solve the following question and mark the best possible option.

**Question No. : 64**

David has an interesting habit of spending money. He spends exactly  $\text{£}X$  on the  $X^{\text{th}}$  day of a month. For example, he spends exactly  $\text{£}5$  on the 5th of any month. On a few days in a year, David noticed that his cumulative spending during the last 'four consecutive days' can be expressed as  $2N$  where N is a natural number. What can be the possible value(s) of N?

- A) 5   B) 6   C) 7   D) 8   E) N can have more than one value

**DIRECTIONS for the question:** Solve the following question and mark the best possible option.

**Question No. : 65**

A cone of radius 4 cm with a slant height of 12 cm was sliced horizontally, resulting into a smaller cone (upper portion) and a frustum (lower portion). If the ratio of the curved surface area of the upper smaller cone and the lower frustum is 1: 2, what will be the slant height of the frustum?

- A)  $12 - \sqrt{3}$    B)  $12 - 2\sqrt{3}$    C)  $12 - 3\sqrt{3}$    D)  $12 - 4\sqrt{3}$    E) None of the above

**DIRECTIONS for the question:** Solve the following question and mark the best possible option.

**Question No. : 66**

The curved surface areas (CSA) of the small cone and the frustum are in the ratio 1:2. Therefore, the CSAs of the small and big cones are in the ratio 1:3. The linear dimensions (viz radius, height, slant height) are in the ratio 1:  $\sqrt{3}$ . The slant height of the big cone is 12. Therefore, for the small cone it is  $4\sqrt{3}$  and for the frustum, it is  $12 - 4\sqrt{3}$ .

- A)  $(\sqrt{3} - \pi - 1)R^2$     B)  $(\sqrt{3} - \pi)R^2$     C)  $\left(\frac{13\pi}{6} + 1 - \sqrt{3}\right)R^2$     D)  $\left(\frac{13\pi}{6} + \sqrt{3}\right)R^2$     E) None of the above

**DIRECTIONS for the question:** The question below is followed by two statements marked I and II. Mark as your answer.

**Question No. : 67**

A group of six friends noticed that the sum of their ages is the square of a prime number. What is the average age of the group?

**Statement I:** All members are between 50 and 85 years of age.

**Statement II:** The standard deviation of their ages is 4.6.

- A) Statement I alone is sufficient to answer    B) Statement II alone is sufficient to answer  
 C) Either of the statement is sufficient to answer    D) Both statements are required to answer  
 E) Additional information is required

**DIRECTIONS for the question:** The question below is followed by two statements marked I and II. Mark as your answer.

**Question No. : 68**

Harry and Sunny have randomly picked 5 cards each from a pack of 10 cards, numbered from 1 to 10. Who has randomly picked the card with number 2 written on it?

**Statement I:** Sum of the numbers on the cards picked by Harry is 5 more than that of Sunny.

**Statement II:** One has exactly four even numbered cards while the other has exactly four odd numbered cards.

- A) Statement I alone is sufficient to answer.    B) Statement II alone is sufficient to answer  
 C) Either of the statement is sufficient to answer    D) Both statements are required to answer  
 E) Additional information is required

**DIRECTIONS for the question:** Go through the graph and the information given below and answer the question that follows.

**Question No. : 69**

| Teams  | No. of Matches played | No. of Matches won | No. of Matches lost | No. of Matches drawn | Goals scored by the team | Goals conceded by the team |
|--------|-----------------------|--------------------|---------------------|----------------------|--------------------------|----------------------------|
| Team A | 2                     | 2                  | 0                   | 0                    | 5                        | 1                          |
| Team B | 2                     | 1                  | 0                   | 1                    | 5                        | 1                          |
| Team C | 2                     | 1                  | 0                   | 1                    | 2                        | 0                          |
| Team D | 2                     | 0                  | 0                   | 2                    | 1                        | 1                          |
| Team E | 2                     | 0                  | 2                   | 0                    | 1                        | 4                          |
| Team F | 2                     | 0                  | 2                   | 0                    | 0                        | 7                          |

**Notes:**

(i) The team that scores more goals than it concedes wins the match, while if both the teams score the same no. of goals, the match is declared drawn.

(ii) In a match played between Team X and Team Y, if Team X scores and concedes none, then the score line would read: Team X-Team Y (1-0)

Which of the following matches are yet to be played?

- A) Team A-Team B and Team C-Team D    B) Team C-Team D and Team E-Team F    C) Team E- Team F and Team B- Team D  
D) Team C- Team D and Team A- Team E    E) Team A-Team B and Team E-Team F

**Question No. : 70**

Which of the following score line is a possible outcome in the tournament?

- A) Team A-Team D(1-0)    B) Team A-Team E (2-1)    C) Team B-Team D(1-0)    D) Team C-Team F (2-0)  
E) None of the above

**Question No. : 71**

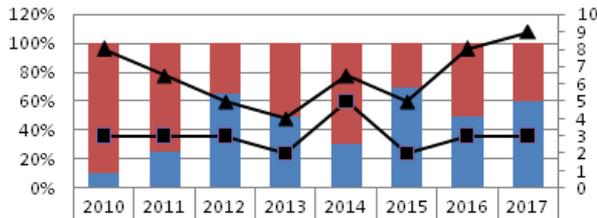
Which of the following score line is not a possible outcome in the tournament?

- A) Team A- Team F(4-0)    B) Team B-Team F (4-0)    C) Team C-Team D (0-0)    D) Team C-Team E (2-0)  
E) All of the above options are possible

**DIRECTIONS for the question:** Analyse the graph/s given below and answer the question that follows.

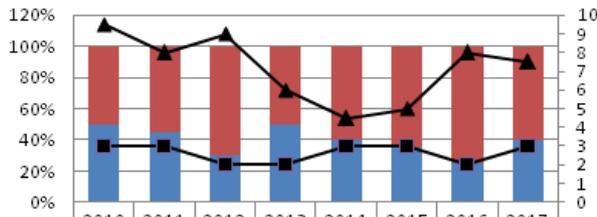
**Question No. : 72**

**Prof. Arithmetic**



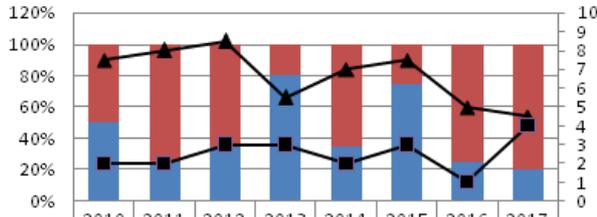
|                     |     |     |     |     |     |     |     |     |
|---------------------|-----|-----|-----|-----|-----|-----|-----|-----|
| Teaching            | 90% | 75% | 35% | 50% | 70% | 30% | 50% | 40% |
| Research            | 10% | 25% | 65% | 50% | 30% | 70% | 50% | 60% |
| Feedback            | 8   | 6.5 | 5   | 4   | 6.5 | 5   | 8   | 9   |
| No. of Publications | 3   | 3   | 3   | 2   | 5   | 2   | 3   | 3   |

**Prof. Algebra**



|                     |     |     |     |     |     |     |     |     |
|---------------------|-----|-----|-----|-----|-----|-----|-----|-----|
| Teaching            | 50% | 55% | 70% | 50% | 60% | 65% | 75% | 60% |
| Research            | 50% | 45% | 30% | 50% | 40% | 35% | 25% | 40% |
| Feedback            | 9.5 | 8   | 9   | 6   | 4.5 | 5   | 8   | 7.5 |
| No. of Publications | 3   | 3   | 2   | 2   | 3   | 3   | 2   | 3   |

**Prof. Geometry**



|                     |     |     |     |     |     |     |     |     |
|---------------------|-----|-----|-----|-----|-----|-----|-----|-----|
| Teaching            | 50% | 75% | 65% | 20% | 65% | 25% | 75% | 80% |
| Research            | 50% | 25% | 35% | 80% | 35% | 75% | 25% | 20% |
| Feedback            | 7.5 | 8   | 8.5 | 5.5 | 7   | 7.5 | 5   | 4.5 |
| No. of Publications | 2   | 2   | 3   | 3   | 2   | 3   | 1   | 4   |

Which of the following shows the maximum year to year percentage growth in feedback?

- A) Professor Arithmetic during 2013-14
- B) Professor Algebra during 2015-16
- C) Professor Calculus during 2012-13
- D) Professor Calculus during 2014-15
- E) None of the above

**Question No. : 73**

Count the number of instances in which "annual decreasing efforts in research" is accompanied with "annual increase in feedback"?

- A) 5
- B) 7
- C) 9
- D) 11
- E) None of the above

**Question No. : 74**

Research efficiency is the ratio of cumulative number of publication for a period of 3 years to the cumulative number of hours spent on research activity in those 3 years. Which of the following professors is the least efficient researcher for the period 2015 to 2017?

- A) Professor Arithmetic
- B) Professor Algebra
- C) Professor Geometry
- D) Professor Calculus
- E) Cannot be determined as research is expressed in percentage

**Section : GK**

**DIRECTIONS for the question:** Mark the best option:

**Question No. : 75**

Match the music festivals to their states.

| Music festival      | State                |
|---------------------|----------------------|
| A. Hornbill         | I. Arunachal Pradesh |
| B. Zino             | II. Nagaland         |
| C. Escape           | III. Maharashtra     |
| D. Enchanted Valley | IV. Rajasthan        |
| E. Magnetic Fields  | V. Uttarakhand       |

- A) A-III, B-II, C-IV, D-I, E-V    B) A-II, B-I, C-IV, D-III, E-V    C) A-II, B-I, C-V, D-III, E-IV    D) A-V, B-I, C-III, D-II, E-IV  
 E) A-IV, B-II, C-III, D-I, E-V

**DIRECTIONS for the question:** Mark the best option:

**Question No. : 76**

What is article 35(A) of Indian Constitution?

- A) An article empowering Jammu and Kashmir state's legislature to define permanent residents.  
 B) An article empowering Arunachal Pradesh state's legislature to define permanent residents.  
 C) An article providing autonomous status to Jammu and Kashmir.  
 D) An article providing autonomous status to Arunachal Pradesh.    E) An article providing autonomous status to Manipur.

**DIRECTIONS for the question:** Mark the best option:

**Question No. : 77**

Match the following Indus Valley sites to the states:

| Indus Valley Sites | State                  |
|--------------------|------------------------|
| A. Harappa         | I. Haryana             |
| B. Lothal          | II. Gujarat            |
| C. Chanhudaro      | III. Punjab (Pakistan) |
| D. Banawali        | IV. Sindh (Pakistan)   |

- A) A-III, B-II, C-IV, D-I    B) A-II, B-I, C-IV, D-III    C) A-III, B-II, C-I, D-IV    D) A-IV-, B-I, C-II, D-III    E) A-IV, B-II, C-III, D-I

**DIRECTIONS for the question:** Mark the best option:

**Question No. : 78**

Who is the independent athlete to win a gold medal at 2016 Summer Olympics?

- A) Abdullah Al-Rashidi    B) Fehaid Al-Deehani    C) Jasna Sekaric    D) Yuliya Stepanova    E) Darya Klishina

**DIRECTIONS for the question:** Mark the best option:

**Question No. : 79**

Match the rockets missions to their space agencies:

| Rocket/Mission                | Space Agency |
|-------------------------------|--------------|
| A. Falcon 9                   | I. ISRO      |
| B. Mars Rover                 | II. ESA      |
| C. Exo Mars Trace Gas Orbiter | III. NANSAs  |
| D. Yinghuo                    | IV. SpaceX   |
| E. Mangalyaan                 | V. CNSA      |

- A) A-I, B-II, C-III, D-IV, E-V    B) A-IV, B-III, C-V, D-II, E-I    C) A-IV, B-III, C-II, D-Y, E-I    D) A-V, B-IV, C-III, D-II, E-I  
 E) A-III, B-IV, C-II, D-V, E-I

**DIRECTIONS for the question:** Mark the best option:

**Question No. : 80**

Which of the following options is the correct list of core industries as defined by IIP?

- A) Shipping, Coal, Natural Gas, Pharmaceuticals    B) Coal, Natural Gas, Crude Oil, Fertilizers  
 C) Coal, Steel, Cement, Information Technology    D) Refinery, Fertilizers, Crude Oil, Telecommunication  
 E) Coal, Steel, Crude Oil, Banking

**DIRECTIONS for the question:** Mark the best option:

**Question No. : 81**

Which of the following is not a landlocked country?

- A) Kenya    B) Niger    C) Switzerland    D) Chad    E) Mali

**DIRECTIONS for the question:** Mark the best option:

**Question No. : 82**

Which of the following is not a French overseas territory?

- A) New Caledonia    B) Guadeloupe    C) Mayotte    D) Reunion    E) Guam

**DIRECTIONS for the question:** Mark the best option:

**Question No. : 83**

Which of these have not been included in Government of India Act, 1935?

- A) Separation of Burma from India    B) Detachment of Aden from India to establish It as a crown colony.  
 C) Splitting of Bihar and Orissa as two separate provinces.    D) Separation of Khyber Pakhtunwala from India  
 E) Separation of Sindh from Bombay presidency

**DIRECTIONS for the question:** Mark the best option:

**Question No. : 84**

Which of the following is not a cryptocurrency?

- A) Bitcoin B) Laxmicoin C) Ethehum D) Paypal E) Litecoin

**DIRECTIONS for the question:** Mark the best option:

**Question No. : 85**

Who won the Nobel Prize for Economics in 2017?

- A) Richard Thaler B) Raghuram Rajan C) Jean Tirole D) Bengt Holmstrom E) Oliver Hart

**DIRECTIONS for the question:** Mark the best option:

**Question No. : 86**

Match the brands with the companies:

| Brand              | Company                 |
|--------------------|-------------------------|
| A. Gillette        | I. Godrej               |
| B. Surf Excel      | II. ITC                 |
| C. Suffola         | III. Hindustan Unilever |
| D. Aashirvaad Atta | IV. P&G                 |
| E. Good Knight     | V. Marico               |

- A) A-I, B-II, C-III, D-IV, E-V B) A-IV, B-III, C-V, D-II, E-I C) A-IV, B-III, C-II, D-V, E-I D) A-V, B-IV, C-III, D-V, E-II  
E) A-IV, B-I, C-II, D-V, E-III

**DIRECTIONS for the question:** Mark the best option:

**Question No. : 87**

Which of the following Indian business houses (conglomerate) started its operation with companies like Philips Carbon Black, Asian Cables, Agarpara, Jute and Murphy (India)?

- A) Aditya Birla B) C.K. Birla C) RPG Enterprises D) K.K. Birla E) Essar

**DIRECTIONS for the question:** Mark the best option:

**Question No. : 88**

Name the only Indian (or from Indian origin) to win Abel Prize?

- A) Manjul Bhargava B) Srinivasa Ramanujam C) S.R. Srinivasa Varadhan D) Mahan Ma ha raj (Swami Vidyanathananda)  
E) Harishchandra Merita

**DIRECTIONS for the question:** Mark the best option:

**Question No. : 89**

Which of the following is not one of the World Heritage Sites?

- A) Mountain Railways of India B) Jim Corbett National park C) Jim Corbett National park  
D) Great Living Chola Temples E) None of these

**DIRECTIONS for the question:** Mark the best option:

**Question No. : 90**

If a company encourages its employees to use its own products to understand customers' perception, then the company is engaging in:

- A) Dogfooding   B) Lionhunting   C) Moonlighting   D) Spacetraveiling   E) Bikeriding

**DIRECTIONS for the question:** Mark the best option:

**Question No. : 91**

What is showrooming?

- A) An individual browses the sites of e-retailers for products and then ends up purchasing the product from some brick and mortar stores.  
B) An individual visiting a brick and mortar store to have a look and feel of the product and then ordering the same product through some e-retailers.  
C) An individual visiting a big box retailer to have a look and feel of the product and then purchasing the same product from nearby Kirana (Mom and Pop) store.  
D) An e-retailer using the Kirana (Mom and Pop) stores to keep its stock of goods and meets the orders in the nearby localities.  
E) None of the above.

**DIRECTIONS for the question:** Mark the best option:

**Question No. : 92**

Which of the following mobile manufacturing companies does not have its headquarters in China?

- A) Xolo   B) Xiaomi   C) Vivo   D) Oppo   E) Lenovo

**DIRECTIONS for the question:** Mark the best option:

**Question No. : 93**

Which of the following is not a video streaming service?

- A) Netflix   B) Primevideo   C) Youtube   D) Roku   E) Itunes

**DIRECTIONS for the question:** Mark the best option:

**Question No. : 94**

The Time magazine's person of the year 2017 is:

- A) Donald Trump   B) Emmanuel Macron   C) The Peace Makers   D) Silence Breakers   E) Sarah Huckabee Sanders

**DIRECTIONS for the question:** Mark the best option:

**Question No. : 95**

Which of the following spacecrafts, in 2017, plunged into the planet it was exploring?

- A) Apollo-8   B) Voyager-2   C) Voyager-1   D) Cassini   E) Pioneer-11

**DIRECTIONS for the question:** Mark the best option:

**Question No. : 96**

What is a Hundi?

- A) It is a financial instrument    B) It is a utensil used for marriage functions    C) It is a marriage ritual in Tibetan society  
D) It is Hyundai's earlier name    E) It is the name of the last Hun that ruled China

**DIRECTIONS for the question:** Mark the best option:

**Question No. : 97**

Windhoek, Suva and Ulaanbaatar are the capital cities of :

- A) Mongolia, Hungary, Romania    B) Namibia, Fiji and Mongolia    C) Ghana, Fiji and Uruguay  
D) Guyana, Fiji and Mongolia    E) Namibia, Guyana and Ghana

**DIRECTIONS for the question:** Mark the best option:

**Question No. : 98**

Match the surnames of head of states (former or current) to the countries:

| Surnames of the leader | Country of leader |
|------------------------|-------------------|
| A. Kirchner            | I. Brazil         |
| B. Lula                | II. Argentine     |
| C. Deng                | III. Venezuela    |
| D. Erdogan             | IV. China         |
| E. Chavez              | V. Turkey         |

- A) A-L, B-II, C-III, D-IV, E-V    B) A-II, B-I, C-IV, D-V, E-III    C) A-II, B-III, C-I, D-V, E-IV    D) A-IV, B-I, C-II, D-V, E-III  
E) A-IV, B-II, C-III, D-I, E-V

**DIRECTIONS for the question:** Mark the best option:

**Question No. : 99**

Which of the following is the most recent club to join ISL?

- A) FC Goa    B) Chennaiyin FC    C) North East United FC    D) Jamshedpur FC    E) Delhi Dynamos FC

**QNo:- 1 ,Correct Answer:- D**

**Explanation:-**

The sentence suggests that the payoff (reward or profit) from investment in education takes time. Also, it is so slow and erratic (unpredictable or uncertain) that it is useless (ineffective or bad) as a predictor of economic growth. Thus, the words in Choice (D) are apt.

**QNo:- 2 ,Correct Answer:- A**

**Explanation:-** The poem explicitly mentions 'dissolving the will' and 'escaped the question of free will and fate', hence one can safely deduce that all the three words in question are used more or less synonymously. The three words arise in the context of answering the question "what is love?", hence one can garner that one has to dump 'will', 'free will, and 'fate' to answer this question. Choice (A) is further strengthened by - Be foolish in love, because love is all there is'.

**QNo:- 3 ,Correct Answer:- B**

**Explanation:-** (A) is eliminated by 'Be dear like mirror holding nothing'; 'profundity of knowledge' is thus irrelevant. (C) is eliminated by 'Be pure emptiness'; 'freedom from emptiness' would thus be antonymous. (D) is eliminated by 'Contain all human faces in your own without any judgment of them'; 'being a fine judge of human quality' is thus antonymous to the received wisdom. (E) is negated by 'this love path has no expectations'. 'Silence is all' fortifies choice (B).

**QNo:- 4 ,Correct Answer:- E**

**Explanation:-**

The degree of erosion on coastline is partly a function of the average impact of waves and the average impact of waves is partly a function of the shape of the sea bottom, so it is true that the degree of erosion on coastline is related to the shape of the sea bottom. (A) is not true, there is no relation evident between the fetch and the shape of the sea bottom. (B) is beside the point. The paragraph states that the size of oceanic waves is correlated with the velocity of the wind and fetch, and nothing else, so (C) is not correct. The degree of erosion on coastline is partly related to the average impact of waves and the average impact of waves is partly related to the size of the waves and the size of the waves is partly related to the velocity of the wind, so it would be incorrect to assume (D).

**QNo:- 5 ,Correct Answer:- B**

**Explanation:-**

The paragraph begins with the question statement and justifies it towards (he end of the passage - 'not in accord with its own (labor's) will ... but in accord with the movement (will) of capital'. (A) and (D) are untrue. (C) and (E) are out of context, Basically, the passage argues that while there are similarities between labor and capital, they are very different, because capital controls labor.

**QNo:- 6 ,Correct Answer:- E**

**Explanation:-** (E) is supported by 'living labor which is purchased by the capitalist... That portion ... is the portion ... upon which the latter (labor) subsists'

**QNo:- 7 ,Correct Answer:- D**

**Explanation:-**

Choice (D) is supported by 'Before it is anything else ... the working class »s the ... part which will set in motion the process that yields to the total capital its increment of surplus value. As such, the working class is first of all, raw material for exploitation'. (A) is not substantiated, it could mean anything under the sun. (B) does not mention capital accumulation, (C) is out of context. (E) is not true, the passage mentions "working class is ... raw material for exploitation", not 'capital'.

**QNo:- 8 ,Correct Answer:- B**

**Explanation:-**

Throughout the passage, the author reiterates the fact that studying history widens our vision and the penultimate sentence of the passage states that by studying the accidental chain of events that led us here, we realize how our thoughts and dreams took shape and we begin to think and dream differently. Hence, if every street in India were to display a plaque that lists all its previous names, it would help us realize how our very thoughts and dreams took shape and thereby, help us begin to think and dream differently. Therefore, only option 6 would be the most appropriate for citizens to learn history. Options A and B restrict themselves only to British names of streets and do not speak about the history of India prior to British rule and hence, they can be eliminated. Options D and E fail to explain why it would be appropriate for citizens to learn history. Option B is the best answer for this question.

**QNo:- 9 ,Correct Answer:- E**

**Explanation:-**

Refer to lines 7 and 8 of the passage - "Scholars in all fields..... This is especially true of history" - and the last four lines of the passage, from which it can be understood that studying history helps us to think and dream differently and it gives us more options. Hence it can be said that option E is closest to the main idea which the author intends to convey. Option A can be understood from the passage but it does not bring out the main idea of the passage. Options B, C and D are too generalized and do not bring out the essence of the passage. Choice (E)

**QNo:- 10 ,Correct Answer:- D**

**Explanation:-**

Statements 1 and 4 are contradicted by lines 4 to 6 of the passage. Statement 3 does not contradict the author's view because the author encourages the study of history, as studying history broadens our perspective. Hence it cannot be categorically stated that studying the past leads to dismal performance. Hence option D is the correct answer.

**QNo:- 11 ,Correct Answer:- C**

**Explanation:-**

Sentence 3 introduces the topic; it suggests that it will be more useful to understand the lives of the victims than to obsess over their deaths. Sentence 5 follows by suggesting that their deaths could be exploited. Sentence 2 comes next by elaborating on how the deaths can possibly be exploited. Sentence 1 comes next by saying that it is more urgent, while less appealing, to understand the actions of the perpetrators. Sentence 4 is conclusive in tone. The logically arranged sequence of sentences, thus, is 35214.

**QNo:- 12 ,Correct Answer:- C**

**Explanation:-**

A manager makes a case for a training program on 'openness'. Which option strengthens his case? (C) provides statistical evidence to back his argument. (A) is alarming, if only one participant benefited from the program, it would be money down the drain. (B) highlights the merits of the design of the program, but fails to draw the CEO's attention to return on investment for the organization. (D) resorts to threats, which would undoubtedly damage the manager's case. (E) resorts to emotional blackmail, without attempting a critical analysis of the case at hand.

**QNo:- 13 ,Correct Answer:- D**

**Explanation:-**

Arti's long-term goals include working towards improving the lives of underrepresented populations. It was natural that she would search for a college that was dedicated to producing compassionate (tender or gentle or caring) leaders. She – as any other student would have done - chose her college since its mission (as articulated by the mission statement) was similar to hers. Thus, choice (D) is the correct choice. The other choices talk about cost, personalized attention from professors etc and are, therefore, irrelevant.

**QNo:- 14 ,Correct Answer:- E**

**Explanation:-**

Refer to lines 5 and 6 of para 2 "Peirce defines a belief subjectively as something of which we are aware and which appeases the doubt". From this it can be inferred that a doubt may lead to belief. The word 'subjectively suggests that a doubt may lead to belief. Hence it cannot be said categorically that a doubt always leads to a belief.

**QNo:- 15 ,Correct Answer:- A**

**Explanation:-**

It is stated in the passage that once we achieve a belief, we can take the necessary action to reach our destination. From this it is explicit that a candidate believes that he/she has faith in the application process and that is the reason why he/she has applied for XAT. A candidate's trust in the application process leads him or her to apply for the exam that is the main reason which prompts him or her to apply for the exam. Hence option (A) is the best answer to this question.

**QNo:- 16 ,Correct Answer:- C**

**Explanation:-**

The word "dilettantism" means amateurism or inexperience. Peirce acknowledges that some people like to think about things or argue about them without caring to find a true belief, but he asserts that such dilettantism does not constitute thought. By referring to people who don't care to find out a true belief, it can be understood that Peirce is referring to people who indulge in mere guess work. Hence, from the given options the word "guess" is closest in meaning to the word dilettante.

**QNo:- 17 ,Correct Answer:- B**

**Explanation:-**

It is stated in the second para of the passage that Peirce acknowledges that some people like to think about things or argue about them without caring to find a true belief, but he asserts that such dilettantism does not constitute thought. From this it can be inferred that a person thinks that s/he has to keep awake for twenty hours in a day to score well in an examination, but is awake for only fifteen hours, that the person is merely holding a thought without caring to find a true belief. Hence choice B is the appropriate answer to this question.

**QNo:- 18 ,Correct Answer:- C**

**Explanation:-** "Unique from" is an incorrect expression. Thus, choices (A) and (D) are eliminated. "... but he hadn't expected no criticism." is absurd. Thus, choice (B) is eliminated. Of the remaining two choices (C) and (E), the former is apt as the conjunction "but" aptly conveys the idea that though Vikram's approach was different from Harpreet's, he expected no criticism from the latter.

**QNo:- 19 ,Correct Answer:- A**

**Explanation:-**

"Gold" is an uncountable noun. Therefore, the apt adjective is "less" gold and not "fewer" gold. Choices B and D are, thus, eliminated. "10,000 men" is a countable noun. Therefore, the apt adjective is "fewer" and not "less". Choice E is, thus, eliminated. When "some" is used adjectivally with "time" to mean a short time, a long time, or an indefinite time, it should be written as two words "some time" An example sentence is: She has not heard from her friend in some time. Thus, "some time" is apt for the third blank. "Sometime" means an indefinite or unspecified time and is apt for the fourth blank. "Sometimes" means occasionally, rather than all of the time and is apt for the last blank.

**QNo:- 20 ,Correct Answer:- B**

**Explanation:-**

The author argues throughout the passage that materialists cannot solve the hard problem of consciousness, which is backed by Galileo's observations. (A) is a minor point. (C) is not true, according to the passage. (D) is far-fetched. (E) has been disproved in the passage.

**QNo:- 21 ,Correct Answer:- E**

**Explanation:-** The official answer is (E). Whereas (B) seems to be the likely answer, since it refers to experiences, which are mentioned in the passage.

**QNo:- 22 ,Correct Answer:- D**

**Explanation:-**

Choice (A) is denied by 'Explaining complex behavior is an important scientific endeavor. But the hard problem of consciousness cannot be solved by changing the subject'; Choice (B) is denied by 'But the hard problem of consciousness cannot be solved by changing the subject'. Choice (C) is denied by 'philosophers have declared that certain phenomena are too special to be explained by physical science... only to be subsequently proven wrong by the relentless march of scientific progress'. Choice (E) is denied by 'It is sometimes said that consciousness is a mystery in the sense that we have no idea what it is. This is dearly not true'. Choice (D) is supported by the last sentence of the passage! Refer to 'I created physical science by taking consciousness out of the physical world'!

**QNo:- 23 ,Correct Answer:- C**

**Explanation:-**

Vocalists have not been mentioned in the paragraph, so no information regarding vocalists can be deduced as such, rendering point 2 incorrect. The paragraph casually mentions that 'playing an instrument' can result in 'integrating ... senses' and 'This can also be applicable in the business world. However, point 4 jumps to conclusions, asserting that integrating the five senses is critical in the business world. Point 1 is problematic because of the word 'unique', whereas the passage mentions 'rich and complex experience'. Point 3 can be deduced from the paragraph - 'Unlike brain games, playing an instrument ... integrating ... senses ... along with fine movements'.

**QNo:- 24 ,Correct Answer:- A**

**Explanation:-**

Only the word "nonchalance" is apt for the first blank as it refers to a person feeling or appearing casually calm and relaxed and not displaying anxiety. The word "remonstration" is apt for the second blank; it means to say or plead in protest or objection. The word apt for the third blank is "philippic", it means a bitter verbal attack.

This unreasonable attack by the boss naturally filled him with a feeling of dissatisfaction arising from - or possibly resulting in - a lack of excitement for the job. Thus, "ennui" is the apt word for the last blank.

**QNo:- 25 ,Correct Answer:- A**

**Explanation:-**

Sentence 3 introduces the topic. Sentence 1, by talking about a more advanced formulation, follows 3; note the pronoun "it". Sentence 4 follows by elaborating on the ten dimensions mentioned in 1. Sentence 5 comes next with a word of caution that the theory has not yet been confirmed. Sentence 2 comes after 5 by talking about its impact despite what has been mentioned in 2. Thus, the logically arranged sequence of sentences is 31452.

**QNo:- 26 ,Correct Answer:- E**

**Explanation:-**

The paragraph quotes scriptures, religious texts, and religious leaders to support the argument that Indian religious and ethical space is different from that of the western countries. The only choice that can make this argument redundant is (E), which makes a case that the Western ethical and religious space has a long tradition of treatment of human values and Dharma, hence there is nothing unique about the Indian religious and ethical space. (A), (B) and (C) lend credence to the argument in the paragraph. (D) mentions religious leaders in Western civilization but throws no light on Western religious and ethical space, if at all it existed.

**QNo:- 27 ,Correct Answer:- E**

**Explanation:-** Sayed felt that Palani's transfer was due to his poor performance in the previous branch, which may or may not be fact. So, we have to find a option which will most likely assuage Sayed's fear.

- A. We cannot say that Satyender will also exceed the target in the 13<sup>th</sup> year.
- B. As his recent performance was not good, so, we cannot be sure that performance would be good this year also.
- C. This option is irrelevant.
- D. This option has nothing to do with Palani.
- E. This is the required option as the performance of Palani can be excluded.

**QNo:- 28 ,Correct Answer:- A**

**Explanation:-**

Choice (A) is least likely to be misused, because the relaxation would be applicable to only new employees, which cannot be misused by old employees. More over a time period of three months or so can be set for one being considered as new, beyond which expenses beyond the expected level are not accepted.

**QNo:- 29 ,Correct Answer:- E**

**Explanation:-** (A), (B), (D) and (E) have given Satyender the specifics about the territories but in option (C) Satyender doesn't have any data regarding the territory. So, he may find it least useful.

**QNo:- 30 ,Correct Answer:- A**

**Explanation:-** Sudarshan's concern is two of his three companies are incurring losses after he hired the officials.

- (A) is the best option which will reduce Sudhanshan's concern as a leading financial institution advised to buy shares, that means this company is going to make profits in the future.
- (B) cannot be the required option as we cannot say whether the companies were making profit or not.
- (C) This will not reduce his concerns, as it is not addressing the core issue.
- (D) This option is irrelevant.
- (E) This option cannot justify anything.

**QNo:- 31 ,Correct Answer:- B**

**Explanation:-**

We have to find an option where we can say that the senior employees are misguiding Sudarshan, which is best explained in option (B). The senior employees were given respected positions that means they were being valued which contradicts the senior person's claims. We can eliminate other options.

**QNo:- 32 ,Correct Answer:- A**

**Explanation:-**

In option (A), Chhaganlal is addressing the issue with the right authority with right reason that the informal sources might misguide the CEO. The rest other options are negative so can be eliminated.

**QNo:- 33 ,Correct Answer:- D**

**Explanation:-** Emily and Rose together are more powerful than Jonathan. By attacking Jonathan they will be able to engage him in war and delay by diverting his resources toward war. Thus (D) would delay Jonathan's plans.

**QNo:- 34 ,Correct Answer:- D**

**Explanation:-**

Rose and Emily would not help Jonathan in annexing K as it may make him stronger. Hence, neither (A) nor (B) can be the answer. It is not indicated if Rose and Emily have any intentions of attacking Jonathan. Even if a rift is created between Emily and Rose, they would realise the intentions of Jonathan when he attempts to annex K. Thus, Jonathan should secretly double his army so that neither Emily nor Rose would know about it.

**QNo:- 35 ,Correct Answer:- B**

**Explanation:-**

Option (A) cannot be the answer as Jonathan may become a threat in future. Choice (C) does not reduce the fight between the tribes. Choice (D) further aggravates the problem. Choice (E) does not help in controlling the tribes. Aligning with Rose and Emily is the best option.

**QNo:- 36 ,Correct Answer:- C**

**Explanation:-**

Post the allegation, the investors were losing faith in the company. They might be under the impression that Bhushan might have compromised on quality standards. To assuage this fear and instill the confidence in the investors the CEO should make it known to the public that quality has actually been increased by shifting to a new supplier and that the company is open for scrutiny by any one. Thus (C) is the best option.

**QNo:- 37 ,Correct Answer:- E**

**Explanation:-**

The rumors was within the organization that Bhusan was exonerated, which was influenced by nepotism. So, the best possible way is that the CEO herself should come and explain the real facts about the case, which is best explained in option (E). The rest of the options can be eliminated.

**QNo:- 38 ,Correct Answer:- D**

**Explanation:-**

The third point that was being contemplated by Ava is not required as there is no need to address the employees as only the board of directors were concerned about the case. Therefore, options (B). (C) and (E) can be eliminated. In option (A), she is first explaining her stand and she is taking action. But, the proper sequence should be action followed by explanation. So, option (D) is the best possible sequence of actions for Ava.

**QNo:- 39 ,Correct Answer:- B**

**Explanation:-**

The minimum time required is 5 hours and 5 minutes. A person will start at Jamsedpur in train number T102 at 7:30 and will reach Kharagpur at 9:05. He will take 90 minutes to go to the office, do the paper work and again come back to the station. So, the time will be 10:35. After that at 10:40 there is a train at Kharagpur to Jamsedpur and he will be back at Jamsedpur at 12:35. The total time taken is 5 hours and 5 minutes, which is the minimum.

**QNo:- 40 ,Correct Answer:- E**

**Explanation:-**

In T201 the employee will take 6 hours and 55 minutes but in trains number T202 and T203 the employee will take 6 hours and 20 minutes each. Hence, the employee can board either T202 or T204.

**QNo:- 41 ,Correct Answer:- B**

**Explanation:-** In option (C) and (D) the employee has to go from Kharagpur to Jamsedpur. After reaching Jamsedpur he again has to go to Howrah via Kharagpur which will ultimately take more time. Hence, these two options can be eliminated, and therefore, option (E) can also be eliminated,

The time required for the employee in the trains T102 and T103 are as follows:

(A) T102- 9 hours 30 minutes

(B) T103- 8 hours 45 minutes

Therefore, the minimum time required will be in train no T103.

**QNo:- 42 ,Correct Answer:- D**

**Explanation:-**

The dispute is regarding the ownership of stones. Neither choice (A) nor (C) is a fair decision as not every stone is rolled down. Moreover, some of the stones rolled down form B's region also. Choice (B) is irrelevant as there is no issue with ownership of water and neither there is a necessity to cause hardship to B. Rolling down of stones does not lead to transfer of ownership. Thus (D) is the best among the given options.

**QNo:- 43 ,Correct Answer:- C**

**Explanation:-** Option (C) is the best option as they have to optimize the resources based on the individual demand.

Option (A) all three lose the control over the problems.

Option (B) again may not lead to sufficiency for construction of each of the house.

**QNo:- 44 ,Correct Answer:- B**

**Explanation:-** Suggestion (E) cannot be a part of the correct solution as the employees themselves have requested the organization for help.

Suggestion (D) is the matter concerning the private life of the employee family.

Suggestion (A) is to set up a precautionary fund covering expected expenditure for all such employees, which may be costly

**QNo:- 45 ,Correct Answer:- E**

**Explanation:-** When all the stakeholders are involved, there would be checks and balances and hence **the** scope of misuse is the least.

**QNo:- 46 ,Correct Answer:- E**

**Explanation:-** Choice (A): This would require Wadhuri's physical presence to monitor. Hence, (A) cannot be the answer.

Choice (B): This increases the overall cost to the customer, which may be detrimental to the interest of the business.

Choice (C): Since it is known that the cleaner is available during a particular time only, this is not a correct solution.

Choice (E): This is cost effective to Madhuri and would be handy to the customers as well.

**QNo:- 47 ,Correct Answer:- E**

**Explanation:-**

The problem is that the guests are forgetting to return the key and thus making Madhuri to spend money and wait for some time to receive a duplicate key. The solution here is to ensure that the customers do not forget to return the key. For this choice (E) is the best option.

**QNo:- 48 ,Correct Answer:- D**

**Explanation:-** We have  $10 + 10^3 + 10^6 + 10^9 = 1001001010$ .

**QNo:- 49 ,Correct Answer:- E**

**Explanation:-** Let the total work is 180 units. So Abdul can do 18 units/day, Bimal can do 15 units/day, Charlie can do 12 units/day and Dilbar can do 10 units/day. Now if Abdul and Charlie will work for one day, then they will do  $18 + 12 = 30$  units. In two days Bimal will do 30 units and in three days Dilbar will do 30 units. So 90 units of the work will be completed in 3 days which is 50% of the total work.

**QNo:- 50 ,Correct Answer:- E**

**Explanation:-** Let the diagonals are  $3x$  and  $4x$  respectively. Half of the diagonals will be  $\frac{3x}{2}$  and  $2x$ .

$$\text{We have } \left(\frac{3x}{2}\right)^2 + 4x^2 = 225$$

$$\Rightarrow 25x^2 = 900 \Rightarrow x^2 = 36$$

$$\text{The area of the rhombus} = \frac{1}{2} \times 3x \times 4x = 6x^2 = 6 \times 36 = 216 \text{ sq cm}$$

**QNo:- 51 ,Correct Answer:- D**

**Explanation:-** Let  $P = 100$  and the raise is of 100% i.e.  $X = 100$ . So the new price is 200. Now the discount  $Y = 50\%$ . So the final value =  $100 = P$ . Also  $X - Y = 100 - 50 = 50 = Y$ .

**QNo:- 52 ,Correct Answer:- E**

**Explanation:-** Let the water in the mixture is 'a' and liquids A and B are  $5x$  and  $3x$  respectively.

$$\text{Now } \frac{a + 5x + 3x}{3} = a \Rightarrow a = 4x$$

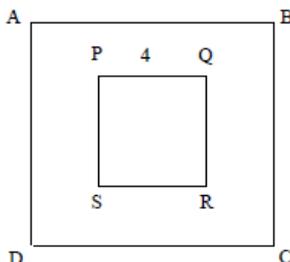
So the ratio of the water, A and B is 4: 5: 3.

Let the water in the mixture is 12 ml, A is 15 ml and B is 9 ml. Since the liquid B is not absorbed, so its final quantity will be same i.e. 9 ml. The final ratio of A and B is 7: 9. So the volume of A left is 7 ml. It means 8ml A and 12 ml water i.e. a total of 20 ml material is absorbed.

Now if total mixture absorbed is 20 ml, the water absorbed is 12 ml.

If total mixture absorbed is 200 ml, the water absorbed is = 120 ml.

**QNo:- 53 ,Correct Answer:- E**



**Explanation:-**

Let ABCD be any one of the square tiles of side 10 cm. Consider the inner square PQRS of side 4. If the centre of the coin falls anywhere on PQRS, the coin lies entirely within a tile. The probability that the coin lies entirely within a tile is the area of PQRS divided by the area of ABCD, i.e., 0.16.

**QNo:- 54 ,Correct Answer:- D**

**Explanation:-** The surface area of a sphere =  $4\pi r^2$   
 When a sphere is sliced into 4 identical pieces, the total exposed area will be:  
 = The areas of the curved surfaces + the areas of the plane surfaces  
 =  $4\pi r^2 + 4 \times \pi r^2 = 4\pi r^2 + 4\pi r^2 = 8\pi r^2$   
 If  $4\pi r^2$  requires 2 L of paint  
 $8\pi r^2$  will require = 4 L

**QNo:- 55 ,Correct Answer:- A**

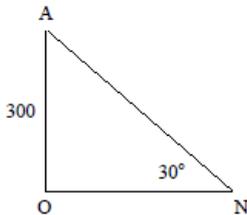
**Explanation:-** Let the total distance is x.  
 So speed  $V_1 = \frac{x}{3}$   
 Now on this particular day, the distance covered in 10 min =  $\frac{x}{30} \times 10 = \frac{x}{3}$   
 The remaining distance is  $\frac{2x}{3}$ , which is covered in 30 min. So  $V_2 = \frac{\frac{2x}{3}}{30} = \frac{x}{45}$   
 Now AV speed =  $\frac{\text{Total distance}}{\text{Total time taken including resting two}} = \frac{x}{45}$   
 $\therefore$  Ratio of  $V_2$  and average speed =  $\frac{x}{45} : \frac{x}{45} = 1 : 1$

**QNo:- 56 ,Correct Answer:- D**

**Explanation:-** Let the light house is OA and the boat in the north is at point N and the boat in the east is at point E.

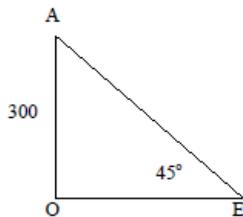
(i) In the first case where the boat is at point N, we have

$$\begin{aligned} \tan 30^\circ &= \frac{AO}{ON} \\ \Rightarrow \frac{1}{\sqrt{3}} &= \frac{300}{ON} \\ \Rightarrow ON &= 300\sqrt{3} \text{ feet} \end{aligned}$$



(ii) In the second case where the boat is at point E, we have

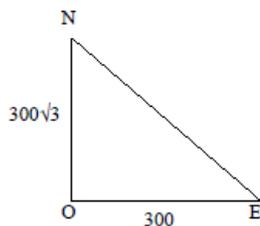
$$\begin{aligned} \tan 45^\circ &= \frac{AO}{OE} \\ \Rightarrow 1 &= \frac{300}{OE} \\ \Rightarrow OE &= 300 \text{ feet} \end{aligned}$$



Combining the above two results, we have

$$\begin{aligned} NE^2 &= OE^2 + ON^2 \\ \Rightarrow NE^2 &= 90000 + 270000 \\ \Rightarrow NE^2 &= 360000 \\ \Rightarrow NE &= 600 \text{ feet} \end{aligned}$$

$\therefore$  the distance between the two boats is 600 feet.



**QNo:- 57 ,Correct Answer:- C**

**Explanation:-** Let the common root is B.

Now  $A \times B = 35$

$\Rightarrow A \times B = 1 \times 35$

If  $A = 1, B = 35$  then  $C = 5$

So option 1 and 4 are incorrect.

Again  $A \times B = 5 \times 7$

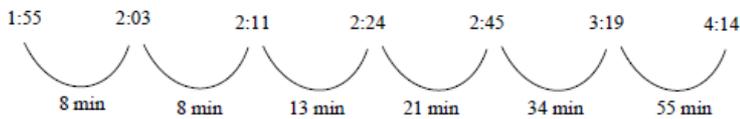
If  $A = 5, B = 7$  then  $C = 29$

So option 2 is incorrect

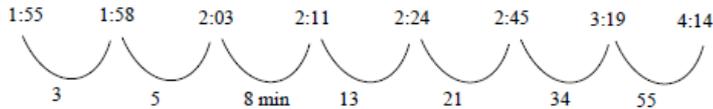
Now in the above cases, it is clear that one of the roots is 5.

**QNo:- 58 ,Correct Answer:- B**

**Explanation:-** The times on the different clocks are



If we look at the differences of the time, they are 8 min, 8 min, 13 min, 21 min, 34 min and 55 min. Now from 21min onwards, each difference in time is the sum of two previous differences. It should be the case of the first 3 times. So the eight clock lies between the first two clocks. If we use options then it is clear that the time on the remaining clock will be 1:58 P as in that case the series will be completed as follows.



Here each subsequent difference is the sum of the previous two differences.

**QNo:- 59 ,Correct Answer:- C**

**Explanation:-** Let initially, the number of girls = x

So the number of boys = x + 30

Let 'y' new girls joined the school.

We have  $\frac{x+30}{x+y} = \frac{3}{5}$

$\Rightarrow 5x + 150 = 30 + 3y$

$\Rightarrow 3y - 2x = 150 \dots\dots\dots (1)$

The natural number solutions of equation (i) for (x, y) are (3, 52), (6, 54), (9, 56), .....

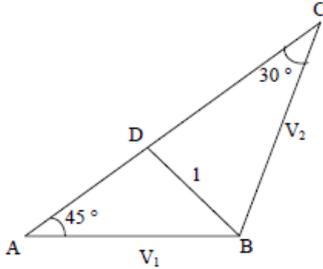
Hence the minimum no. of girls who joined = 52

**QNo:- 60 ,Correct Answer:- C**

**Explanation:-** The geometrical properties of the girl's trajectory have been completely given.

In  $\Delta ABC$ ,  $\angle B = 105^\circ$ ,  $\angle A = 45^\circ$ .

$\therefore \angle C = 30^\circ$ .



Let  $D$  be the foot of the perpendicular from  $B$  to  $AC$ . Let  $BD = 1$ . As  $\angle C = 30^\circ$ , it follows that  $CD = \sqrt{3}$ ,  $BC = 2$ . As  $\angle A = 45^\circ$ , it follows that  $DA = 1$ . The girl takes time  $T$  to cover  $BC$  (i.e. 2 units).

$\therefore$  She takes  $\frac{\sqrt{3}}{2}T$  to cover  $CD$  and  $\frac{T}{2}$  to cover  $DA$ .

Time taken to cover  $CA = 0.5(\sqrt{3} + 1)T$ .

**QNo:- 61 ,Correct Answer:- E**

**Explanation:-**

If we assume that 70 is the number of registrations in the mandatory course, we conclude that there are 70 students. Each student has to take 2 electives. There have to be 140 instances of student-electives. Other than the 55 + 45 already mentioned, there have to be 40 more. If we assume that the given numbers refer to the 3 electives, the student-elective instances is 45 + 55 + 70, viz. 170. The represents 85 student (Each students takes 2 electives.) The elective with the lowest registration has 45 registrations. The number of students in the elective with the lowest registration could be 40 or 45.

**QNo:- 62 ,Correct Answer:- B**

**Explanation:-**

The given expressions are exponential expressions. (They have not been formatted properly). The units digits of successive powers of any integer show a cyclic pattern with cycle length 4. The units digits of  $x, x^2, x^3, x^4$  are tabulated below.

|       |   |   |   |   |   |   |   |   |   |
|-------|---|---|---|---|---|---|---|---|---|
| $x$   | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 |
| $x^2$ | 1 | 4 | 9 | 6 | 5 | 6 | 9 | 4 | 1 |
| $x^3$ | 1 | 8 | 7 | 4 | 5 | 6 | 3 | 2 | 9 |
| $x^4$ | 1 | 6 | 1 | 6 | 5 | 6 | 1 | 6 | 1 |

The units digit of  $(408x)^{63}$  is the same as the units digit of  $x^3$ . The units digit of  $(789y)^{85}$  is the same as that of  $(789y)^1$ , i.e. it is  $y$ . (Given  $\neq y$ )

From the table above, if  $x = 2, y = 8$ . If  $x = 3, y = 7$ .

If  $x = 7, y = 3$ . If  $x = 8, y = 2$ . In any case  $x + y = 10$ .

**QNo:- 63 ,Correct Answer:- E**

**Explanation:-**  $2 \leq |x-1| |y + 3| \leq 5$

Both  $x, y$  are negative integers.

Let  $|x-1|$  be  $A, |y + 3|$  be  $B$

$\therefore AB = 2, 3, 4$  or  $5$

These values, the corresponding possible values of  $A, B, x - 1, y + 3$  and  $x, y$  are tabulated below.

| AB | A | B | $X - 1$ | $Y + 3$ | X  | Y  |
|----|---|---|---------|---------|----|----|
|    | 1 | 2 | -       | -       |    |    |
| 2  | 2 | 1 | -2      | 1       | -1 | -2 |
|    |   |   | -2      | -1      | -1 | -4 |
| 3  | 3 | 1 | -3      | 1       | -2 | -2 |
|    |   |   |         | -1      | -2 | -4 |
| 4  | 2 | 2 | -2      | 2       | -1 | -1 |
|    |   |   |         | -2      | -1 | -5 |
|    | 4 | 1 | -4      | 1       | -3 | -2 |
|    |   |   |         | -1      | -3 | -4 |
| 5  | 5 | 1 | -5      | 1       | -4 | -2 |
|    |   |   |         | -1      | -4 | -4 |

We see that there 10 possible values of  $(x, y)$

Alternate solution:

$2 \leq |x - 1| |y + 3| \leq 5$ . Both  $x, y$  are negative integers.

As  $x < 0, x - 1 < -1$  and  $|x - 1| > 1$

If  $|x - 1| = 2$ , then  $|y + 3| \leq 2.5$ , i.e.  $|y + 3| = 1$  or  $2$

If  $|x - 1| = 3$ , then  $|y + 3| \leq 5/3$ , i.e.  $|y + 3| = 1$

If  $|x - 1| = 4$ , then  $|y + 3| \leq 5/4$ , i.e.  $|y + 3| = 1$

If  $|x - 1| = 5$ , then  $|y + 3| \leq 1$ , i.e.  $|y + 3| = 1$

This gives  $x = -1$  and  $y = -2, -4, -1, -5$

$x = -2$  and  $y = -2, -4$

$x = -3$  and  $y = -2, -4$

$x = -4$  and  $y = -2, -4$

There are 10 possible values of  $(x, y)$ .

**QNo:- 64 ,Correct Answer:- B**

**Explanation:-** From the options, we have to consider whether the sum of 4 consecutive dates can be 32, 64, 128 or 256.

As no date can exceed 31, we need not consider 128 or 256. 32 cannot be expressed as the sum of 4 consecutive numbers. We see that  $64 = 30 + 31 + 1 + 2$ .

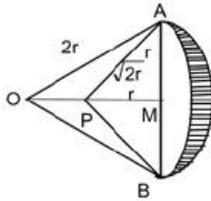
Therefore, on the second of each month following a month with 31 days, the given condition is satisfied.  $N = 6$ .

**QNo:- 65 ,Correct Answer:- D**

**Explanation:-**

The curved surface areas (CSA) of the small cone and the frustum are in the ratio 1:2. Therefore, the CSAs of the small and big cones are in the ratio 1:3. The linear dimensions (viz radius, height, slant height) are in the ratio  $1: \sqrt{3}$ . The slant height of the big cone is 12. Therefore, for the small cone it is  $4\sqrt{3}$  and for the frustum, it is  $12 - 4\sqrt{3}$ .

**QNo:- 66 ,Correct Answer:- C**



**Explanation:-**

O is the centre of the bigger circle. Let P be the centre of the smaller circle. The two circles (not shown) intersect at A and B. As  $\angle AOB = 60^\circ$ , it follows that  $\angle AOP = 30^\circ$ .

As  $OA = 2r$ , (for the sake of clarity, we use r instead of R.) it follows that  $AM = r$  (M is the point of intersection of segment AB and line OP.) and  $OM = \sqrt{3}$ . As  $PA = \sqrt{2}r$ , it follows that  $MP = r$  and  $\angle APB = 90^\circ$ .

The common area is the area of the smaller circle minus the shaded area. .... (1)

Shaded area = Ar of quadrant APB + Ar  $\triangle OPA$  + Ar  $\triangle OPB$  – Ar of sector AOB.

$$= \frac{\pi(\sqrt{2}r)^2}{4} + (\sqrt{3}-1)r^2 - \frac{\pi}{6}(2r)^2$$

$$= \pi^2\left(\frac{1}{2}-\frac{2}{3}\right) + (\sqrt{3}-1)r^2$$

$$= \frac{-\pi^2}{6} + (\sqrt{3}-1)r^2 \dots\dots\dots(2)$$

$$(1), (2) \Rightarrow \text{common area} = 2\pi r^2 + \frac{\pi r^3}{6} + (1-\sqrt{3})r^2$$

$$= \left(\frac{13\pi}{6} + 1 - \sqrt{3}\right)r^2$$

**QNo:- 67 ,Correct Answer:- A**

**Explanation:-** Let x be the age of any one of the six friends and S be the sum of the 6 ages.

Statement I: As  $50 < x < 85$ , it follows that

$300 < S < 570$ . In this range, only 361 is the square of a prime number. The average age is 60 years. Sufficient.

Statement II: The standard deviation is 4.6. We can get neither S nor the average age from this.

Statement I alone is sufficient.

**QNo:- 68 ,Correct Answer:- D**

**Explanation:-** The sum of the numbers from 1 to 10 is 55.

Also,  $1 + 3 + 5 + 7 + 9 = 25$ ,

While  $2 + 4 + 6 + 8 + 10 = 30$

Statement I: The total for Harry is 30 and for Sunny, it is 25. As indicated above, the 2 could be with Harry or Harry could have picked 1, 5, 6, 8, 10 and Sunny 2, 3, 4, 7, 9. Not sufficient.

Statement II: One of them has exactly 4 odd numbers. The alone is not sufficient.

Statement I, II: For the one who has exactly 4 odd numbers, the total is even. It has to be 30. The sum of the 4 odd numbers (viz., 1, 3, 5, 7, 9) can be 16, 18, 20, 22 or 24. But the fifth number can only be 10, 8 or 6. (The total has to be 30.)

Therefore, 2 has to be with the one where total is 25, viz. Sunny.

**QNo:- 69 ,Correct Answer:- E**

**Explanation:-** From the given table, as team D has two draws and both B and C have one draw, B should have drawn its match D and C also had a draw with D. As C did not concede any goal and it won a match, the match between C and D ended as 0 – 0. As D has scored one goal and conceded one, the match between B and D ended as 1 – 1.

As A won both its matches and B and C own the remaining match they played, A has played and won against both E and F. Now as B has to win its match 4 – 0 (as it has already drawn a match 1 – 1).

∴ B has to play F and C has played E.

The matches played till now would be as follows

A – F (3 – 0)

A – E (2 – 1)

B – D (1 – 1)

B – F (4 – 0)

C – D (0 – 0)

C – E (2 – 0)

(A – D) and (E – F) are yet to be played.

**QNo:- 70 ,Correct Answer:- B**

**Explanation:-** From the given table, as team D has two draws and both B and C have one draw, B should have drawn its match D and C also had a draw with D. As C did not concede any goal and it won a match, the match between C and D ended as 0 – 0. As D has scored one goal and conceded one, the match between B and D ended as 1 – 1.

As A won both its matches and B and C own the remaining match they played, A has played and won against both E and F. Now as B has to win its match 4 – 0 (as it has already drawn a match 1 – 1).

∴ B has to play F and C has played E.

The matches played till now would be as follows

A – F (3 – 0)

A – E (2 – 1)

B – D (1 – 1)

B – F (4 – 0)

C – D (0 – 0)

C – E (2 – 0)

Among the given option A – E (2 – 1) is possible.

**QNo:- 71 ,Correct Answer:- A**

**Explanation:-** From the given table, as team D has two draws and both B and C have one draw, B should have drawn its match D and C also had a draw with D. As C did not concede any goal and it won a match, the match between C and D ended as 0 – 0. As D has scored one goal and conceded one, the match between B and D ended as 1 – 1.

As A won both its matches and B and C own the remaining match they played, A has played and won against both E and F. Now as B has to win its match 4 – 0 (as it has already drawn a match 1 – 1).

∴ B has to play F and C has played E.

The matches played till now would be as follows

A – F (3 – 0)

A – E (2 – 1)

B – D (1 – 1)

B – F (4 – 0)

C – D (0 – 0)

C – E (2 – 0)

Among the given option A – E (4 – 0) is possible.

**QNo:- 72 ,Correct Answer:- C**

**Explanation:-** Among all the professors, Prof. Calculus had the maximum year to year percentage growth in feedback and it was from 2012 to 2013 (4 – 7) i.e., 75%.

**QNo:- 73 ,Correct Answer:- C**

**Explanation:-** Decreasing efforts in research accompanied with increase in feedback happened for  
 Prof. Arithmetic – 2014, 2016  
 Prof. Algebra – 2012, 2015, 2016  
 Prof. Geometry – 2011, 2014  
 Prof. Calculus – 2011, 2015  
 A total of nine instances.

**QNo:- 74 ,Correct Answer:- A**

$$\begin{aligned} \text{Efficiency for Prof. Arithmetic} &= \frac{8}{7+5+6} = \frac{8}{18} \\ \text{Efficiency for Prof. Algebra} &= \frac{8}{7.5+2.5+4} = \frac{8}{10} \\ \text{Efficiency for Prof. Geometry} &= \frac{8}{7.5+2.5+2} = \frac{8}{12} \\ \text{Efficiency for Prof. Calculus} &= \frac{8}{5.5+5.5+4} = \frac{8}{15} \end{aligned}$$

**Explanation:-**  
 Prof. Arithmetic was the least efficient.

**QNo:- 75 ,Correct Answer:- C**

**Explanation:-**

**QNo:- 76 ,Correct Answer:- A**

**Explanation:-**

**QNo:- 77 ,Correct Answer:- A**

**Explanation:-**

**QNo:- 78 ,Correct Answer:- B**

**Explanation:-**

**QNo:- 79 ,Correct Answer:- C**

**Explanation:-**

**QNo:- 80 ,Correct Answer:- B**

**Explanation:-**

**QNo:- 81 ,Correct Answer:- A**

**Explanation:-**

---

**QNo:- 82 ,Correct Answer:- E**

**Explanation:-**

**QNo:- 83 ,Correct Answer:- D**

**Explanation:-**

---

**QNo:- 84 ,Correct Answer:- D**

**Explanation:-**

**QNo:- 85 ,Correct Answer:- A**

**Explanation:-**

---

**QNo:- 86 ,Correct Answer:- B**

**Explanation:-**

**QNo:- 87 ,Correct Answer:- C**

**Explanation:-**

---

**QNo:- 88 ,Correct Answer:- C**

**Explanation:-**

**QNo:- 89 ,Correct Answer:- B**

**Explanation:-**

---

**QNo:- 90 ,Correct Answer:- A**

**Explanation:-**

**QNo:- 91 ,Correct Answer:- B**

**Explanation:-**

---

**QNo:- 92 ,Correct Answer:- A**

**Explanation:-**

**QNo:- 93 ,Correct Answer:- D**

**Explanation:-**

---

**QNo:- 94 ,Correct Answer:- D**

**Explanation:-**

---

**QNo:- 95 ,Correct Answer:- D**

**Explanation:-**

---

**QNo:- 96 ,Correct Answer:- A**

**Explanation:-**

---

**QNo:- 97 ,Correct Answer:- B**

**Explanation:-**

---

**QNo:- 98 ,Correct Answer:- B**

**Explanation:-**

---

**QNo:- 99 ,Correct Answer:- D**

**Explanation:-**

---

[www.fundamakers.com](http://www.fundamakers.com)



**FundaMakers**

**CAT-MBA | CLAT-LAW | IPM-BBA | GRE-GMAT**

Call: **9598-3333-44, 0522-4236636**

Centres : Aliganj | Indira Nagar | Alambagh