Verbal Ability and Logical Reasoning

Instructions

Read the following discussion/passage and provide an appropriate answer for the questions that follow.

Of the several features of the Toyota Production System that have been widely studied, most important is the mode of governance of the shop - floor at Toyota. Work and inter - relations between workers are highly scripted in extremely detailed 'operating procedures' that have to be followed rigidly, without any deviation at Toyota. Despite such rule - bound rigidity, however, Toyota does not become a 'command - control system'. It is able to retain the character of a learning organization

In fact, many observers characterize it as a community of scientists carrying out several small experiments simultaneously. The design of the operating procedure is the key. Every principal must find an expression in the operating procedure – that is how it has an effect in the domain of action. Workers on the shop - floor, often in teams, design the 'operating procedure' jointly with the supervisor through a series of hypothesis that are proposed and validated or refuted through experiments in action. The rigid and detailed 'operating procedure' specification throws up problems of the very minute kind; while its resolution leads to a reframing of the procedure and specifications. This inter - temporal change (or flexibility) of the specification (or operating procedure) is done at the lowest level of the organization; i.e. closest to the site of action.

One implication of this arrangement is that system design can no longer be rationally optimal and standardized across the organization. It is quite common to find different work norms in contiguous assembly lines, because each might have faced a different set of problems and devised different counter - measures to tackle it. Design of the coordinating process that essentially imposes the discipline that is required in large - scale complex manufacturing systems is therefore customized to variations in man - machine context of the site of action. It evolves through numerous points of negotiation throughout the organization. It implies then that the higher levels of the hierarchy do not exercise the power of the fiat in setting work rules, for such work rules are no longer a standard set across the whole organization.

It might be interesting to go through the basic Toyota philosophy that underlines its system designing practices. The notion of the ideal production system in Toyota embraces the following -'the ability to deliver just - in - time (or on demand) a customer order in the exact specification demanded, in a batch size of one (and hence an infinite proliferation of variants, models and specifications), defect - free, without wastage of material, labour, energy or motion in a safe and (physically and emotionally) fulfilling production environment'. It did not embrace the concept of a standardized product that can be cheap by giving up variations. Preserving consumption variety was seen, in fact, as one mode of serving society. It is interesting to note that the articulation of the Toyota philosophy was made around roughly the same time that the Fordist system was establishing itself in the US automotive industry.

Question 1

What can be best defended as the asset which Toyota model of production leverages to give the vast range of models in a defect - free fashion?

A Large scale complex manufacturing systems

B Intellectual capital of the company's management

C Loans taken by the company from banks and financial institutions

D Ability of the workers to evolve solutions to problems

E Skill and charisma of the top leadership

Answer: D

Explanation:
From the second paragraph, it can be inferred that the workers come up with solution to unique problems that come up during manufacturing . Hence, option D can be best defended as the asset which Toyota model of production leverages to give the vast range of models in a defect - free fashion.

Hence, option D is the correct answer.

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Question 2

Which of the following can be best defended as a pre-condition for the Toyota type of production syste

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A Existence of workers' union to protect worker's rights

B Existence of powerful management to create unique strategies

C Cordial worker - management relations to have industrial peace

D High management involvement towards problems identified by workers

E Management's faith in workers' abilities to solve problems in a rigorous manner

Answer: E

Explanation:
From the second paragraph, option E can be best defended as a pre-condition for the Toyota type of production system to work.

Hence, option E is the correct answer.

Question 3

Based on the above passage, which of the following statements is best justified?

A Workers have significant control rights over the design of work rules that allow worker skills and ingenuity to continuously search for novel micro - solutions using information that often sticks to the local micro - context of the work.

B Managers have significant control rights over the design of work rules that allow worker skills and ingenuity to continuously search for novel micro - solutions around micro - information that often sticks to the local micro - context of the work.

C Work rules enable the workers to report problems faced at the shop - floor to specialised personnel who set up experiments to replicate the conditions. This allows the specialists to come up with solutions that are rigorously tested in experimental conditions.

D Toyota as an organisation has extensive networks with different specialists who are subject matter experts in different fields. These networks allow problems to be resolved in the most advanced manner, enabling Toyota to beat the competition.

E Toyota's products are extensively tested by customers in simulated conditions before they are released to the market. This extensive testing is done by workers who double up as a community of scientists experimenting to develop the most advanced product.

Answer: A

Explanation:
From the answers of the first two questions, option A can be inferred.
Hence, option A is the correct answer.

Question 4

What could be the best defence of the "different work norms in contiguous assembly lines"?

A Without such variation allowed, rights of manager to design work - rules would have made very little sense, making the company similar to Ford.

B Prescribing standardised work norms would prevent Toyota from benefiting from workers' problem solving ability in resolving different kinds of problems that emerge, thus making it difficult to attain the Toyota philosophy.

C If similarities were imposed, rights of workers to experiment with work - rules would have made very little sense.

D Standardisation of work rules is only justified when the investments in plants are huge and experimenting with the work rules would be detrimental to the efficiency of the plants. Since Toyota's plants typically involved low investment, it could tolerate non standard work rules.

E With standardisation of processes, right of the workers in design of work - rules made sense. Since Toyota's manufacturing processes were non - standardised, the different work norms did not make sense.

Answer: B

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Explanation:
Only option B talks about the philosophy of Toyata system where worker can use their problem solving ability to tackle different kinds of problems. Right of manager mentioned in option A, right of workers in C, and low investment in Toyata plants cannot be inferred from the passage. Option E is contradictory.

XAT Previous Papers

Instructions
For the following questions answer them individually

Question 5

The author has _____ his composition to the best of his _____; yet listen to it with a sympathetic _____, O _____ souls, and judge it.
The option that best fills the blanks in the above sentence would be:

A honed, insights, mind, distinguished

B polished, intellect, mind, noble

C polished, mind, intellect, noble

D refined, ingenuity, heart, righteous

E refined, thoughts, heart, righteous

Answer: D

Explanation:
1st blank can be filled either by polished or refined as honed is used for "sharpen".

2nd blank can be filled by something which a personal trait or an ability. Therefore, ingenuity and intellect deemed a good fit.

For 3rd blank, a sympathetic heart is better than a sympathetic mind.

Hence, option D is the correct answer.

Question 6

There is much difficulty _____ getting _____ this place and it is not possible to reach _____ without the grace of the lord.
The option that best fills the blanks in the above sentence would be:

A in; to; it

B to; to; it

C to; in; it

D in; in; in

E in; to; to

Answer: A

Explanation:
'In' is used with difficulty and 'to' is used with getting. The word after 'reach' will refer to place, so it must be 'it'.
Hence, option A is the correct answer.

Question 7

_____ you have a doubt, why not go and verify? I shall be waiting in the shade _____ this banyan tree till you come back _____ me.

The option that best fills the blanks in the above sentence would be:

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A if; under; on

B as; of; for

C as; of; at

D for; under; at

E if; of; to

Answer: E

Explanation:
Since the first sentence is a question, 'if' is more appropriate than 'as'. Shade 'of' this tree and back 'to' me are the appropriate usages.

Hence, option E is the correct answer.

Question 8

Pick the odd one out:

A wisdom; folly

B friendship; enmity

C often; seldom

D loyalty; treachery

E devotion; loathing

Answer: A

Explanation:
In option B, friendship & enmity are antonyms.
In option C, often & seldom are also antonyms.
In option D, loyalty & treachery are antonyms.
In option E, devotion & loathing are also antonyms.
In option A, we have wisdom & folly.

Wisdom means the quality of having experience, knowledge, and good judgement; the quality of being wise whereas Folly means lack of good sense; foolishness, mistake. In a way lack of folly is not an antonym of lack of wisdom. These two words are not perfect antonyms whereas in remaining 4 options the pair of word means exact opposite of each other. Hence, option A is the correct answer.

Instructions

Analyse the following passage and provide appropriate answers that follow.

We can answer Fermi's Paradox in two ways. Perhaps our current science over - estimates the likelihood of extraterrestrial intelligence evolving. Or, perhaps, evolved technical intelligence has some deep tendency to be self - limiting, even self - exterminating. After Hiroshima, some suggested that any aliens bright enough to make colonizing space ships would be bright enough to make thermonuclear bombs, and would use them on each other sooner or later.

I suggest a different, even darker solution to the Paradox. Basically, I think the aliens forget to send radio signals or colonize space because they're too busy with runaway consumerism and virtual - reality narcissism. Once they turn inwards to chase their shiny pennies of pleasure, they lose the cosmic plot.

The fundamental problem is that an evolved mind must pay attention to indirect cues of biological fitness, rather than tracking fitness itself. This was a key insight of evolutionary psychology in the early 1990s; although evolution favours brains that tend to maximize fitness (as measured by numbers of great - grandkids), no brain has capacity enough to do so under every possible circumstance. As a result, brains must evolve shortcuts: fitness - promoting tricks, cons, recipes and heuristics that work, on an average, under ancestrally normal conditions. Technology is fairly good at controlling external reality to promote real biological fitne

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delivering fake fitness - subjective cues of survival and reproduction without the real - world effects.

Fitness - faking technology tends to evolve much faster than our psychological resistance to it. With the invention of Xbox 360, people would rather play a high - resolution virtual ape in Peter Jackson's King Kong than be a perfect – resolution real human. Teens today must find their way through a carnival of addictively fitness - faking entertainment products. The traditional staples of physical, mental and social development - athletics, homework dating - are neglected. The few young people with the self - control to pursue the meritocratic path often get distracted at the last minute.

Around 1900, most inventions concerned physical reality and in 2005 focus shifted to virtual entertainment. Freud's pleasure principle triumphs over the reality principle. Today we narrow - cast human - interest stories to each other, rather than broadcasting messages of universal peace and progress to other star systems.

Maybe the bright aliens did the same. I suspect that a certain period of fitness - faking narcissism is inevitable after any intelligent life evolves. This is the Great Temptation for any technological species – to shape their subjective reality to provide the cues of survival and reproductive success without the substance. Most bright alien species probably go extinct gradually, allocating more time and resources to their pleasures and less to their children.

Heritable variation in personality might allow some lineages to resist the Great Temptation and last longer. Some individuals and families may start with an "irrational" Luddite abhorrence of entertainment technology, and they may evolve ever more self - control, conscientiousness and pragmatism by combining the family values of the religious right with the sustainability values of the Greenpeace. They wait patiently for our fitness - faking narcissism to go extinct. Those practical - minded breeders will inherit the Earth as like - minded aliens may have inherited a few other planets. When they finally achieve contacts, it will not be a meeting of novel - readers and game - players. It will be a meeting of dead - serious super - parents who congratulate each other on surviving not just the Bomb, but the Xbox.

Question 9

Among the following options, which one represents the most important concern raised in the passage?

A Extraterrestrial life and its impact on human beings.

B Lack of interest in developing proper fitness.

C Short - term pleasure seeking behaviour.

D Technological advancement and extinction of intelligence.

E Tendency of brain to develop shortcuts.

Answer: C

Explanation:
The concern of the author is that, the advancement of the technology turned human into a pleasure seeking and fake-fitness inclined being. The excitement and inclination for such things have deviated us from adventurism, scientific nature of human beings of yesteryear. Therefore the short-term pleasure seeking nature is a concern.

Question 10

Which among the following would be the best possible explanation for the lack of contact between human beings and aliens?

A Overestimation of the technological capability of aliens.

B Genetic variation in aliens' personality is not yet achieved.

C Thermonuclear bombs might have destroyed all aliens.

D Colonisation of space is impossible to achieve.

E Aliens have become self - centred and pleasure seeking.

Answer: E

Explanation:
The author started with the previously given explanations of Fermi-paradox, then he expresses his views about why aliens have not visited the planet yet, or why there is no sign of aliens still billions of years after evolution of life on earth.
the nature of human beings and its development throughout history. He emphasized the changing nature

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seeking and self-centred as he expected a similar change with the behaviour of aliens.

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Question 11

To which of the following statements would the author of the passage agree the most?

A Violent crime, including gang warfare for turf protection and expansion, co - exists in all technological advanced societies in spite of proliferation of fitness - faking technologies.

B The technology to produce fitness - faking gadgets is guided by the government's desire to control the minds of citizens and keep citizens away from engaging in trouble - making activities.

C Countries that have the most advanced technology often are the ones that are at the forefront of colonial expansion through wars.

D Wars and colonial conquest engaged in by the European nations after the renaissance would not have occurred had fitness - faking gadgets and consumerism existed in those countries during those times.

E The search for colonies is undertaken by all the countries, irrespective of their technological expansion. This colonial expansion is guided more by need for adventure than for resources.

Answer: D

Explanation:
From the theme of the paragraph we can infer that the advancement of the technology turned human into a pleasure seeking and fake-fitness inclined being. The excitement and inclination for such things have deviated us from adventurism, scientific nature of human beings of yesteryear.

Hence only option D can be inferred from the paragraph as wars would not have occurred had fitness - faking gadgets and consumerism existed during those times just as according to the author aliens hasn't visited earth.

Question 12

Which of the following statements, if true, challenges the ideas presented in the passage the most?
I. Violent crime, including gang warfare for turf protection and expansion, co - exists in all technological advanced societies in spite of proliferation of fitness - faking technologies.
II. The technology to produce fitness - faking gadgets is guided by the government's desire to control the minds of citizens and keep citizens away from engaging in trouble - making activities.
III. Countries that have the most advanced technology often are the ones that are at the forefront of preparedness for wars.
IV. The era of colonial expansion that was engaged in by the European nations after the renaissance would have never taken place had the technology to produce fitness - faking gadgets existed during those times.
V. Teenagers having access to technology, engage in more socializing away from parental supervision than those who do not have access to such technology.

A I & III

B II & III

C III & IV

D I, II, & V

E I, III, & V

Answer: A

Explanation:
Statement I and III would indicate that inquisitive nature present in a society even though technology advanced to the level mentioned by the author. The statements contradicts the idea presented by the author in the passage i.e. "the advancement of the technology turned human into a pleasure seeking and fake-fitness inclined being"

Hence option A is correct.

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Instructions
For the following questions answer them individually

Question 13

Nature is _____ and unchangeable, and it is _____ as to whether its hidden reasons and _____ are _____to man or not.

The option that best fills the blanks in the above sentence would be:

A relentless, indifferent, actions, understandable

B persistent, heartless, actions, comprehensible

C inexorable, apathetic, activities, explicable

D harsh, indifferent, actions, understandable

E inescapable, unconcerned, activities, intelligible

Answer: A

Explanation:
As per the context, 'relentless', 'indifferent', 'actions' and 'understandable' are the appropriate words.
Hence, option A is the correct answer.

In the second blank, indifferent is the correct choice. as nature is not concert/ unbiased which is the basic idea behind the sentence.
Thus Option A or Option D might be correct.

Here if we consider the vastness, unceasingly intense quality is nature then relentless is a better word over harsh.

Option A is correct.

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Question 14

Impressions are direct, vivid, and forceful products of immediate experience; ideas are merely feeble copies of these original impressions.

Assuming the above statement is true, which of the statements logically follow from it?
I. Every impression leads to an idea.
II. Ideas must follow an antecedent impression.
III. The colour of the 2011 XAT test booklet right in front of a candidate is an impression to her, whereas the memory of the colour of her television set is an idea.
IV. If one was interested in origin of the idea of the colour of a television set, then one need to understand the impressions from which this idea was derived.

A I & III

B II & III

C II & IV

D II, III & IV

E I, II, III & IV

Answer: C

Explanation:
Statement I is extreme and and it is not stated in the given statement.Since, ideas are feeble copies of original impressions, statements II and IV are relevant and correct. Memory is an impression retained, we cannot call it an idea, Thus statement 3 is false as idea is a weak copy of impression.

Hence, option D is the correct answer.

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Question 15

Media are not just passive channels of information. Not only do they supply the stuff of thought, but they also shape the process of thought. And what the internet seems to be doing is chipping away our capacity for concentration. Which of the following, if true, would most strengthen the argument presented above?

A Nietzsche was forced to use a typewriter when he started losing his vision. After he mastered the machine, he could type with his eyes closed. It was later found that under the effect of the machine, Nietzsche's prose "changed from arguments to aphorisms, from thoughts to puns, from rhetoric to telegram style".

B One of the effects of the timekeeping instruments has been that we have started deciding on our daily activities based on the clock and not based on our senses.

C Studies have shown that the essay writing skills of an average 15 - 20 year old, who spends a lot of time browsing the internet, is comparable to what it was among the average 15 - 20 year old, throughout the 1980s and the 1990s.

D A recent study has shown that the number of people who fall asleep while reading a printed book has increased in the last five years.

E The ability of the younger judges, who have grown up with ready access to internet, to judge complex and intricate cases, has, on an average, become better as compared to what it was for judges of comparable age profile during the 1920s.

Answer: D

Question 16

Which of the following, if true, would most weaken the argument presented in the previous question?

A Nietzsche was forced to use a typewriter when he started losing his vision. After he mastered the machine, he could type with his eyes closed. It was later found that under the effect of the machine, Nietzsche's prose "changed from arguments to aphorisms, from thoughts to puns, from rhetoric to telegram style".

B One of the effects of the timekeeping instruments has been that we have started deciding on our daily activities based on the clock and not based on our senses.

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D A recent study has shown that the number of people who fall asleep while reading a printed book has increased in the last five years.

E The ability of the younger judges, who have grown up with ready access to internet, to judge complex and intricate cases, has, on an average, become better as compared to what it was during the 1920s.

Answer: E

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Question 17

Randomness has to be dealt with successfully to ensure a better control over one's life. Before one can deal effectively with randomness, one must acknowledge its existence.
The above statement implies the following except:

A Randomness can be dealt with effectively.

B If one acknowledges the existence of randomness, one will be able to deal with it effectively.

C One can deal effectively with randomness if and only if one acknowledges its existence.

D Everyone lives in a random world.

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E If one does not acknowledge the existence of randomness, one cannot deal with it effectively.

Answer: B

Explanation:
The paragraph states that if one wants control over his own life, he has to deal with randomness. Also, one has to accept the existence of randomness to deal with it effectively. Let's take a look at the options one by one. We will check each option by assuming it to be false. If falsifying the option overturns the conclusion of the paragraph then the option is implied by the paragraph.

Option A- If option A is not true, then the statement is overturned. If randomness cannot be dealt with effectively then we cannot do that to exert control over our life. Hence, option A is implied.

Option B - If we assume this statement to be false, then the paragraph is not affected. If, say, not just acknowledgement of randomness but other skills are involved in dealing with randomness. Then the statements of the paragraph still hold true. Hence, B is not implied by the paragraph.

Option C - If this statement is not true, then the second statement of the paragraph is overturned. Hence, this is implied.

Option D - If this statement is not true, then those who dont live in a random world can exert control over their life without dealing with randomness. Hence, first part of the paragraph is overturned. Thus, this is implied by the paragraph.

Option E - If this statement is not true, then the second statement of the paragraph is overturned. Hence, this is implied.

Hence, only option B is not implied.

Question 18

Perhaps this war will pass like the others which divided us, leaving us dead, killing us along with the killers but the shame of this time puts its burning fingers to our faces. Who will erase the ruthlessness hidden in innocent blood?
Which of the following is certainly not implied in the above verse?

A Killers also get killed in war.

B Humanity gets divided by war and reunites afterwards in peace.

C This war is especially ruthless.

D This war is shameful to the entire humanity.

E None can obliterate the ruthlessness of this war.

Answer: B

Explanation:
In the given verse, there is no mention of peace and what happens after war. Thus, option B can certainly be not implied.

Hence, option B is the correct answer.

Question 19

Travelling is my hobby. Today in the Himalayas, as I drag my feet through the _____, I cannot but think of the same time last year when I was negotiating
the thick _____ of the Ganges delta or for that matter the time I spent with my children _____ about in the waters of the Arabian Sea.
The option that best fills the blanks in the above sentence would be:

A slush, sludge, sloshing

B sludge, slosh, slushing

C slush, slosh, sludging

D slosh, sludge, slushing

E sludge, slush, sloshing

Answer: A

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Explanation:
Slush means partially melted snow or ice.
Sludge means thick, soft, wet mud or a similar viscous mixture of liquid and solid components.
Slosh means to move irregularly with a splashing sound.As per the context, slush, sludge and sloshing should be filled in that order.

Hence, option A is the correct answer.

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Question 20

In spite of being perceived as _____ by all, the club members decided to _____ Arun, a skinny teenage with prominent _____, as the member of the year, so that the whole affair would be _____ to Arun's father who was recuperating after a serious illness. The option that best fills the blanks in the above sentence would be:

A felon, felicitate, freckles, febrile

B feral, facilitate, feckless, felicific

C federate, facilitate, freckles, feral

D febrile, felicitate, feckless, feral

E feckless, felicitate, freckles, felicific

Answer: E

Explanation:
Felon means a person who has committed a crime.
Felicitate means to congratulate.
Freckles means a small patch of light brown colour on the skin, often becoming more pronounced through exposure to the sun.
Febrile means having or showing the symptoms of a fever.
Feral means in a wild state, especially after escape from captivity or domestication
Feckless means lacking initiative or strength of character; irresponsible.
Facilitate means make (an action or process) easy or easier.
Felicific means relating to or promoting increased happiness.
Federate means form or be formed into a single centralized unit, within which each state or organization keeps some internal autonomy.

As per the context, 'feckless', 'felicitate', 'freckles', and 'felicific' should fill the blanks in that order.
Hence, option E is the correct answer.

Question 21

Few sentences are given below continuously. Identify the best sequence of punctuations among the given option s. (The rule of capitalization at the beginning of sentences has been ignored in the passage given below). Note: the arrows in the options indicate text that would be within the punctuations. a persons frames of perception and action are narrow in early stages of development focused on social membership and technical competence the early life of the organizations often is focused on survival and efficiency only later and rarely emphasizing process of
learning and development however in later stages both individual and organization become more concerned with the learning process itself the way the perceptions and practices are articulated and revised in interactions and how more people can be engaged in mutual learning and inquiry

A ' . → , → , → .

B '→ . → , → . → , → , → .

C '→ . → , → . → , → .

D '→ , → . → , → . → . → , → .

E '→ , → . → , → . → : → .

Answer: E

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Question 22

Choose the odd one:

A Water : : Dirty : : Clean

B Battery : : Dead : : Music

C Wood : : Burn : : Food

D Juice : : Ferment : : Wine

E Rain : : Thunder : : Hail

Answer: E

Explanation:
Water becomes dirty while cleaning something.

Battery goes dead after playing music.

Wood burns while preparing food.

Juice ferments to prepare wine.

But the rain may not thunder to become hail. Hence E is the answer.

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Question 23

Choose the odd one:

A The balloon goes up : Spot fixing scandal

B In the altogether : Bath tub

C The halcyon days : Childhood

D The real McCoy : Darjeeling Tea

E Throw down the gauntlet : UN peace keeping force

Answer: E

Explanation:
Checking option one by one.

Option A: The balloon goes up means the situation becomes serious, critical, chaotic, or troublesome. Spot fixing scandal are serious, critical, chaotic, or troublesome.

Option B: In the altogether means without any clothes on; naked. Bath tub is used when someone is naked.

Option C: The halcyon days means a tranquil period of happiness, especially in past. Childhood is a period of time when everyone was usually happier than present.

Option D: The real McCoy means Something is genuine, authentic, or exactly what it is claimed to be; real thing. Darjeeling Tea is a sign of authenticity.

Option E: Throw down the gauntlet means To issue a challenge or invitation, as to a fight, argument, or competition. Here the authors talks about UN peace keeping force which is not related to throw down the gauntlet.

Hence, option E is the correct answer.

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Question 24

Read the following sentences and choose the option that best arranges them in a logical order.
1. In law a fiduciary individual is someone who is entrusted with the power to act on behalf of and for the benefit of another.
2. Following the weight of corporate law and legal precedent, the director primacy model positions directors as autonomous fiduciaries, not agents.
3. The term fiduciary derives from the Latin fiducia, or trust, and the fiduciary is expected to act in good faith and honesty for the beneficiary's interests.
4. A person who accepts the role of fiduciary in law must single - mindedly pursue the interests of his or her beneficiary, in this case the corporation, even when the latter cannot monitor or control the fiduciary's behaviour.

A 3, 1, 4, 2

B 3, 4, 1, 2

C 2, 1, 3, 4

D 4, 2, 3, 1

E 2, 1, 4, 3

Answer: A

Explanation:
Statement 3 is the opening sentence as it introduces the word 'fiduciary'. Statement 1 explains about fiduciary individual. Statement 4 is in continuance with the idea stated in statement 1. Statement 2 is about the relevance of fiduciaries in director primacy model. Thus, the correct order is 3 - 1 - 4 - 2.
Hence, 3142 is the correct answer.

Question 25

Read the sentences and choose the option that best arranges them in a logical order.

a. Generally, it is unusual for a new problem in international relations to be considered without at the same time some international organization being developed to deal with it.
b. International society has, in spite of the diversity of culture and political systems, been progressively drawn closer together and become more unified.
c. Despite the fears and concerns of some governments that international organizations are increasing too fast and that they are a burden on their exchequers, they are still proliferating at a considerable rate.
d. People and their governments now look far beyond national frontiers and feel a common responsibility for the major problems of the world and for lesser problems that may subsist within smaller groups of states.
e. More recently in the 1990s the problems of international trade, which was growing increasingly complex, led to the development of the WTO.
f. For instance, concern with the instability of commodities markets led to the establishment in the 1980s of the Common Fund for Commodities and the competition for the newly discovered wealth of the international seabed area resulted in the creation of the ISA under the Law of the Sea Convention of 1982, based on the concept of the 'the common heritage of mankind'.

A a, b, c, d, f, e

B b, e, d, c, f, a

C c, a, f, e, d, b

D c, a, f, e, b, d

E d, c, a, b, f, e

Answer: D

Explanation:
Statement c is an opening sentence as it presents a generic statement about international organizations. Options A, B and E are eliminated. Statement d elaborates the idea mentioned in statement b.
Hence, option D is the correct answer.

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Question 26

As the information on air warfare tasks and stressors was being gathered and scenarios were being developed, a parallel effort ensued to identify a test bed simulation for air warfare teams. To maintain experimental control, it was determined by the designers that choosing a low physical fidelity simulation was acceptable as long as cognitive fidelity in a team simulation was maintained through subjecting soldiers to pressure situations in a simulated combat setting and attempting to ensure that naturalistic decision making of soldiers would not be compromised.
Which of the following statements, if true, weakens the logic of the above passage?
i. A number of studies have shown that high levels of physical stress lead to a weakening of the decision - making capabilities of human beings.
ii. It has been convincingly demonstrated by various studies that human beings by nature are not designed to adapt to high levels of mental stress.
iii. Numerous studies have shown that simulated environments can be designed to be good substitutes for real - life combat situations.
iv. Studies have shown that simulated exercises for armed forces personnel have tended to induce a systematic type of "correct" and common behaviour among the trainees.
v. Officers, when short - listing soldiers for critical operations, pick up battle - hardened soldiers rather than those who have been trained through simulations.

A i and ii

B ii and iii

C i and iv

D i, ii, iv, and v

E ii, iii, iv, and v

Answer: C

Explanation:
The main argument of the paragraph is that the naturalistic decision making capabilities of individual soldiers should not be compromised.

Statement i mentions the weakening of the decision making ability. So, statement i weakens the argument.
Statement iv also mentions about common behaviour among the trainees which defies the individualism.

Hence, option C is the correct answer.

Instructions

Answer questions on the basis of the paragraph below

We are not only afraid of being in the dark; we are also suspicious of being kept in the dark. We often feel that the universe has a hidden order that we cannot quite comprehend. In ancient times, this order was attributed to the gods – omnipotent beings who controlled humans' fates. Greek myths in particular portrayed humans as pawns in the great games played by the gods. More recently, there are suspicions of global conspiracies. These conspiracies are cited for events that are too important to be random. We no longer describe them as "Acts of God," so they must be the work of other people - people who are hiding their influence over us, covering up their involvement. They are keeping the rest of us in the dark. Among the events attributed to these people are political assassinations and UFO sightings.
Examining these events in minute detail results in a long list of "coincidences" which,
in the minds of the conspiracy buffs, are too numerous to be truly random. There must be a central planner who is at the hub of a sinister form of order. No one admits to the conspiracy, so there must be a cover - up. Better to think that we are all being kept in the dark by sinister forces than to admit that there is no order.

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Question 27

Which of the following statements, if true, would weaken the underlying logic of the above passage?
i. The human need for order is a highly exaggerated notion. It more often than not leads to creation of theories about the universe. The more sensational the theory, the more prevalent it becomes.
ii. The universe is less guided by pure randomness than by well - defined natural processes which are subjected to randomness at varying intervals of time and space.
iii. To strengthen their case for a variety of conspiracies the conspiracy buffs are extrapolating from a very small set of observed "coincidences".
iv. The persons propounding the different conspiracy theories are usually novelists who use these theories as a backdrop during the construction of the plots of the novels.
v. The human fear of being kept in the dark is much stronger than the fear of lack of order in the working of the universe.

A i, ii, and iii

B i, ii and iv

C i, iii and iv

D i, iv and v

E ii, iv and v

Answer: A

Explanation:
According to conspiracy theorists, there is an underlying cause behind every happening.
Statement I weakens as it mentions order as exaggerated notion.
Statement II weakens as it says that there is a randomness in the order.|
Statement III weakens as it says that conspiracy theorists have a very small sample space of observation.
Statement IV strengthens and statement V is neutral.

Hence, option A is the correct answer.

Question 28

Which of the following statements would, if true, strengthen the case for belief in sinister forces and conspiracies being at work in the above paragraph?
i. Though science has progressed a lot in the last two centuries or so, it is still unable to explain/account for more than 80% of the phenomena in the universe.
ii. There is now the existence of photographic evidence of presence of UFOs and a growing number of parallel studies showing that the human mind can easily be manipulated to do someone else's will through various events that manipulate the 'perceived reality'.
iii. The fear of our actions and thoughts being controlled by someone else has intensified with the widespread popularity of the depiction of its gory outcomes by different novelists and movie makers.
iv. There is a strong movement to reintroduce the teachings of the biblical evolutionary process and the presence of God in schools around the world.
v. The Darwinian study of evolution of species, the cornerstone of beliefs in fathomable randomness of the workings of the universe has come under a scathing attack for its inaccurate depiction of the causes and process of evolution.

A i and iv

B i and v

C ii, iii and v

D i, ii and v

E ii, iii, and iv

Answer: D

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Instructions

For the following questions answer them individually

Question 29

The motivation of human beings towards their work is a subject matter that is at once a simple as well as an extremely complicated matter. For a long time, economists, sociologists, as well as psychologists believed that a carrot and stick approach, with monetary incentives playing the role of the carrot, would be sufficient to goad employees towards achieving higher levels of performance. However, a number of recent studies and observations, especially dealing with the open source revolution are placing on the table strong evidence suggesting that monetary incentives are only one part of the entire story of motivation through incentives. In a study conducted by a group of researchers at MIT, it was found that monetary incentives work well only in respect of tasks requiring mechanical skills i.e. those tasks not requiring much use of higher level cognitive abilities (such as memorizing or problem solving). In fact their study showed that setting high monetary incentives for tasks requiring cognitive abilities were more likely than not to produce adverse outcomes. Since this result flew straight in the face of the widely accepted body of knowledge on employee motivation, they conducted multiple experiments in different settings and countries to ensure that it was not a one - off result. The findings were the same in all repetitions of the experiment. These studies appear to suggest that monetary incentives need to be provided only to such an extent as to take the minds of employees off the issue of money and focus on other issues that are necessary to get the job done right. For instance, some experiments have shown that greater autonomy to employees and lowered interference from management (and bosses) is successful in driving the performance of employees working in cognitive skill intensive jobs.

Identify the statement(s) that is (are) logically consistent with the con tent of the paragraph

i. The carrot - stick approach essentially requires the use of rewards to get more of a desired behaviour whereas penalties lead to increased undesirable behaviour.
ii. Expending time and effort on the design of monetary incentives is a wasteful exercise.
iii. The study by the group of MIT researchers was a flawed exercise from the start.
iv. There appears to be a need to reorient the existing paradigm prevalent in incentive design.
v. During the process of designing incentives, one should clearly delineate activities into those requiring mechanical skills and those requiring higher - level cognitive skills and design with separate sets of incentives and penalties for each.

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A i and iv

B i and v

C ii and iii

D ii and iv

E iv and v

Answer: E

Explanation:
The paragraph states that though monetary incentives are necessary for an employee, the importance of motivations such as greater autonomy cannot be overstated.
Hence, option E is the correct answer.

Instructions

Answer questions on the basis of the following conversation between two friends, Paradox (P) and Herodox (H)

P: The human body is but the tomb of the soul and the visible world of matter is appearance that must be overcome if we are to know reality. The former is an integral part of "being", that which can neither come into existence nor cease to exist for it always is. Being is unmoved and undistributed. Motion and disturbance belong to the realm of "becoming", the changing world of unreality rather than of "being" in which true reality resides. Further, motion & change by belonging to the realm of "becoming" by having no separate existence of their own are logically inconsistent with reality and hence, unworthy of serious study.

H: All things are in a state of perpetual flux. Permanence, and by extension, the concept of "being" is only an illusion. This change and continual transformation, through an often disorderly process of conflict and survival of the fittest, is the underlying principle at work in the universe. It is from this principle that all things come into existence, and forms the basis for the morals and governance patterns that attempt to preserve the social thread of societies. By extension, the study of human activity through the lens of an idealized state of "being" and as a basis for formulating moral codes of conduct is inappropriate at best.

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Question 30

Which of the following statements could be considered as logically consistent with the views of paradox in the above paragraphs?
i. A fly travelling on a flying arrow perceives it to be at rest. Therefore the flying arrow belongs to the realm of being.
ii. The activities of the day to day life are concerned with the unreal part of human existence and hence, should not be subject to moral standards.
iii. Maintaining a balance among the various constituents of society is essential to the well - being and the continuing existence of the soul.
iv. Conflicts and the coming of spontaneous order do not have any underlying causes that are relevant for study as the notion of perpetual flux itself is erroneous.
v. The real is and cannot be non - existent. Further, reality is one and unique.

A i only

B ii and iv

C iv and v

D i, ii, and iii

E i, iv, and v

Answer: C

Explanation:
According to Paradox, it has been mentioned that motion and disturbance belong to the realm of 'becoming' and not that of "being". The flying arrow cannot belong to realm of being by virtue of its motion. Also there is no mention about "moral standards" and "maintaining balance of the society". Hence i,ii and iii are inconsistent with the view of paradox.
Statements iv and v concurs well with the words of Paradox because according to him, there is no separate existence of change and hence it's study is irrelevant.
Hence, option C is the correct answer.

Question 31

Which of the following statements best represents an implication of Herodox's ideas?

A Religion and other approaches that stress on maintaining and developing the purity of the human soul are subjects that do not merit serious attention.

B The setting of moral standards and codes of governance have to be more procedure - oriented with a focus on the way humans conduct themselves in their interactions with each other.

C Maintaining a balance between various constituents of the society and conflict prevention is essential to the maintenance of social order and a pre - requisite for governance.

D As the real world relevant to the existence of human beings is in a state of perpetual flux, attempting to study the same in a systematic manner would be meaningful despite reality itself having changed by then.

E There is no notion of time - space - invariant reality. There can be numerous realities both across times and across human cultures and civilizations.

Answer: E

Explanation:
Herodox believes in continual transformation. He states that nothing is absolute and there can be multiple realities.
Hence, option E is the correct answer.

XAT previous papers (download pdf)

Instructions

Answer questions on the basis of the information below.

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Five reviews of the recently published novel, Caught in a Blizzard, are reproduced below. The reviews and the reviewers are identified as indicated by the numbers.
a: This novel can change your life - for the good, as it has changed mine. It has made me reflect critically about my life.
b: The novel has become a popular piece of literature, more among the youth than among the older population.
c: The author uses the plot in her novel to present her philosophy about life in a positive light, rather than relying on the merits of the philosophy per se.
d: The author is known to be a writer of great power. The intricate and captivating plots in her novels shows that she has a subtle and ingenious mind.
e: People have been jolted out of their beliefs about love and other different aspects of life after reading this novel.

The options to the questions 75 - 77 are same as the reviews/reviewers indicated above.

Question 32

There has been criticism about reviewers that they write reviews after having a cursory reading of the book in question. Based on the analysis of the different reviews, which reviewer is most likely to have read the book in greater detail as compared to the other reviewers?

A This novel can change your life - for the good, as it has changed mine. It has made me reflect critically about my life.

B The novel has become a popular piece of literature, more among the youth than among the older population.

C The author uses the plot in her novel to present her philosophy about life in a positive light, rather than relying on the merits of the philosophy per se.

D The author is known to be a writer of great power. The intricate and captivating plots in her novels shows that she has a subtle and ingenious mind.

E People have been jolted out of their beliefs about love and other different aspects of life after reading this novel.

Answer: A

Explanation:
While option B is a statistical and option D describes the characteristic of the author, option E is a general/popular opinion. All these three do not display show that the authors read the book in great detail.

While option C seems like an informed review, option A signifies a deep personal connection

One can understand the philosophical aspects even with superficial reading. Option A suggests that the book had a great deal of impact on their life. This signifies a deep personal interest and commitment towards the novel.

Hence option A seems more appropriate and can be acclaimed as a reviewer who read the book in great detail

Question 33

Out the five reviews given, which one can be most objectively validated?

A This novel can change your life - for the good, as it has changed mine. It has made me reflect critically about my life.

B The novel has become a popular piece of literature, more among the youth than among the older population.

C The author uses the plot in her novel to present her philosophy about life in a positive light, rather than relying on the merits of the philosophy per se.

D The author is known to be a writer of great power. The intricate and captivating plots in her novels shows that she has a subtle and ingenious mind.

E People have been jolted out of their beliefs about love and other different aspects of life after reading this novel.

Answer: B

Question 34

Which reviewer eulogises the author rather than critically reviews the novels?

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A This novel can change your life - for the good, as it has changed mine. It has made me reflect critically about my life.

B The novel has become a popular piece of literature, more among the youth than among the older population.

C The author uses the plot in her novel to present her philosophy about life in a positive light, rather than relying on the merits of the philosophy per se.

D The author is known to be a writer of great power. The intricate and captivating plots in her novels shows that she has a subtle and ingenious mind.

E People have been jolted out of their beliefs about love and other different aspects of life after reading this novel.

Answer: D

XAT Previous Papers

Decision Making

Instructions

For the following questions answer them individually

Question 35

Indian government may hold top executives responsible if state - run power companies fail to meet performance targets and punish them with fines and transfers. The strict performance parameters are aimed at ensuring that at
least the reduced target for 62,000 MW of generation capacity addition is achieved before the end of the 11th Plan, said a power ministry official. Performance of chairman and managing directors of the power Public Sector Units (PSUs) in project implementation will be assessed as per the terms and conditions stipulated in
the company's memorandum of understanding (MoU) with the power ministry, he said, requesting anonymity. Performance parameters of executives had came under strict scrutiny due to a lack of progress in capacity addition program. While the target for the 11th five year plan has already been scaled down by the government from 78,500 MW, in the first three years of the plan yielded only 22, 302 MW of fresh capacity.

If you were the chairman of one of these power PSU's, which of the following statements (all of which are assumed to be true) could best be used in order to strengthen your case against the government holding top executives responsible?

i. The labour unions, owing allegiance to ruling party at the Center, are not allowing work to progress with their demands for wage hikes that are untenable.
ii. The actions of the mid - level management are not in line with the objectives laid down by the top management.
iii. The delays have been due to difficulties in obtaining funds at reasonable interest rates on account of the recessionary conditions.
iv. We are not to blame. The government is not doing enough to ensure availability of sufficient fuel to power the existing plants, let alone the new plants.
v. The government had ignored the infrastructure availability like roads etc., and environmental clearances required for such projects and therefore set an unrealistic target to begin with, and the revised target is also unrealistic as well.

A i and ii

B i and iii

C i, iii and iv

D ii, iv and v

E i, ii, iii, iv and v

Answer: B

XAT Free Mock Test

Instructions

The CEO of ABC Telecom Ltd. (ABC) is in a quandary since he received the telephone call in the morning

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Telecom Ltd. (LMN). Both companies were engaged in a bitter experience a couple of years ago when they had attempted to merge with the intention of creating a behemoth telecom company, possibly the largest in the world. The merger had fallen through due to opportunistic behavior on the part of Mr. Das, then CEO of LMN. During the time the merger talks were taking place, Mr. Das had also approached a few other suitors for LMN in an attempt to force ABC to pay a higher price. Further, there were reports of attempts by management of LMN to scuttle the deal. Back then, ABC had also faced stiff opposition to the deal from one of its large shareholders.

Since then, a lot has changed for both companies. The bleak economic conditions due to recession had led to a drastic fall in the market value of both companies, with ABC comparatively losing much more in terms of market value. Raising money has become more difficult for both companies, especially for LMN. On the brighter side for ABC, the opposing shareholder had recently sold off his stake to another investor who earlier had supported the original merger deal with LMN a couple of years ago.

Question 36

Which of the following would be the most appropriate line (s) of thought for the CEO of ABC to adopt in response to the offer by LMN?
I. Once bitten twice shy. There is simply no way I can think of resuming talks with LMN after their unethical behaviour the previous time around. I would rather spend my time on merger discussions with other companies.
Ii. The deal may make less business sense this time around. However, if it goes through, I will become the CEO of the world's largest telecom company. So let us try our luck once more.
Iii. I will resume talks only if they provide guarantees as to the reimbursement of our expenses incurred, in the event of the deal not materializing.
Iv. Let me not be biased against dealing with LMN, if we can secure the deal at a reasonably low price, benefiting our shareholders, let us go ahead with it.
V. I am not sure if we can raise the money now. In any event, they are the ones facing greater financial problems. So let's not hurry now. We might have an opportunity to buy them out at a cheaper price later.

A i and iii

B ii and iv

C ii and iii

D i and iv

E iv and v

Answer: E

Explanation:
The end goal should be to benefit the company. If a deal is reasonably priced and will be profitable, the idea must be contemplated upon. Statement IV is correct.
Statement V is also reasonable as the deal can be done at a lower price. Also, the one who has burned his fingers must hurry.

Hence, option E is the correct answer.

Question 37

The merger of ABC and LMN has been confirmed after detailed negotiation with LMN holding the majority share of the resultant entity. LMN has financed the merger by taking debt at higher - than - market interest rates from its bankers, in the hope that it would be able to streamline operations and reduce costs in the resultant entity which will allow it to repay the loan. If you were an investor looking to invest in telecom companies, which of the following could be the strongest reasons for staying away from investing in resultant entity?

A The new entrants in the telecom market were coming with better offers for the customers.

B The market would be as competitive as ever for the resultant entity, thus providing no guarantee for success.

C The combined management did present have any grand strate gies to the investors.

D ABC's management was giving in to Mr. Das who was a known opportunist.

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E LMN was using high cost debt to purchase another company in the same industry facing similar problems with no visible advantage for the combined entity over competitors.

Answer: E

Explanation:
An investor would not invest where the company seems losing over its competitors.. As per the option E, merger of the two companies has no visible advantage over the competitors.

An investor usually invests in companies that are profitable in the longer run.

The newer entities had better offers for customers. However, it does not prove that the newer entities would be more profitable than the other entities. Hence, A option is incorrect.

Option D is incorrect. To reject an entire investment because of the character of a person is baseless.

Between B and E, B points out why the merger would give not distinct advantage to the new entity; however E points out why the merger is a massive risk.

Hence, option E is the correct answer.

Instructions
For the following questions answer them individually

Question 38

Wind turbine maker Leone Energy posted a net loss of Rs. 250 crore for the fourth quarter ended March 31, 2010 as against a net profit of Rs.350 crore in the same quarter a year - ago. In the financial year 2009 - 10, the company clocked a gross income of Rs.6,517 crore, as against Rs.9,778 crore in the previous year. Leone Energy clocked a loss of Rs.1,100 crore in 2009 - 10, as against a net profit of Rs.320 crore in 2008 - 09. The sales revenues stood at Rs.22,400 crore fo the year, approximately 21 per cent less against Rs. 28,350 crore last year. For the financial year ending March 31, 2010, Leone Energy's sales volume (in terms of capacity of projects executed) was 4,560 MW from 2,935 MW a year ago. The CEO of Leone Energy in his message to shareholders suggested that the poor performance of the company was the result of adverse economic conditions during the year ended March 31, 2010 . You are a shareholder owning 5% of the shares of Leone Energy, have seen the stock price decline by more than 50% during the year 2009 - 10, and are quite upset with the way the management has been handling the business. You have decided to confront the management at the next shareholders' meeting and have chosen the following 5 point to argue against the CEO's version of the story. In light of the above paragraph, select the most appropriate order of these 5 statements that you, as a disappointed shareholder, should adopt as a stringing and robust preface in your case against the management in front of the management and other shareholders.
a. The management is not doing its best to maintain the profitability of the company.
b. The company has actually increased its sales volume during the year under consideration.
c. The adverse economic conditions have led to a worldwide increase in the adoption of alternative energy sources, reflecting in all - time highest profits for wind turbine makers in both developed and developing countries.
d. The management has been lax with its employees as the management enjoys a large set of benefits from the company that they would have to forgo if they became strict with employees.
e. The company is trying to increase sales by charging lower, unprofitable prices.

A b, c, a

B a, c, b

C b, e, c

D c, b, e

E e, b, c

Answer: D

Explanation:
As there has been remarkable growth for Wind turbine makers in both developing and developed countries, the CEOs argument of adverse economic conditions will not be sustainable.

(c) will be the first statement as it gives the current global situation of the sector. It should be followed by (b) which mentions the fact that the sales has actually increased. (e) states the reason why the profits have decreased despite increased sales volume. Hence this should be the final statement.

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Option D is the correct answer.

XAT Decision Making Mock Tests

Question 39

On 1st March, Timon arrived in a new city and was looking for a place to stay. He met a landlady who offered to rent her apartment at a reasonable price but wanted him to pay the rent on a daily basis. Timon had a silver bar of 31 inches, and an inch of the silver bar was exactly equal to a day's rent. He agreed to pay an inch of the silver bar towards the daily rent. Timon wanted to make minimum number of pieces of the silver bar but did not want to pay any advance rent. How many pieces did he make?

A 5

B 8

C 16

D 20

E 31

Answer: A

Instructions

Read the following case and choose the best alternative.

Chetan Textile Mills (CTM) has initiated various employee welfare schemes for its employees since the day the mill began its operations. Due to its various welfare initiatives and socially responsible business practices, the organisation has developed an impeccable reputation. Majority of the regular workers in Chetan Mills had membership of Chetan Mills Mazdoor Sangh (CMMS), a non political trade union. CMMS had the welfare of its member as its guiding principle. Both CTM and CMMS addressed various worker related issues on a proactive basis. As a result no industrial dispute had been reported from the organiza tion in the recent past.

These days majority of the employers deploy large number of contract labourers in their production processes. In an open economy survival of an organization depends on its competitiveness. In order to become competitive, an organization must be able to reduce cost and have flexibility in employment of resources. Engaging workers through contractors (contract labourer) reduces the overall labour cost by almost 50%. Indian labour legislations make reduction of regular workers almost impossible, but organisations can overcome this limitation by employing contract labourers. Contract labourers neither get the same benefit as regular employees nor do they have any job security. According to various recent surveys, government owned public sector units and other departments are the biggest employers of contract labourers in the country. Contractors, as middle - men, often exploit the contract labourers, and these government organizations have failed to stop the exploitation.

Over time CTM started engaging a large number of contract labourers. At present, more than 35% of CM's workers (total 5,000 in number) are contract labourers. CMMS leadership was wary about the slow erosion of its support base as regular workers slowly got replaced by contract workers and feared the day when regular workers would become a minority in the mill. So far, CMMS has refused to take contract labourers as members.

Recently, based on rumours, CTM management started to investigate the alleged exploitation of contract labourers by certain contractors. Some contractors felt that such investigations may expose them and reduce their profit margin. They instigated contract labourers to demand for better wages. Some of the contract labourers engaged in material handling and cleaning work started provoking CTM management by adopting violent tactics.

Today's news - paper reports that police and CTM security guards fired two or three rounds in air to quell the mob. The trouble started while a security guard allegedly slapped one of the contract labourers following a heated argument. Angry labourers set fire to several vehicles parked inside the premises, and to the police jeeps.

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Question 40

In the wake of recent happenings, what decision is expected from CTM management? From the combinations given below, choose the best sequence of action.
I. Stop the current investigation against the contractors to ensure industrial peace; after all allegations were based on rumours.
II. Continue investigation to expo se exploitation and take strong actions against trouble makers.
III. Get in direct touch with all contract labourers through all possible means, communicate the need for current investigation to stop their exploitation, and convince them regarding CTM's situation due to competition. Also expose those contractors who are creating problems.
IV. Promise strong action against the security guards who are guilty.
V. Increase the wages of contract labourers.

A I, V

B I, II

C II, V

D III, IV

E III, V

Answer: D

Question 41

In the current context, which among the following represent the most suitable reaction from CMMS leadership?

A Distance CMMS from the episode and explain that CMMS is not involved in the fiasco through a press conference.

B Offer membership to contract labourers, which would put the contract worker at par with the regular workers in CMMS.

C Do not offer membership to contract labourers, but represent their interests during negotitation in order to prevent the formation of another union in CTM.

D Start another union exclusively for contract labourers of CTM.

E Adopt a neutral stand in public, and pass on information related to problem creators to the CTM management.

Answer: C

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Question 42

Out of the options given below, which one would be the best policy decision by government at the national level?

A Asking CM management to pay same wages to both regular and contract workers.

B Income tax raids in offices of contractors under investigation.

C Setting up a new labour welfare office within CM premises.

D Setting up a new committee to make recommendations for changes in labour legislations with an objective to reduce exploitation of contract labourers.

E Use entire government machinery to support CTM, which has an impeccable track record.

Answer: D

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Question 43

The criminals in the surrounding area often took their cue from the situation in the mill, creating law and order problems outside the mill which would later make it difficult for workers to come to mill safely. Given the circumstances, identify the stakeholder that should be the immediate priority of CTM management.

A Contract labourers who were allegedly beaten by the security guard of the company.

B District administration that is concerned about the spread of violence.

C CMMS that prefers an immediate settlement of the issue.

D Customers who are concerned about prices and regular supplies.

E Contract labourers who are demanding job security and same wages as regular employees.

Answer: E

Instructions

Answer question based on the following information.

Alex Company has its office at the third floor of a multi - storied building in Mumbai. There are 5 rooms to be allotted to 5 managers (designated M1 to M5), each of whom will occupy one room. Each room has its own advantages and disadvantages. Some have the sea view, while others are closer to either the lift or the dining room, while some are more spacious. Each of the five managers was asked to rank the room preferences amongst the rooms 301, 302, 303, 304 and 305. Their preferences were recorded as follows:
Table:

Preference	M1	M2	M3	M4	M5
1st	302	302	303	302	301
2nd	303	304	301	305	302
3rd	304	305	304	304	305
4th		301	305	303	
5th			302		

Some managers did not indicate any preference for some rooms, as they did want to be there under any condition. The company decided to allot rooms to managers in such a way that the managers get rooms as per their best preference or close to that.

Question 44

How many managers would get their rooms as per their best preference?

A 1

B 2

C 3

D 4

E 5

Answer: C

Explanation:
From the table, we can see that room no. 301 is preferred by only 1 manager. Hence, company will allocate room no. 301 to M5.

From the table, we can see that room no. 302 is preferred by 3 managers. Hence, company will allocate room no. 302 to anyone of three managers namely M1, M2 and M4. Remaining two managers won't able to get their best preference.

From the table, we can see that room no. 302 is preferred by only 1 manager. Hence, company will allocate room no. 301 to M3.

Hence, we can say that at most 3 managers will be able to get their best preference. Therefore, option C is the correct answer.

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Question 45

If manager X gets his/her 1st choice, then his/her preference ranking is 1 and so on. Management decided to allot rooms so that the sum of the preference ranking of all the managers is minimized. What is the total preference ranking for the rooms allotted to all the managers?

A 5

B 6

C 7

D 8

E 9

Answer: C

Explanation:
From the table, we can see that room no. 302 is preferred by 3 managers. Hence, company will allocate room no. 302 to anyone of three managers namely M1, M2 and M4. Remaining two managers won't able to get their best preference. The remaining two manager will get their second preference as shown in the table below,

	M1	M2	M3	M4	M5
Room no.	302	304	303	305	301

Hence, the minimum sum = 1 + 2 + 1 + 2 + 1 = 7. Therefore, option C is the correct answer.

Question 46

Suppose that Manager M2 decides not to join the new zonal office and Manager M6 takes his place. Manager M6 has the following preference ranking in decreasing order: 301, 302, 303, 304 - in this case what would be the sum of the preference ranking allotted to all five managers?

A 5

B 6

C 7

D 8

E 9

Answer: E

Explanation:

Preference	M1	M3	M4	M5	M6
1st	302	303	302	301	301
2nd	303	301	305	302	302
3rd	304	304	304	305	303
4th		305	303		304
5th		302			

From the table, we can see that 2 managers have preferred room no 301 and same is true for room no. 302. Hence, only one out of the two manager will get his/her preferred choice as room no. 301. The same is true for room no 302. Room no. 303 will be be straightaway allocated to M3. 302 can allocated to M4 and 301 can be allocated to M6. Then 304 and 305 can be allocated to M1 and M5 respectively.

Hence, the minimum sum of the preference ranking allotted to all five managers = 1+1+1+3+3 = 9. Hence [illegible] answer.

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Instructions

Answer question based on the following information

Every Saturday, the members of Raja Harish Chandra Club meet in the evening. All the member of the club are honest and never lie. Last Saturday, the following conversation was heard at one of the table with five members sitting around it.

Satya Sadhan: In this club not all members are friends with each other.
Satyabrata: None of the pair of friends in this club has any common friend.
Satyajit: Every pair of member who are not friends has exactly two common friends in this club.
Satya Pramod: There are fewer than 22 people in this club.

Question 47

How many members are there in the club?

A 5

B 7

C 15

D 16

E 20

Answer: D

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Question 48

How many friends does Satya Sadhan have in the club?

A 2

B 3

C 5

D 7

E 8

Answer: C

Instructions

Answer question based on the following information:

In the country of Gagan, air travellers can buy their tickets either directly from the airlines or from three websites that are licensed to offer ticketing services online. In Gagan most of the commercial transactions are done electronically, and all citizens have an account with its national bank CeeCee. As a result the three websites have become popular and each transaction through these websites carries a surcharge of Gs. 250 (Gs. refers to Guppes, currency of Gagan). Given below are four post new - year (January 2, 2011 to February 28, 2011) offers from three competing websites:

Cozy _ travel Offer : Make a confirmed booking for any service (fight ticket, hotel or rail tickets) through Cozy_travel.com from December 5, 2010 to February 8, 2011 and become eligible for two free air tickets (offer is limited to the base fare). Free tickets have to be booked through online request from January 1, 2011 to February 28, 2011. The request for free tickets should be submitted at least twenty - one days in advance. Free tickets are non - amendable (expect the passenger name) and cannot be cancelled. Free ticket cannot be exchanged for cash or kind with anybody. Cozy_travel will try its best to secure the free ticket as per the request. However, ticket confirmation is subject to airline schedule and set availability in airlines selected and finalized by Cozy_travel from specific available airlines.

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Cool_yatra Offer : Book any air ticket of any airline on Cool_yatra.com on or after December 21, 2010 and get your next ticket free. Under this offer, only the base fare of free ticket will be refunded by Cool_Yatra.com. Customer will have to bear rest of the charges (other fees and surcharges). The value of base fare will be refunded to passenger on/after March 1 or fifteen days after completion of travel on free ticket (whichever is later). The free ticket can be booked only on Gaga Air flights. The free ticket must be booked within fifteen days of booking the original ticket and the travel date of free ticket must be fifteen days after the booking date of free ticket. There must be a seven day gap between the travel date of main/original ticket and the free ticket. The travel date of free ticket should be on or before February 28, 2011. The free ticket cannot be transferred. On cancellation of the original ticket(s), you no longer remain eligible for the free ticket(s).

Easy_travel Cash Back Offer : Easy travel offers 25% cash back on all air ticket bookings between December 5, 2010 and February 28, 2011 using CeeCee net banking service or its debit/credit card. The cash back amount will be credited back to customers account within twenty - one days from making the transaction. Maximum cash back during the period is Gs. 400 per person per ticket and total amount that can be claimed by the customer is Gs. 2,400

Ek Ke Sath Ek Offer from Easy_travel : Book an AirSpice ticket with Easy_travel using any credit/debit card, and get another ticket absolutely free. The free tickets will be issued on AirSpice on its entire network. The offer is valid for sale from January 11, 2011 to January 31, 2011. The free ticket must be booked at least fifteen days prior to the date of travel and need to be completed within the offer period. The promotion code for the free ticket will get activated only seven days after booking the main ticket. Easy_travel will charge a handling fee of Gs. 1000/- per person for any amendments made on main ticket. Cancellations of tickets purchased under this offer are not permitted. The free ticket obtained under this offer can not be exchanged for cash and cannot be re-routed.

Question 49

Which offer has got the maximum chance for becoming the most popular among the air travellers of Gagan during post new - year period? Among the following options, choose the best offer - explanation combination.

A Cozy_travel, because the customers will get twice the number of flights and offer is applicable for all services provided by Cozy_travel.

B Cozy_travel, because it allows any customer to transfer the free ticket to any one if they are not interested in using it.

C Ek ke sath ek offer from Easy_travel, because it offers absolutely free tickets to all customers.

D Cash Back offer from Easy_travel, because all other offers are restricted either in terms of airlines to choose or the period of offer.

E Cozy_travel, because it allows customers to use free tickets even after post new - year period.

Answer: B

Question 50

Suppose the offer from Cool_yatra became the most popular, and the other two agencies have sought help from business consultants to make their offers more attractive. Identify the best recommendation among the following.

A Recommendation for the Ek Ke Sath Ek Offer of Easy_travel: Negotiate with Gaga Air to come up with an offer that provides one free ticket for every main ticket booked in Air Spice.

B Recommendation for the Cash Back Offer of Easy_travel: Ensure that cash back amount will be credited back to the customer's account within fifteen days.

C Recommendation for the offer from Cozy_travel: Reduce the number of free tickets to one and applicable only for air ticket booking (not for other service), but allow customers to book their free ticket from Cozy_travel.com in Gaga Air or comparable airlines without any date restrictions.

D Recommendation for the Ek Ke Sath Ek Offer of Easy_travel: Negotiate with Gaga Air to come up with an offer that provides one free ticket for every main ticket booked in Gaga Air and run both offers simultaneously.

E Recommendation for the offer from Cozy_travel : Do not allow customers to transfer tickets to others, but disclose that Cozy_travel will consider both GagaAir and AirSpice flights that connect all cities in Gagan for issuing free tickets.

Answer: C

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Question 51

Jagan is appearing for MAAT exam on January 2, 2011, in a city which is not his home town and he is yet to book the air ticket to reach his hometown from MAAT center. Based on his MAAT performance, he is confident about getting an interview call from the institute of his choice located in Akashpur. All institutes associated with MAAT will contact the short - listed candidates within next two weeks with venue details and date of interview. In terviews will be scheduled within fifteen days from the date of announcement of shortlist, and will be held at the respective institutes. Jagan's hometown, MAAT centre, and Akashpur are connected by all airlines and the base fares start at Gs. 1,000. While visting Akashpur for the interview, Jagan will have to put up in a hotel. The minimum charge for booking a hotel in Akashpur through Cozy_travel is Gs. 2,400. Equally good hotels which are not listed in the Cozy_travel website charge Gs. 1,000. All the three travel websites assure a minimum of one free air ticket for every booking. If Jagan has no other reason to fly,
Which of the following offers should Jagan go for?

A Ek Ke Sath Ek Offer of Easy_travel.

B Get the flight ticket and hotel booking from Cozy_travel . He should use confirmed free ticket for return journey and exchange extra ticket (if any) on barter basis.

C Get the flight ticket through Cozy_travel, and use the second ticket if available for the return journey.

D Get the flight ticket from Cool_yatra.

E Get the flight ticket and hotel booking through Cozy_travel, and use free tickets for return journey.

Answer: D

Question 52

Janaki needs to reach Khilli on January 28 to visit her uncle, and will return after fifteen days. Janaki found that the minimum fare for both the to and fro journeys is Gs. 5,000 which includes Gs. 1,200 base fare. If all airlines connect Janaki's city to Khilli, and all three offers (except the Cash Back Offer) ensure minimum of one free air ticket. Which of the following should Janaki opt for?

A Ek Ke Sath Ek Offer of Easy_travel

B Cash Back Offer of Easy_travel

C The Cozy_travel offer

D The Cool_yatra offer

E Buy air tickets directly from airline websites

Answer: C

Instructions

Answer question based on the following information:

On a certain day six passengers from Chennai, Bangalore, Kochi, Kolkata, Mumbai, and Hyderabad boarded the New Delhi bound Rajdhani Express from TataNagar. The following facts are known about these six passengers:

1.The persons from Kochi and Chennai are less than 36 years of age. Person Z, the youngest among all is a doctor.

2.The oldest person is from Kolkata and his/her profession is same as that of the person who got down at Mughal Sarai.

3.The person from Bangalore, Chennai, Hyderabad and Mumbai got down at four different stations. The eldest among these four got down at Koderma and the youngest at Kanpur. The person who got down at New Delhi is older than the person who got down at Mughal Sarai.

4. The engineer from Bangalore is older than the engineer from Chennai.

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5. While arranging the teachers in increasing order of age it was observed that the middle person is as old as the engineer from Chennai.

6.Person Y who got down at Mughal Sarai is less than 34 year old.

7.The teacher from Kochi is four year older than the 31 year old doctor who is not from Mumbai.

8.In the past, three of the travellers have served in the Indian Army.

Question 53

Which of the following options is true?

A The person from Chennai is older than the person from Kochi.

B The oldest teacher is from Mumbai.

C The person from Mumbai is older than at least one of the engineers.

D The person from Kochi got down at Mughal Sarai, and was an engineer.

E The person who got down at New Delhi is older than Y, who in turn is older than the person from Hyderabad.

Answer: E

Explanation:
From the information we can conclude that there are at least 2 engineers and 1 doctor. Also there are more than 2 teachers. Hence, there is only one possibility when there are 3 teachers, 2 engineers and 1 doctor. It is given that two engineers are from Bangalore and Chennai. It is given that 1 teacher is from Kochi.
Also, the profession of the person who is from Kolkata is same as that of the person who got down at Mughal Sarai. Both of these persons can be teacher only. We are given that the doctor is not from Mumbai. Hence, we can say that the doctor is from Hyderabad.

Also the age of the teacher who hail from Kochi = 31 + 4 = 35 years. Tabulating the information,

Name	Age	Hailing from	Profession	Destination
Z	31	Hyderabad	Doctor	
		Bangalore	Engineer	
		Chennai	Engineer	
	35	Kochi	Teacher	
		Kolkata	Teacher	
		Mumbai	Teacher	

We also know that one of two teacher who hail from Kochi and Mumbai got down at Mughal Sarai. Also it is given that the person who got down at Mughal Sarai is less than 34 years old. Hence, we can say that the person who hail from Mumbai got down at Mughal Sarai whose age is between 31 to 34.

Name	Age	Hailing from	Profession	Destination
Z	31	Hyderabad	Doctor	
		Bangalore	Engineer	
		Chennai	Engineer	
	35	Kochi	Teacher	
		Kolkata	Teacher	
y	31 < x < 34	Mumbai	Teacher	Mughal Sarai

It is also given that when the teachers are arranged in increasing order of age, the middle person is as old as the engineer from Chennai.

We know that the teacher from Kolkata is the eldest among all. Hence, we can say that the engineer from Chennai is as old as teacher from Kochi. Also, the engineer from Bangalore is older than the engineer from Chennai. Hence, we can say that the engineer from Bangalore is older than 35 years old.

Name	Age	Hailing from	Profession	Destination
Z	31	Hyderabad	Doctor	
	>35	Bangalore	Engineer	
	35	Chennai	Engineer	
	35	Kochi	Teacher	
	> 35	Kolkata	Teacher	
y	31 < x < 34	Mumbai	Teacher	Mughal Sarai

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It is given that the person from Bangalore, Chennai, Hyderabad and Mumbai got down at four different stations. The eldest among these four got down at Koderma and the youngest at Kanpur. We can see that the person who hail from Bangalore is the eldest the person from Hyderabad is the youngest. Hence, they will get down at Koderma and Kanpur respectively.

Also, the person who got down at New Delhi is older than the person who got down at Mughal Sarai. Hence, we can say that the person who hail from Chennai got down at New Delhi.

Name	Age	Hailing from	Profession	Destination
Z	31	Hyderabad	Doctor	Kanpur
	>35	Bangalore	Engineer	Koderma
	35	Chennai	Engineer	New Delhi
	35	Kochi	Teacher	
	> 35	Kolkata	Teacher	
y	31 < x < 34	Mumbai	Teacher	Mughal Sarai

From the options, we can check that option E is the correct answer.

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Question 54

All six travelers are working in the same organization for at least one year. The organization recruits two categories of employees - fresh graduates and those who have at least five years of experience in the Indian Army. In both cases a new recruit should be less than 30 years of age. Among the travelers from same profession, those with military background are at least five years older than the travelers who joined as fresh graduates. Identify the travelers who joined the organization as fresh graduate(s):

A Only Y.

B The person Y and the traveller from Chennai.

C The person Y and the travellers from Kochi and Hyderabad.

D The travellers from Kochi and Hyderabad.

E The teacher from Mumbai, the traveller from Kochi and the younger engineer.

Answer: E

Explanation:

From the information we can conclude that there are at least 2 engineers and 1 doctor. Also there are more than 2 teachers. Hence, there is only one possibility when there are 3 teachers, 2 engineers and 1 doctor. It is given that two engineers are from Bangalore and Chennai. It is given that 1 teacher is from Kochi. Also, the profession of the person who is from Kolkata is same as that of the person who got down at Mughal Sarai. Both of these persons can be teacher only. We are given that the doctor is not from Mumbai. Hence, we can say that the doctor is from Hyderabad.

Also the age of the teacher who hail from Kochi = 31 + 4 = 35 years. Tabulating the information,

Name	Age	Hailing from	Profession	Destination
Z	31	Hyderabad	Doctor	
		Bangalore	Engineer	
		Chennai	Engineer	
	35	Kochi	Teacher	
		Kolkata	Teacher	
		Mumbai	Teacher	

We also know that one of two teacher who hail from Kochi and Mumbai got down at Mughal Sarai. Also it is given that the person who got down at Mughal Sarai is less than 34 years old. Hence, we can say that the person who hail from Mumbai got down at Mughal Sarai whose age is between 31 to 34.

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Name	Age	Hailing from	Profession	Destination
Z	31	Hyderabad	Doctor	
		Bangalore	Engineer	
		Chennai	Engineer	
	35	Kochi	Teacher	
		Kolkata	Teacher	
y	31 < x < 34	Mumbai	Teacher	Mughal Sarai

It is also given that when the teachers are arranged in increasing order of age, the middle person is as old as the engineer from Chennai.

We know that the teacher from Kolkata is the eldest among all. Hence, we can say that the engineer from Chennai is as old as teacher from Kochi. Also, the engineer from Bangalore is older than the engineer from Chennai. Hence, we can say that the engineer from Bangalore is older than 35 years old.

Name	Age	Hailing from	Profession	Destination
Z	31	Hyderabad	Doctor	
	>35	Bangalore	Engineer	
	35	Chennai	Engineer	
	35	Kochi	Teacher	
	> 35	Kolkata	Teacher	
y	31 < x < 34	Mumbai	Teacher	Mughal Sarai

It is given that the person from Bangalore, Chennai, Hyderabad and Mumbai got down at four different stations. The eldest among these four got down at Koderma and the youngest at Kanpur. We can see that the person who hail from Bangalore is the eldest the person from Hyderabad is the youngest. Hence, they will get down at Koderma and Kanpur respectively.

Also, the person who got down at New Delhi is older than the person who got down at Mughal Sarai. Hence, we can say that the person who hail from Chennai got down at New Delhi.

Name	Age	Hailing from	Profession	Destination
Z	31	Hyderabad	Doctor	Kanpur
	>35	Bangalore	Engineer	Koderma
	35	Chennai	Engineer	New Delhi
	35	Kochi	Teacher	
	> 35	Kolkata	Teacher	
y	31 < x < 34	Mumbai	Teacher	Mughal Sarai

As the six travellers are working in the same organisation for at least one year and some are five years older than the fresh graduates, the present age of fresh graduates must be less than or equal to 35 years and more than or equal to 31 years. Three people satisfy the above conditions. They are the teacher from Mumbai and Kochi and the younger engineer. Hence, option E is the correct answer.

Question 55

If W is neither the youngest nor the oldest among the travelers from her profession, which of the following is true about her?

A She got down at Koderma.

B She is 36 years old.

C She got down at Mughal Sarai.

D She is from Kochi.

E None of the above

Answer: D

Explanation:
From the information we can conclude that there are at least 2 engineers and 1 doctor. Also there are more than 2 teachers. Hence, there is only one possibility when there are 3 teachers, 2 engineers and 1 doctor. It is given that two engineers are from Bangalore and Chennai. It is given that 1 teacher is from Kochi. Also, the profession of the person who is from Kolkata is same as that of the person who got down at Mughal Sarai. Both of these persons can be teacher only. We are given that the doctor is not from Mumbai. Hence, we can say that the doctor is from Hyderabad.

Also the age of the teacher who hail from Kochi = 31 + 4 = 35 years. Tabulating the information,

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Name	Age	Hailing from	Profession	Destination
Z	31	Hyderabad	Doctor	
		Bangalore	Engineer	
		Chennai	Engineer	
	35	Kochi	Teacher	
		Kolkata	Teacher	
		Mumbai	Teacher	

We also know that one of two teacher who hail from Kochi and Mumbai got down at Mughal Sarai. Also it is given that the person who got down at Mughal Sarai is less than 34 years old. Hence, we can say that the person who hail from Mumbai got down at Mughal Sarai whose age is between 31 to 34.

Name	Age	Hailing from	Profession	Destination
Z	31	Hyderabad	Doctor	
		Bangalore	Engineer	
		Chennai	Engineer	
	35	Kochi	Teacher	
		Kolkata	Teacher	
y	31 < x < 34	Mumbai	Teacher	Mughal Sarai

It is also given that when the teachers are arranged in increasing order of age, the middle person is as old as the engineer from Chennai.

We know that the teacher from Kolkata is the eldest among all. Hence, we can say that the engineer from Chennai is as old as teacher from Kochi. Also, the engineer from Bangalore is older than the engineer from Chennai. Hence, we can say that the engineer from Bangalore is older than 35 years old.

Name	Age	Hailing from	Profession	Destination
Z	31	Hyderabad	Doctor	
	>35	Bangalore	Engineer	
	35	Chennai	Engineer	
	35	Kochi	Teacher	
	> 35	Kolkata	Teacher	
y	31 < x < 34	Mumbai	Teacher	Mughal Sarai

It is given that the person from Bangalore, Chennai, Hyderabad and Mumbai got down at four different stations. The eldest among these four got down at Koderma and the youngest at Kanpur. We can see that the person who hail from Bangalore is the eldest the person from Hyderabad is the youngest. Hence, they will get down at Koderma and Kanpur respectively.

Also, the person who got down at New Delhi is older than the person who got down at Mughal Sarai. Hence, we can say that the person who hail from Chennai got down at New Delhi.

Name	Age	Hailing from	Profession	Destination
Z	31	Hyderabad	Doctor	Kanpur
	>35	Bangalore	Engineer	Koderma
	35	Chennai	Engineer	New Delhi
	35	Kochi	Teacher	
	> 35	Kolkata	Teacher	
y	31 < x < 34	Mumbai	Teacher	Mughal Sarai

W is neither the youngest nor the oldest among the travelers from her profession, that means she is a teacher from Kochi. Hence, option D is the correct answer.

Instructions

Answer question based on the following information:

Mrs. Sharma has a house which she wants to convert to a hostel and rent it out to students of a nearby women's college. The house is a two story building and each floor has eight rooms. When one looks from the outside, three rooms are found facing North, three found facing East, three found facing West and three found facing South. Expecting a certain number of students, Mrs. Sharma wanted to follow certain rules while giving the sixteen rooms on rent:

All sixteen rooms must be occupied.

No room can be occupied by more than three students.

Six rooms facing north is called north wing. Similarly six rooms facing east, west and south are called as east wing, west wing and south wing. Each corner room would be in more than one wing. Each of the wings must have exactly 11 students. The first floor must have twice as many students as the ground floor.

However Mrs. Sharma found that three fewer students have come to rent the rooms. Still. Mrs.Sharma c

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rooms according to the rules.

Question 56

How many students turned up for renting the rooms?

A 24

B 27

C 30

D 33

E None of these

Answer: B

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Question 57

If Mrs. Sharma allocates the north - west corner room on the ground floor to 2 students, then the number of students in the corresponding room on the first floor, and the number of students in the middle room in the first floor of the east wing are:

A 2 and 1 respectively

B 3 and 1 respectively

C 3 and 2 respectively

D Both should have 3 students

E Such an arrangement is not possible.

Answer: B

Question 58

If all the student that Mrs. Sharma expected initially had come to rent the rooms, and if Mrs. Sharma had allocated the north west corner room in the ground floor to 1 student, then the number of students in the corresponding room on the first floor, and the number of students in the middle room in the first of the east wing would have been:

A 1 and 2 respectively

B 2 and 3 respectively

C 3 and 1 respectively

D Both should have 2 students.

E Such an arrangement is not possible

Answer: A

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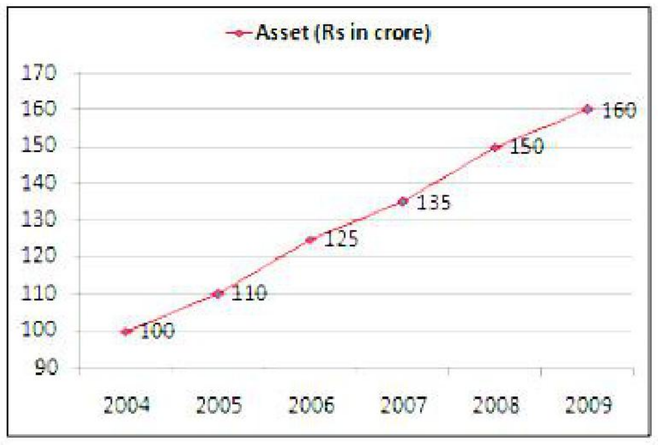
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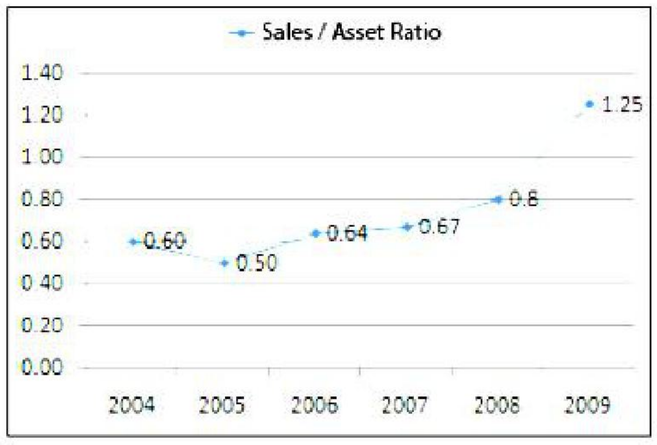
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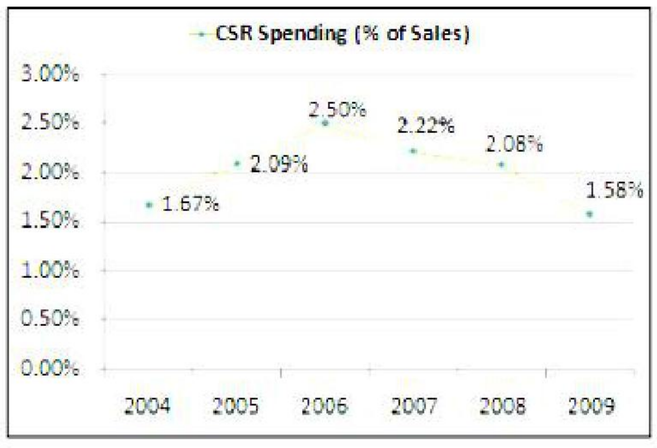
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Based on the following information.

The following graphs give annual data of Assets, Sales (as percentage of Assets) and Spending on Corporate Social Responsibility (CSR) (as percentage of Sales), of a company for the period 2004 - 2009.







Question 59

In which year was the increase in spending on CSR, vis - à - vis the previous year, the maximum?

A 2005

B 2006

C 2007

D 2008

E 2009

Answer: B

Explanation:
Total value of assets in the year 2004 = 100 crore

Total value of sales in the year 2004 = 0.60*100 = 60 crore

CSR spending in the year 2004 = $100 \times 100^{5/3}$ = 1 crore.

Similarly, we can calculate for the remaining years. Tabulating the same data, (All the values are in crores)

Year	Asset	Sales(% of assets)	Sales	CSR(% of sales)	CSR Spending
2004	100	0.6 or 60%	60	1.67% or (5/3)%	1
2005	110	0.5 or 50%	55	2.09% or (23/11)%	1.15
2006	125	0.64 or 64%	80	2.5% or (5/2)%	2
2007	135	0.67 or (200/3)%	90	2.22% or (20/9)%	2
2008	150	0.8 or 80%	120	2.08% or (25/12)%	2.5
2009	160	1.25 or 125%	200	1.58%	3.16

From the table, we can see that the increase in CSR spending 2006 is more than 1.5 times as compared to previous year whereas for none of the other values this is true. Hence, option B is the correct answer.

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Question 60

Of the years indicated below, in which year was the ratio of CSR/ Assets the maximum?

A 2004

B 2005

C 2006

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D 2007

E 2008

Answer: E

Explanation:
Total value of assets in the year 2004 = 100 crore

Total value of sales in the year 2004 = 0.60*100 = 60 crore

CSR spending in the year 2004 = $5/3100 \times 100$ = 1 crore.

Similarly, we can calculate for the remaining years. Tabulating the same data, (All the values are in crores)

Year	Asset	Sales(% of assets)	Sales	CSR(% of sales)	CSR Spending
2004	100	0.6 or 60%	60	1.67% or (5/3)%	1
2005	110	0.5 or 50%	55	2.09% or (23/11)%	1.15
2006	125	0.64 or 64%	80	2.5% or (5/2)%	2
2007	135	0.67 or (200/3)%	90	2.22% or (20/9)%	2
2008	150	0.8 or 80%	120	2.08% or (25/12)%	2.5
2009	160	1.25 or 125%	200	1.58%	3.16

CSR/ Assets ratio for the year 2004 = $\frac{1}{100}$ = 0.01

CSR/ Assets ratio for the year 2005 = $\frac{1.15}{110}$ = 0.01045

CSR/ Assets ratio for the year 2006 = $\frac{2}{125}$ = 0.016

CSR/ Assets ratio for the year 2007 = $\frac{2}{135}$ = 0.0148

CSR/ Assets ratio for the year 2008 = $\frac{2.5}{150}$ = 0.0166

We can see that CSR/Asset ratio is maximum for the year 2008. Hence, option E is the correct answer.

Question 61

The maximum value of spending on CSR activities in the period 2004-2009 is closest to which of the following options?

A Rs. 0.5 Crore

B Rs 1.0 Crore

C Rs. 2.0 Crore

D Rs. 3.0 Crore

E Rs. 4.0 Crore

Answer: D

Explanation:
Total value of assets in the year 2004 = 100 crore

Total value of sales in the year 2004 = 0.60*100 = 60 crore

CSR spending in the year 2004 = $\frac{5/3}{100} \times 100$ = 1 crore.

Similarly, we can calculate for the remaining years. Tabulating the same data, (All the values are in crores)

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Year	Asset	Sales(% of assets)	Sales	CSR(% of sales)	CSR Spending
2004	100	0.6 or 60%	60	1.67% or (5/3)%	1
2005	110	0.5 or 50%	55	2.09% or (23/11)%	1.15
2006	125	0.64 or 64%	80	2.5% or (5/2)%	2
2007	135	0.67 or (200/3)%	90	2.22% or (20/9)%	2
2008	150	0.8 or 80%	120	2.08% or (25/12)%	2.5
2009	160	1.25 or 125%	200	1.58%	3.16

From the table we can see that maximum spending on CSR activities in the period 2004 - 2009 = 3.16 crore $\approx$ 3 crore. Hence, option D is the correct answer.

Question 62

In which year, did the spending on CSR (measured in Rs) decline, as compared to previous year?

A 2006

B 2007

C 2008

D 2009

E None of the above

Answer: E

Explanation:
Total value of assets in the year 2004 = 100 crore

Total value of sales in the year 2004 = 0.60*100 = 60 crore

CSR spending in the year 2004 = $\frac{5/3}{100} \times 100$ = 1 crore.

Similarly, we can calculate for the remaining years. Tabulating the same data, (All the values are in crores)

Year	Asset	Sales(% of assets)	Sales	CSR(% of sales)	CSR Spending
2004	100	0.6 or 60%	60	1.67% or (5/3)%	1
2005	110	0.5 or 50%	55	2.09% or (23/11)%	1.15
2006	125	0.64 or 64%	80	2.5% or (5/2)%	2
2007	135	0.67 or (200/3)%	90	2.22% or (20/9)%	2
2008	150	0.8 or 80%	120	2.08% or (25/12)%	2.5
2009	160	1.25 or 125%	200	1.58%	3.16

From the table, we can see that the CSR spending never decreased as compared to previous year. Hence, option E is the correct answer.

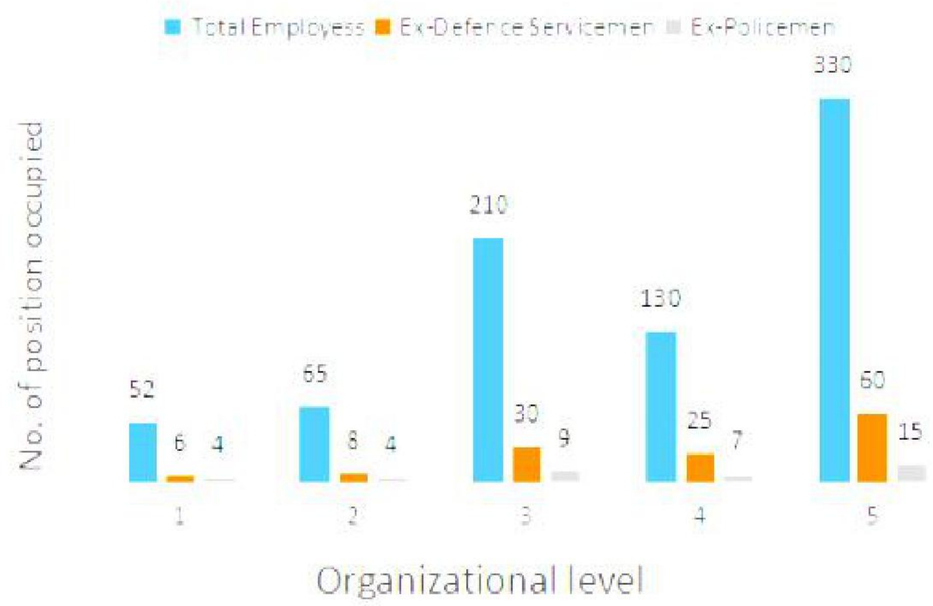
XAT Free Mock Test

Instructions

Based on the following information.

Five years ago Maxam Glass Co. had estimated its staff requirements in the five levels in their organization as: Level - 1: 55; Level - 2: 65; Level - 3: 225 ; Level - 4: 255 & Level - 5: 300. Over the years the company had recruited people based on ad-hoc requirements, in the process also selecting ex-defence service men and ex -policemen. The following graph shows actual staff strength at various levels as on date.

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Question 63

The level in which the Ex-Defence Servicemen are highest in percentage terms is:

A 1

B 2

C 3

D 4

E 5

Answer: D

Explanation:

Percentage of Ex-defense serviceman in level 1 = $\frac{6}{52} \times 100$ = 11.54 percent

Percentage of Ex-defense serviceman in level 2 = $\frac{8}{65} \times 100$ = 12.31 percent

Percentage of Ex-defense serviceman in level 3 = $\frac{30}{210} \times 100$ = 14.28 percent

Percentage of Ex-defense serviceman in level 4 = $\frac{25}{130} \times 100$ = 19.23 percent

Percentage of Ex-defense serviceman in level 5 = $\frac{60}{330} \times 100$ = 18.18 percent

We can see that in level 4 the Ex-Defence Servicemen are the highest in percentage terms. Hence, option D is the correct answer.

Question 64

If the company decides to abolish all vacant posts at all levels, which level would incur the highest reduction in percentage terms ?

A 1

B 2

C 3

D 4

E 5

Answer: D

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Explanation:
From the bar graph we can see that actual staff strength is 130 whereas the staff requirements is 255. So, the company has to abolish 125 vacant seats. we can see that the company has to abolish nearly 50 percent of the total strength which is greater than any other remaining levels. Hence, option D is the correct answer.

Question 65

Among all levels, which level has the lowest representation of Ex- policemen?

A 1

B 2

C 3

D 4

E 5

Answer: C

Explanation:

Percentage representation of Ex- policemen in level 1 = $\frac{4}{52} \times 100$ = 7.69 percent

Percentage representation of Ex- policemen in level 2 = $\frac{4}{65} \times 100$ = 6.15 percent

Percentage representation of Ex- policemen in level 3 = $\frac{9}{210} \times 100$ = 4.29 percent

Percentage representation of Ex- policemen in level 4 = $\frac{7}{130} \times 100$ = 5.38 percent

Percentage representation of Ex- policemen in level 5 = $\frac{15}{330} \times 100$ = 4.54 percent

We can see that in level 3 the Ex- policemen are the lowest in percentage terms. Hence, option C is the correct answer.

XAT Decision Making Mock Tests

Instructions
For the following questions answer them individually

Question 66

In a locality, there are ten houses in a row. On a particular night a thief planned to steal from three houses of the locality. In how many ways can he plan such that no two of them are next to each other?

A 56

B 73

C 80

D 120

E None of the above

Answer: A

Explanation:
Total number of houses = 10

If first house is robbed, then II is not and if II house is robbed, then III is not and so on.

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Thus 2 adjacent houses can never be chosen

So, number of ways in which three houses can be robbed such that no two of them are next to each other.

$= C_3^{10-2} = C_3^8$

$= \frac{8 \times 7 \times 6}{1 \times 2 \times 3}$

$= 56$

Question 67

If $x = (9 - 4\sqrt{5})^{18} = [x] + f$, where [x] is defined as integral part of x and f is a fraction, then x (1 - f) equals

A 1

B Less than 1

C More than 1

D Between 1 and 2

E None of the above

Answer: A

Explanation:

It is given that $x = (9 + 4\sqrt{5})^{48}$ ... (1)

Let us assume that $y = (9 - 4\sqrt{5})^{18}$ ... (2)

We can see that $0 < y < 1$.

Also, $x + y = 2(48C0 * (9)^{18} + 48C2 * (9)^{16} * (4\sqrt{5})^2 + 48C4(9)^{14} * (4\sqrt{5})^4 + ... + 48C48 * (4\sqrt{5})^{18})$

We can see that x + y is an integer therefore we can say that y + f = 1. Hence, y = (1 - f)

We can see that = x(1 - f) = x*y

$\Rightarrow (9 + 4\sqrt{5})^{18}(9 - 4\sqrt{5})^{18}$

$\Rightarrow (9^2 - (4\sqrt{5})^2)^{48}$

$\rightarrow (81 - 80)^{48} = 1$

Hence, option A is the correct answer.

Question 68

Let $a_n = 1111111.....1$, where 1 occurs n number of times. Then,
i. a_{741} is not a prime.
ii. a_{534} is not a prime.
iii. a_{123} is not a prime.
iv. a_{77} is not a prime.

A (i) is correct.

B (i) and (ii) are correct.

C (ii) and (iii) are correct.

D All of them are correct.

E None of them is correct.

Answer: D

Explanation:

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i. a_{741} has 741 ones, it will be divisible by 3

ii. a_{534} has 534 ones, it will be divisible by 3

iii. a_{123} has 123 ones, it will be divisible by 3

iv. a_{77} has 77 ones and each pair of 11 ones is divisible by 13.

Therefore, i,ii,iii and iv are not prime.

Ans -(D) All are correct.

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Instructions

Based on the following information

Income - Tax Rates for Financial Year 2009 - 10		
Individual & HUF below age of 65 years	Women below age of 65 years	Tax Rates
Income up to Rs. 1,60,000/-	Income up to Rs. 1,90,000/-	Nil
Rs. 1,60,001 to Rs. 3,00,000/-	Rs. 1,90,001 to Rs. 3,00,000/-	10%
Rs. 3,00,001 to Rs. 5,00,000/-	Rs. 3,00,001 to Rs. 5,00,000/-	20%
Above Rs. 5,00,001	Above Rs. 5,00,001	30%

Total income tax payable is obtained by adding two additional surcharges on calculated income tax.

Education Cess : An additional surcharge called 'Education Cess' is levied at the rate of 2% on the amount of income tax.

Secondary and Higher Education Cess : An additional surcharge called 'Secondary and Higher Education Cess` is levied at the rate of 1% on the amount of income tax.

Question 69

Sangeeta is a young working lady. Towards the end of the financial year 2009 - 10, she found her total annual income to be Rs. 3, 37, 425/ -. What % of her income is payable as income tax?

A 5.64

B 6.82

C 7.38

D 8.10

E None of the above

Answer: A

Explanation:

Income tax payable by Sangeeta according to her salary band = 0.2*(337425-300000) + 0.1(300000-190000) = Rs. 18485

Total education cess levied on income tax = 2 + 1 = 3% of income tax

Therefore, the total income tax payable by Sangeeta = 1.03*18485 = 19039.55.

Hence, the required percentage = $\frac{19039.55}{337425} \times 100$ = 5.64 percent

Therefore, we can say that option A is the correct answer.

Question 70

Mr. Madan observed his tax deduction at source, done by his employer, as Rs. 3,17,910/-. What was his total income (in Rs.) if he neither has to pay any additional tax nor is eligible for any refund?

A 13,48,835/-

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B 14,45,522/-

C 14,47,169/-

D 15,70,718/-

E None of the above

Answer: A

Explanation:

Madan's tax deduction at source = Rs. 3,17,910

From the table we can see that one can pay this much amount of tax if he earns more than 5 lakh.

Let say Madan's is Rs. x more than 5 lakhs. Therefore, Madan's total income = Rs. 500000+x.

Total income tax paid by Madan = 1.03{0.3*(x) + 0.2*(200000) + 0.1(140000)}

$$317910$$

$$\Rightarrow \quad 1.03 \quad = 0.3x + 54000$$

$\Rightarrow$ x = 848835.

Therefore, Madan's total income = 500000+848835 = Rs. 1348835. Hence, option A is the correct answer.

Instructions

For the following questions answer them individually

Question 71

A straight line through point P of a triangle PQR intersects the side QR at the point S and the circumcircle of the triangle PQR at the point T. If S is not the centre of the circumcircle, then which of the following is true?

A (1/PS) + (1/ST) < 2/√(QS)(QR)

B (1/PS) + (1/ST) < 4/ QR

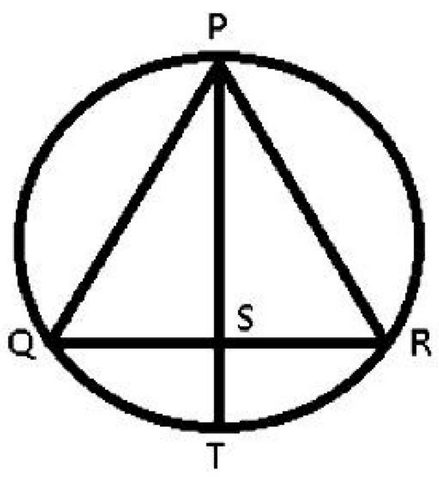
C (1/PS) + (1/ST) > 1√(QS)(QR)

D (1/PS) + (1/ST) > 4/ QR

E None of the above

Answer: D

Explanation:



Using properties of secant, $PS \times ST = QS \times SR$ ----------Eqn(I)

Also, for two numbers, PS and ST, we know that harmonic mean is less than geometric mean.

$$\Rightarrow \frac{2}{\frac{1}{PS}+\frac{1}{ST}} < \sqrt{PS \times ST}$$

$$\Rightarrow \frac{1}{PS} + \frac{1}{ST} > \frac{2}{\sqrt{PS \times ST}}$$

Using Eqn(I)

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=> $\frac{1}{PS} + \frac{1}{ST} > \frac{2}{\sqrt{QS \cdot SR}}$ ------Eqn(II)

Also, for two numbers, QS and SR, geometric mean is less than arithmetic mean.

=> $\sqrt{QS \times SR} < \frac{QS+SR}{2}$

=> $\frac{1}{\sqrt{QS \cdot SR}} > \frac{2}{QR}$ $(\because QS + SR = QR)$

Multiplying both sides by 2

=> $\frac{2}{\sqrt{QS \cdot SR}} > \frac{4}{QR}$ ----------Eqn(III)

From eqn(II) and (III)

$\therefore \frac{1}{PS} + \frac{1}{ST} > \frac{4}{QR}$

XAT Preparation Tips

Question 72

What is the maximum possible value of (21 Sin X + 72 Cos X)?

A 21

B 57

C 63

D 75

E None of the above

Answer: D

Explanation:

To find the minimum or maximum value, we need to find first derivative and put it equal to zero

Expression : $f(x) = 21sinx + 72cosx$

=> $f'(x) = 21cosx - 72sinx = 0$

=> $21cosx = 72sinx$

=> $\frac{sinx}{cosx} = tanx = \frac{21}{72} = \frac{7}{24}$

=> $sinx = \frac{7}{\sqrt{7^2+24^2}} = \frac{7}{\sqrt{49+576}}$

=> $sinx = \frac{7}{\sqrt{625}} = \frac{7}{25}$

Similarly, $cosx = \frac{24}{25}$

Putting it in the original expression, we get :

=> $f(x) = (21 \times \frac{7}{25}) + (72 \times \frac{24}{25})$

$= \frac{147}{25} + \frac{1728}{25} = \frac{1728+147}{25}$

$= \frac{1875}{25} = 75$

Shortcut Method : Maximum value of $asinx - bcosx = \sqrt{a^2 + b^2}$

and minimum value = $-\sqrt{a^2 + b^2}$

=> Max value of $21sinx + 72cosx = \sqrt{(21)^2 + (72)^2}$

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$= \sqrt{441 - 5184} _ \sqrt{5625}$

$= 75$

Question 73

The scheduling officer for a local police department is trying to schedule additional patrol units in each of two neighbourhoods - southern and northern. She knows that on any given day, the probabilities of major crimes and minor crimes being committed in the northern neighbourhood were 0.418 and 0.612, respectively, and that the corresponding probabilities in the southern neighbourhood were 0.355 and 0.520. Assuming that all crime occur independent of each other and likewise that crime in the two neighbourhoods are independent of each other, what is the probability that no crime of either type is committed in either neighbourhood on any given day?

A 0.069

B 0.225

C 0.69

D 0.775

E None of the above

Answer: A

Explanation:

For northern neighbourhood,

Probability that there is no major crime = $(1 - 0.418) - 0.582$

Probability that there is no minor crime = $(1 - 0.612) = 0.388$

For southern neighbourhood,

Probability that there is no major crime = $(1 - 0.355) = 0.645$

Probability that there is no minor crime = $(1 - 0.520) - 0.480$

$\therefore$ Probability that no crime of either type is committed in either neighbourhood on any given day

$= 0.582 \times 0.388 \times 0.645 \times 0.480$

$= 0.069$

Instructions

Based on the following information

A man standing on a boat south of a light house observes his shadow to be 24 meters long, as measured at the sea level. On sailing 300 meters eastwards, he finds his shadow as 30 meters long, measured in a similar manner. The height of the man is 6 meters above sea level.

Question 74

The height of the light house above the sea level is:

A 90 meters

B 94 meters

C 96 meters

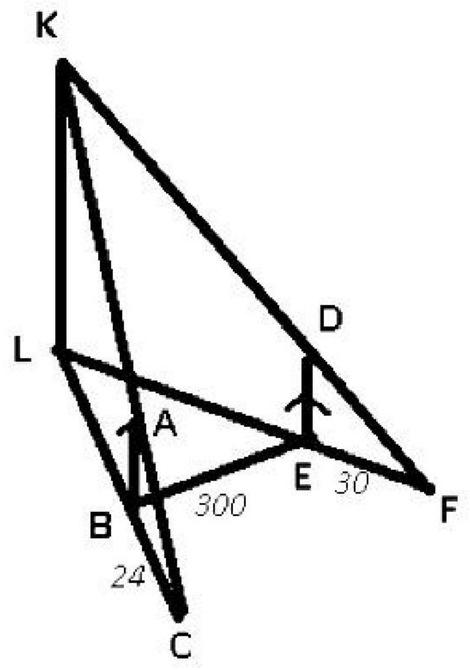
D 100 meters

E 106 meters

Answer: E

Explanation:

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KL = lighthouse

BA = initial position man of man and BC = shadow

After moving 300 m east, DE = new position of man and EF = shadow

Given : AB = DE = 6 m

BC = 24 m and EF = 30 m and BE = 300 m

$\triangle$ LBE is right angled triangle (sea level).

To find : KL = ?

Solution : In $\triangle$ KLF and $\triangle$ DEF

=> $\angle KLF - \angle DEF - 90$

$\angle KFL = \angle DFE$ (common angle)

=> $\triangle KLF \sim \triangle DEF$

=> $\frac{KL}{DE} - \frac{LF}{EF}$ ----------Eqn(I)

Similarly, $\triangle KLC \sim \triangle ABC$

=> $\frac{KL}{AB} - \frac{LC}{BC}$ ----------Eqn(II)

From eqn (I) and (II), and using AB = DE

=> $\frac{LC}{BC} = \frac{LF}{EF}$

=> $\frac{LC}{24} - \frac{LF}{30}$

=> $\frac{LC}{LF} - \frac{24}{30} - \frac{4}{5}$

If, LC is 4 part $\equiv$ LF is 5 part

=> $LB - 4x$ and $LE - 5x$

$\because \triangle$ LBE is right angled triangle

=> $(LE)^2 - (LB)^2 = (BE)^2$

=> $25X^2 - 16X^2 = 90000$

=> $x^2 - \frac{90000}{9} - 10000$

=> $x - \sqrt{10000} - 100$

=> $LB = 400$ and $LE = 500$

=> $LC - LB + BC - 400 + 24 - 424$

Now, using Eqn (II), we get :

=> $KL - \frac{LC}{BC} \times AB$

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$= \frac{424}{24} \times 6 - \frac{424}{4}$

$= 106m$

Important Formulas for XAT Download PDF

Question 75

What is the horizontal distance of the man from the lighthouse in the second position?

A 300 meters

B 400 meters

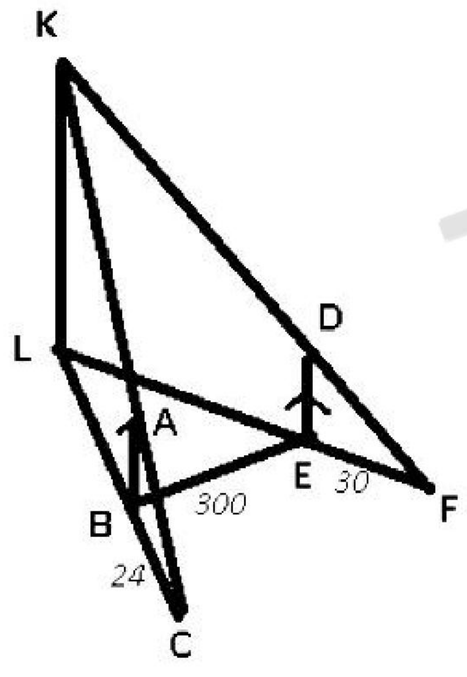
C 500 meters

D 600 meters

E None of the above

Answer: C

Explanation:



KL = lighthouse

BA = initial position man of man and BC = shadow

After moving 300 m east, DE = new position of man and EF = shadow

Given : AB = DE = 6 m

BC = 24 m and EF = 30 m and BE = 300 m

$\triangle$ LBE is right angled triangle (sea level).

To find : LE = ?

Solution : In $\triangle$ KLF and $\triangle$ DEF

=> $\angle KLF = \angle DEF = 90$

$\angle KFL - \angle DFE$ (common angle)

=> $\triangle KLF \sim \triangle DEF$

=> $\frac{KL}{DE} = \frac{LF}{EF}$ ----------Eqn(I)

Similarly, $\wedge KLC \sim \wedge ABC$

=> $\frac{KL}{AB} = \frac{LC}{BC}$ ----------Eqn(II)

From eqn (I) and (II), and using AB = DE

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=> $\frac{LC}{BC} = \frac{LF}{EF}$

=> $\frac{LC}{24} = \frac{LF}{30}$

=> $\frac{LC}{LF} = \frac{24}{30} = \frac{4}{5}$

If, LC is 4 part = LF is 5 part

=> $LB = 4x$ and $LE = 5x$

$\because \triangle$ LBE is right angled triangle

=> $(LE)^2 - (LB)^2 = (BE)^2$

=> $25^2 - 16X^2 = 90000$

=> $x^2 = \frac{90000}{9} = 10000$

=> $x = \sqrt{10000} = 100$

$\therefore LE = 5 \times 100 = 500m$

Instructions

For the following questions answer them individually

Question 76

A 25 ft long ladder is placed against the wall with its base 7 ft from the wall. The base of the ladder is drawn out so that the top comes down by half the distance that the base is drawn out. This distance is in the range:

A (2, 7)

B (5, 8)

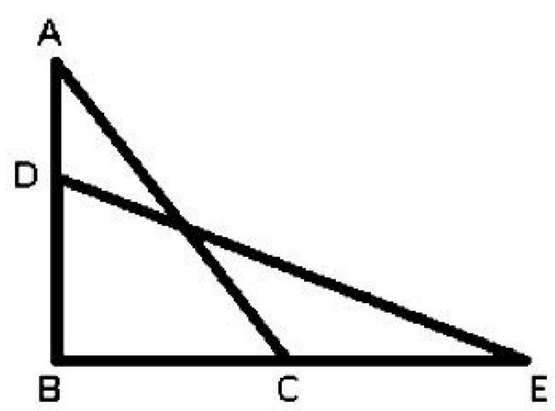
C (9, 10)

D (3, 7)

E None of the above.

Answer: E

Explanation:



Original position of the ladder = AC = 25 ft

Base = BC = 7 ft

=> In $\triangle$ ABC, using Pythagoras theorem

=> $(AB)^2 = (AC)^2 - (BC)^2$

=> $(AB)^2 = (25)^2 - (7)^2$

=> $AB = \sqrt{625 - 49} = \sqrt{576}$

=> $AB = 24$ ft

After drawing out the base, the new position of ladder = ED = 25 ft

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and $AD = x$ and $CE = 2x$

To find : CE = ?

Solution : In $\triangle$ DBE

$DB = (24 - x)$ and $BE = (7 + 2x)$

=> $(DB)^2 - (BE)^2 = (ED)^2$

=> $(24 - x)^2 + (7 + 2x)^2 = (25)^2$

=> $(576 - 48x + x^2) - (49 + 28x - 4x^2) = 625$

=> $625 - 20x + 5x^2 = 625$

=> $5x^2 - 20x$

=> $x = \frac{20}{5} = 4$

$\therefore CE = 2 \times 4 = 8$ ft

None of the options include 8 in the interval.

Question 77

The domain of the function $f(x) = log_7(log_3(log_5(20x - x^2 - 91)))$ is:

A (7, 13)

B (8,12)

C (7, 12)

D (12,13)

E None of the above

Answer: B

Explanation:

A logarithm function of the form $log_a b$ is true, iff $b > 0$

and $c = a^b$ can be written as = $log_a c = b$

We have, $f(x) = log_7(log_3(log_5(20x - x^2 - 91)))$

=> $log_3(log_5(20x - x^2 - 91)) > 0$

=> $log_5(20x - x^2 - 91) > (3)^0$

=> $log_5(20x - x^2 - 91) > 1$

=> $20x - x^2 - 91 > (5)^1$

=> $x^2 - 20x + 96 < 0$

=> $(x - 8)(x - 12) < 0$

=> $8 < x < 12$

$\therefore$ Domain of $f(x)$ = $(8, 12)$

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Question 78

There are four machines in a factory. At exactly 8 pm, when the mechanic is about to leave the factory, he is informed that two of the four machines are not working properly. The mechanic is in a hurry, and decides that he will identify the two faulty machines before going home, and repair them next morning. It takes him twenty minutes to walk to the bus stop. The last bus leaves at 8:32 pm. If it takes six minutes to identify whether a machine is defective or not, and if he decides to check the machines at random, what is the probability that the mechanic will be able to catch the last bus?

A 0

B 1/6

C 1/4

D 1/3

E 1

Answer: D

Explanation:
As the mechanic has decided to check two machines, thus if he identifies either both defective machines or both non defective, then the probability that he is able to catch the last bus is sum of the two. Thus, the possible outcomes are :

(i) : Both are defective machines, probability = $\binom{1}{2}\binom{1}{3} = \frac{1}{6}$

(ii) : First is defective and second is non defective, probability = $\binom{1}{2}\binom{2}{3} = \frac{1}{3}$

(iii) : First is non defective and second is defective, probability = $\binom{1}{2}\binom{2}{3} = \frac{1}{3}$

(iv) : Both are non defective machines, probability = $\binom{1}{2}\binom{1}{3} = \frac{1}{6}$

In the first and last cases, the mechanic would have identified the defective machines in time to catch the bus.

$\therefore$ Probability that he is able to catch the last bus = $\frac{1}{6} + \frac{1}{6} = \frac{1}{3}$

=> Ans - (D)

Question 79

The football league of a certain country is played according to the following rules:
Each team plays exactly one game against each of the other teams.
The winning team of each game is awarded 1 point and the losing team gets 0 point.
If a - match ends in a draw, both the teams get \frac{1}{2} point.
After the league was over, the teams were ranked according to the points that they earned at the end of the tournament. Analysis of the points table revealed the following:
Exactly half of the points earned by each team were earned in games against the ten teams which finished at the bottom of the table.
Each of the bottom ten teams earned half of their total points against the other nine teams in the bottom ten. How many teams participated in the league?

A 16

B 18

C 19

D 25

E 30

Answer: D

Explanation:
Number of teams in the bottom group $= 10$
Let the total number of teams in top group = n

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Total number of teams $= 10 + n$

=> Number of matches played amongst the bottom group teams = ${}^{10}C_2$
$= \frac{10 \cdot 9}{1 \cdot 2} = 45$

Number of points bottom group teams get playing amongst themselves $= 45 \cdot 1 = 45$

Let the total number of teams in top group = n

wkt, "Each of the bottom ten teams earned half of their total points against the other nine teams in the bottom ten"
i.e. they get half the total points by playing amongst themselves and the other half of total points by playing with the top group teams.

Since they got 45points playing amongst themselves, the bottom teams get 45 points from their matches against top group teams, => 45 out of $10n$ points
Total points by matches between top teams and bottom teams $= 10 \cdot n \cdot 1 = 10n$ points

Number of points that top group teams get from matches playing amongst themselves = ${}^{n}C_2$

Number of points that top group gets against the bottom group = $10n - 45$

wkt, "Exactly half of the points earned by each team were earned in games against the ten teams which finished at the bottom of the table.'. Therefore the top n teams obtained half points by playing amongst themselves and half the points by playing against bottom 10 teams.

=> ${}^{n}C_2 = 10n - 45$

=> $n(n-1) = 20n - 90$

=> $n^2 - 21n + 90 = 0$

=> $(n-6)(n-15) = 0$

If, $n = 6$, top group would get = $C_2^n + 10n = 45$

$= C_2^6 + 60 = 45 = 30$

Average points per game = $\frac{30}{6} = 5$

Bottom teams will get on an average = $\frac{45+45}{10} = 9$

This is not possible.

=> $n = 15$

$\therefore$ Total number of teams = $15 + 10 = 25$

Question 80

In a city, there is a circular park. There are four points of entry into the park, namely - P, Q, R and S. Three paths were constructed which connected the points PQ, RS, and PS. The length of the path PQ is 10 units, and the length of the path RS is 7 units. Later, the municipal corporation extended the paths PQ and RS past Q and R respectively, and they meet at a point T on the main road outside the park. The path from Q to T measures 8 units, and it was found that the angle PTS is 60.
Find the area (in square units) enclosed by the paths PT, TS, and PS.

A $36\sqrt{3}$

B $54\sqrt{3}$

C $72\sqrt{3}$

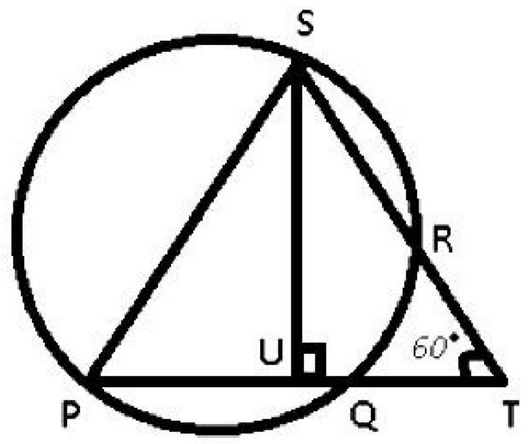
D $90\sqrt{3}$

E None of the above

Answer: C

Explanation:

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Given : PQ = 10 , QT = 8 , RS = 7

Now, TQ*TP=TR*TS (Secant from same external point)

8(PQ+QT)=TR(TR+RS)

8*18=TR(TR+7)

TR=9

TS=9+7=16

$\therefore ar(\triangle PTS) - \frac{1}{2} \times PT \times TS \times sin60$

$= \frac{1}{4} \times (16\sqrt{3}) \times 18$

$= 72\sqrt{3}$

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Instructions

based on the following information.

From a group of 545 contenders, a party has to select a leader. Even after holding a series of meetings, the politicians and the general body failed to reach a consensus. It was then proposed that all 545 contenders be given a number from 1 to 545. Then they will be asked to stand on a podium in a circular arrangement, and counting would start from the contender numbered 1. The counting would be done in a clockwise fashion. The rule is that every alternate contender would be asked to step down as the counting continued, with the circle getting smaller and smaller, till only one person remains standing. Therefore the first person to be eliminated would be the contender numbered 2.

Question 81

Which position should a contender choose if he has to be the leader?

A 3

B 67

C 195

D 323

E 451

Answer: B

Question 82

One of the contending politicians, Mr. Chanaya, was quite proficient in calculations and could correctly figure out the exact position. He was the last person remaining in the circle. Sensing foul play the politicians decided to repeat the game. However, this time, instead of removing every alternate person, they agreed on removing every 300th person from the circle. All other rules were kept intact. Mr. Chanaya did some quick calculations and found that for a group of 542 people the right position to become a leader would be 437. What is the right position for the whole group of 545 as per the modified rule?

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A 3

B 194

C 249

D 437

E 543

Answer: C

Instructions
For the following questions answer them individually

Question 83

Little Pika who is five and half years old has just learnt addition. However, he does not know how to carry. For example, he can add 14 and 5, but he does not know how to add 14 and 7. How many pairs of consecutive integers between 1000 and 2000 (both 1000 and 2000 included) can Little Pika add?

A 150

B 155

C 156

D 258

E None of the above

Answer: C

Explanation:
Little Pika can add (1000, 1001), (1001, 1002), (1002, 1003), (1003, 1004), (1004, 1005) and (1009, 1010).

Similarly, he can add (1010, 1011), (1011, 1012), (1012, 1013), (1013, 1014), (1014, 1015) and (1019, 1020).

Similarly, he can add (1020, 1021), (1021, 1022), (1022, 1023), (1023, 1024), (1024, 1025) and (1029, 1030).

Similarly, he can add (1030, 1031), (1031, 1032), (1032, 1033), (1033, 1034), (1034, 1035) and (1039, 1040).

Similarly, he can add (1040, 1041), (1041, 1042), (1042, 1043), (1043, 1044) , (1044, 1045) and (1049, 1050).

We can see that there are 30 cases when we have changed unit and tens digit. Now the hundreds digit can be anything from {0, 1, 2, 3, 4}.

Hence, total number of such pairs which Pika can add = 5*30 = 150.

He can also number of form, (1099, 1100), (1199, 1200), (1299, 1300), (1399, 1400) (1499, 1500) and (1999, 2000)

Therefore, we can say that Pika can add 150+6 = 156 numbers. Hence, option C is the correct answer.

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Question 84

In the country of Twenty, there are exactly twenty cities, and there is exactly one direct road between any two cities. No two direct roads have an overlapping road segment. After the election dates are announced, candidates from their respective cities start visiting the other cities. Following are the rules that the election commission has laid down for the candidates:

Each candidate must visit each of the other cities exactly once.

Each candidate must use only the direct roads between two cities for going from one city to another.

The candidate must return to his own city at the end of the campaign.

No direct road between two cities would be used by more than one candidate.

The maximum possible number of candidates is

A 5

B 6

C 7

D 8

E 9

Answer: E

Explanation:
There are 20 cities and one direct road between any 2 cities.

=> Total number of paths = C_2^{20}

$= \frac{20 \times 19}{1 \cdot 2} = 190$

Now, each candidate needed to visit all the cities and then come back to the city he started from

=> Paths taken by each candidate = 20

Let maximum number of candidates = n

=> $20n < 190$

=> $n < \frac{190}{20}$

=> $n < 9.5$

$\therefore$ Maximum possible number of candidates = 9

Question 85

The micromanometer in a certain factory can measure the pressure inside the gas chamber from 1 unit to 999999 units. Lately this instrument has not been working properly. The problem with the instrument is that it always skips the digit 5 and moves directly from 4 to 6. What is the actual pressure inside the gas chamber if the micromanometer displays 003016?

A 2201

B 2202

C 2600

D 2960

E None of the above options

Answer: A

Explanation:
The meter skips all the numbers in which there is a 5

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From, (1 to 99) -> 5 occurs 10 times in tens place and 10 times in units place (which also includes 55)

=> Total occurrence = $10 + 10 - 1 - 19$

Similarly from (100 to 199), from (200 to 299)..., from (400 to 499) , from (600 to 699),...from (900 to 999)

It occurs = $8 \times 19 - 152$

Now, from (500 to 599), there are 100 numbers, => micromanometer reading can change from 499 to 600.

Thus, total numbers skipped from (1 to 999) = $19 - 152 + 100 = 271$

Similarly, from (1000 to 1999) = 271

and from (2000 to 2999) = 271

Also, 3005 and 3015 are also skipped

=> Total number of skips = $271 + 271 + 271 - 2 = 815$

$\therefore$ Actual pressure = $3016 - 815 - 2201$

Question 86

Consider a square ABCD of side 60 cm. It contains arcs BD and AC drawn with centres at A and D respectively. A circle is drawn such that it is tangent to side AB, and the arcs BD and AC. What is the radius of the circle?

A 9 cm

B 10 cm

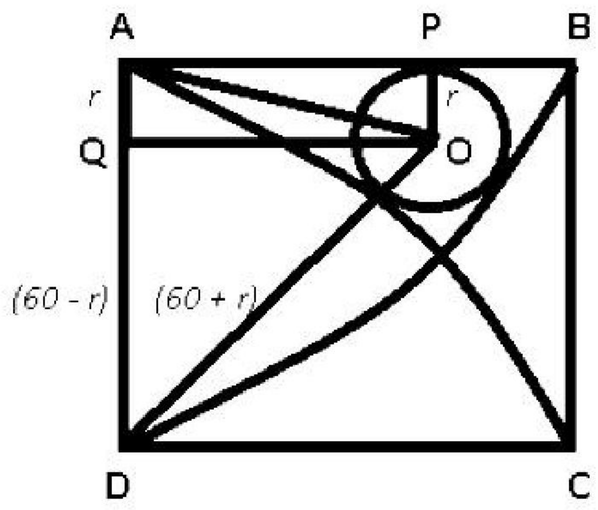
C 12 cm

D I5 cm

E None of the above

Answer: B

Explanation:



Given : Side of square = CD = 60 cm

=> AB = CD = 60 cm , => Radius of circles centered at A and D have equal radius of 60 cm

To find : OP = $r = ?$

Solution : $AO - 60 - r$ and $AQ - OP - r$

In $\triangle$ AOQ

=> $(OQ)^2 - (AO)^2 - (AQ)^2$

=> $(OQ)^2 = (60 - r)^2 - (r)^2$

=> $(OQ)^2 - 3600 - 120r + r^2 - r^2$

=> $(OQ)^2 = 3600 - 120r$

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Now, $OD = 60 + r$ and $QD = 60 - r$

In $\triangle$ DOQ

=> $(OD)^2 = (QD)^2 + (OQ)^2$

=> $(60 + r)^2 = (60 - r)^2 + (3600 - 120r)$

=> $(3600 + 120r + r^2) = (3600 - 120r + r^2) + (3600 - 120r)$

=> $120r + 120r + 120r = 3600$

=> $r = \frac{3600}{360} = 10cm$

XAT previous papers (download pdf)

Question 87

There are 240 second year students in a B - School. The Finance area offers 3 electives in the second year. These are Financial Derivatives, Behavioural Finance, and Security Analysis. Four students have taken all the three electives, and 48 students have taken Financial Derivatives. There are twice as many students who study Financial Derivatives and Security Analysis but not Behavioural Finance, as those who study both Financial Derivatives and Behavioural Finance but not Security Analysis, and 4 times as many who study all the three. 124 students study Security Analysis. There are 59 students who could not muster courage to take up any of these subjects. The group of students who study both Financial Derivatives and Security Analysis but not Behavioural Finance, is exactly the same as the group made up of students who study both Behavioural Finance and Security Analysis. How many students study Behavioural Finance only?

A 29

B 30

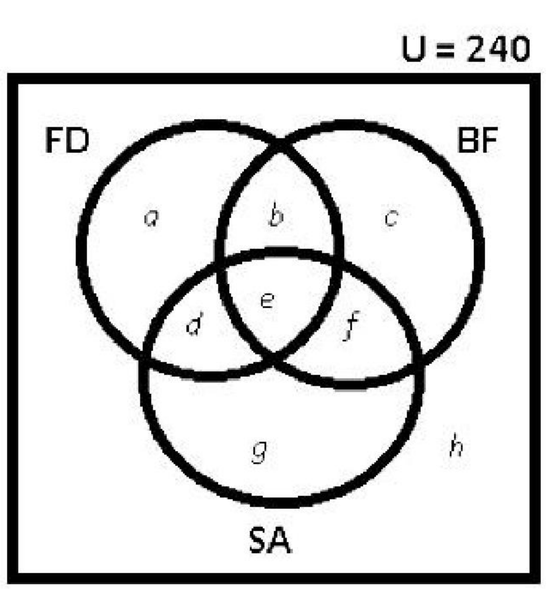
C 32

D 35

E None of the above

Answer: A

Explanation:



Given : $e = 4$

$FD = 48$, => $a + b + d + e = 48$

$d = 2b$ and $d = 4e$

$SA = 124$, => $d + e + f + g = 124$

$d = e + f$ and $h = 59$

To find : $c = ?$

Solution : $d = 4e = 4 \times 4 = 16$

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=> $b = \frac{d}{2} = \frac{16}{2} = 8$

=> $f = d - e = 16 - 4 = 12$

=> $a = 48 = b = d = e = 48 = 8 = 16 = 4 = 20$

=> $g = 124 - d - e - f = 124 - 16 - 4 - 12 = 92$

Now, we know that, $a + b + c + d + e + f + g + h = 240$

=> $20 + 8 - c + 16 + 4 - 12 + 92 + 59 = 240$

=> $c + 211 = 240$

=> $c = 240 - 211 = 29$

Question 88

In a plane rectangular coordinate system, points L, M, N and O are represented by the coordinates (-5, 0), (1,-1), (0, 5), and (-1, 5) respectively. Consider a variable point P in the same plane. The minimum value of PL + PM + PN + PO is

A $1 - \sqrt{37}$

B $5\sqrt{2} + 2\sqrt{10}$

C $\sqrt{41} + \sqrt{37}$

D $\sqrt{41} + 1$

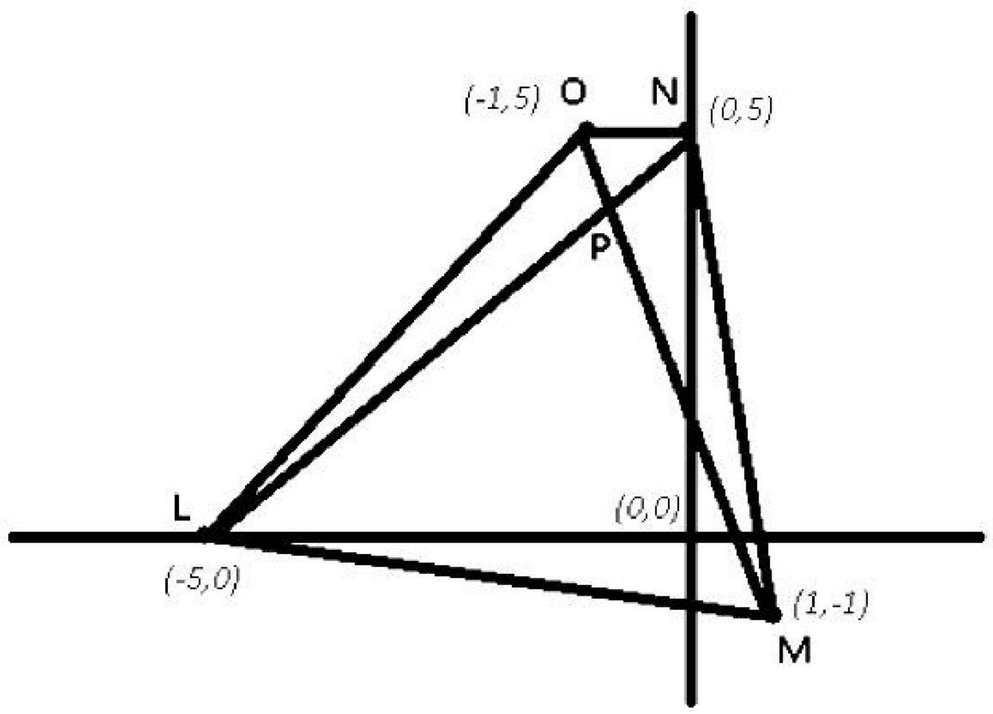
E None of these

Answer: B

Explanation:

$(PL + PN)$ will be minimum if P lies on PN, and $(PM + PO)$ will be minimum if P lies on OM.

=> P must be the intersection point of the diagonals of the quadrilateral.



∴ Min (PL + PM + PN + PO)

= $LN + OM$

= $(\sqrt{(0+5)^2 + (5-0)^2}) + (\sqrt{(1+1)^2 + (-1-5)^2})$

= $(\sqrt{25+25}) + (\sqrt{4+36})$

= $\sqrt{50} + \sqrt{40} = 5\sqrt{2} + 2\sqrt{10}$

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Question 89

Ln a bank the account numbers are all 8 digit numbers, and they all start with the digit 2. So, an account number can be represented as $2x_1x_2x_3x_4x_5x_6x_7$. An account number is considered to be a 'magic' number if $x_1x_2x_3$ is exactly the same as $x_4x_5x_6$ or $x_5x_6x_7$ or both. X_i can take values from 0 to 9, but 2 followed by seven 0_s is not a valid account number. What is the maximum possible number of customers having a 'magic' account number?

A 9989

B 19980

C 19989

D 19999

E 19990

Answer: C

Explanation:

Account number = $2x_1x_2x_3x_4x_5x_6x_7$

Case 1 : $x_1x_2x_3$ is exactly same as $x_4x_5x_6$

=> $x_1x_2x_3 = x_4x_5x_6 = 000$ and x_7 = **1 to 9** (as '20000000' is not valid)

=> 9 possibilities

Now, $x_1x_2x_3 - x_4x_5x_6$ = 001 to 999 and x_7 = **0 to 9**

=> $999 \times 10 = 9990$ possibilities.

Case 2 : $x_1x_2x_3$ is exactly same as $x_5x_6x_7$

=> $x_1x_2x_3 = x_5x_6x_7 = 000$ and x_4 = **1 to 9** (as '20000000' is not valid)

=> 9 possibilities

Now, $x_1x_2x_3 - x_5x_6x_7$ = 001 to 999 and x_4 = **0 to 9**

=> $999 \times 10 = 9990$ possibilities.

Subtracting common possibilities in above cases.

=> $x_1x_5x_6 = x_5x_6x_7$

=> $x_4 - x_5 = x_6 - x_7$

Except '0', the possibilities are 1111,2222,....,9999 => 9 possibilities.

∴ Maximum possible number of customers having a 'magic' account number

= $(9 + 9990) + (9 + 9990) - (9)$

= 19989

XAT Previous Papers

Question 90

In a list of 7 integers, one integer, denoted as x is unknown. The other six integers are 20, 4, 10, 4,8, and 4. If the mean, median, and mode of these seven integers are arranged in increasing order, they form an arithmetic progression. The sum of all possible values of x is

A 26

B 32

C 34

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D 38

E 40

Answer: E

Explanation:

Integers = $4, 4, 4, 8, 10, 20, x$

Clearly, irrespective of the value of x, Mode = 4

Sum of above integers = $4 - 4 - 4 - 8 + 10 - 20 - x$

= $50 + x$

Mean = $\frac{50-x}{7}$

Case 1 : If $x < 4$

Median of $x, 4, 4, 4, 8, 10, 20$ = 4

Mode = 4

If these are in A.P. => Mean = 4

=> $\frac{50-x}{7} = 4$

=> $50 + x = 28$

=> $x = 28 - 50 = -22$

=> It is not possible

Case 2 : If $4 < x < 8$

Median of $4, 4, 4, x, 8, 10, 20$ = x

Mode = 4

Mean = $\frac{50-x}{7}$

=> $\frac{54}{7} < Mean < \frac{58}{7}$

As these are in AP => $x = 6$ and Mean = 8

Case 3 : If $x > 8$

Mean = $\frac{50-x}{7} > \frac{58}{7}$

Median of $4, 4, 4, 8, x, 10, 20$ = 8

Mode = 4

As these are in AP, => Mean = 12

=> $\frac{50-x}{7} = 12$

=> $50 + x = 84$

=> $x = 84 - 50 = 34$

$\therefore$ Sum of all possible values of x is = $6 + 34 = 40$

Question 91

Prof. Bee noticed something peculiar while entering the quiz marks of his five students into a spreadsheet. The spreadsheet was programmed to calculate the average after each score was entered. Prof. Bee entered the marks in a random order and noticed that after each mark was entered, the average was always an integer. In ascending order, the marks of the students were 71, 76, 80, 82 and 91. What were the fourth and fifth marks that Prof. Bee entered?

A 71 and 82

B 71 and 76

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C 71 and 80

D 76 and 80

E 91 and 80

Answer: C

Explanation:
Marks = 71, 76, 80, 82 and 91

For average to be an integer each time, the sum of numbers entered after 2nd entry should be divisible by 2, after third entry should be divisible by 3 and so on.

The first two numbers have to be both odd or both even, so that their sum is even and can be divisible by 2.

Also, the sum of first four numbers should also be even.

=> Numbers entered are either $OOEEE$ or $EEOOE$ (where O -> odd and E -> even)

Case 1 : First two numbers are 71 and 91 in any order.

Average = $\frac{71+91}{2} = 81$

Now, sum of 71 and 91 is multiple of 3, so the third number has to be a multiple of 3, which is not possible.

Case 2 : First two numbers can be = $(76, 80), (76, 82), (80, 82)$

Now, following above criteria, only 2nd option is possible

So, third number has to be 91, average = $\frac{76-82+91}{3} = 83$

∴ The fourth and fifth marks that Prof. Bee entered = 71 and 80

Question 92

Rakhal is looking for a field where he can graze his cow. He finds a local farmer, Gopal, who agrees to rent his field to Rakhal for Rs. 1000 a year. Rakhal finds a post in the field and ties his cow to the post with a 25 feet rope. After some months, Gopal tells Rakhal that he will build a shed with four walls on the field with the post as one of the corner posts. The shed would be 15 feet by 10 feet. Rakhal agrees but he realizes that this arrangement would reduce the available area for grazing. What should be the modified rent to compensate for this loss of grazing area if Rakhal has to keep the cow tied to the same post with the same rope?

A Rs. 800

B Rs. 880

C Rs. 888

D Rs. 930

E None of the above

Answer: B

Explanation:
Original area for grazing = $\pi \times (25)^2$

= 625π sq. feet

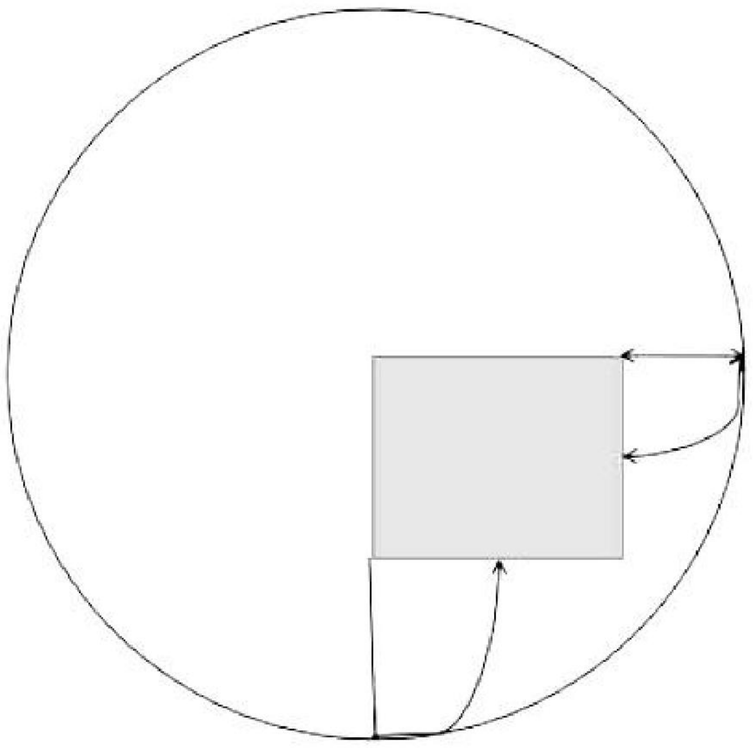
After the shed (15 × 10 feet) is built, quarter of the area will be reduced.

=> New area = $\frac{3}{4}\pi \times (25)^2 + \frac{1}{4}[\pi(10)^2 + \pi(15)^2]$

= $\frac{1875\pi}{4} + \frac{325\pi}{4}$

= $\frac{2200\pi}{4} = 550\pi$

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Now, original area corresponds to Rs. 1,000

$\Rightarrow 625\pi = 1000$

$\therefore 550\pi = 1000 \times \frac{550}{625}$

$= Rs.880$

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XAT Free Mock Test

Instructions

are followed by two statements labelled as I and II. Decide if these statements are sufficient to conclusively answer the question. Choose the appropriate answer from the options given below:

A. Statement I alone is sufficient to answer the question.
B. Statement II alone is sufficient to answer the question.
C. Statement I and Statement II together are sufficient, but neither of the two alone is sufficient to answer the question.
D. Either Statement I or Statement II alone is sufficient to answer the question.
E. Neither Statement I nor Statement II is necessary to answer the question.

Question 93

Let PQRS be a quadrilateral. Two circles O1 and O2 are inscribed in triangles PQR and PSR respectively. Circle O1 touches PR at M and circle O2 touches PR at N. Find the length of MN.

I. A circle is inscribed in the quadrilateral PQRS.
II. The radii of the circles O1 and O2 are 5 and 6 units respectively.

A Statement I alone is sufficient to answer the question.

B Statement II alone is sufficient to answer the question.

C . Statement I and Statement II together are sufficient, but neither of the two alone is sufficient to answer the question.

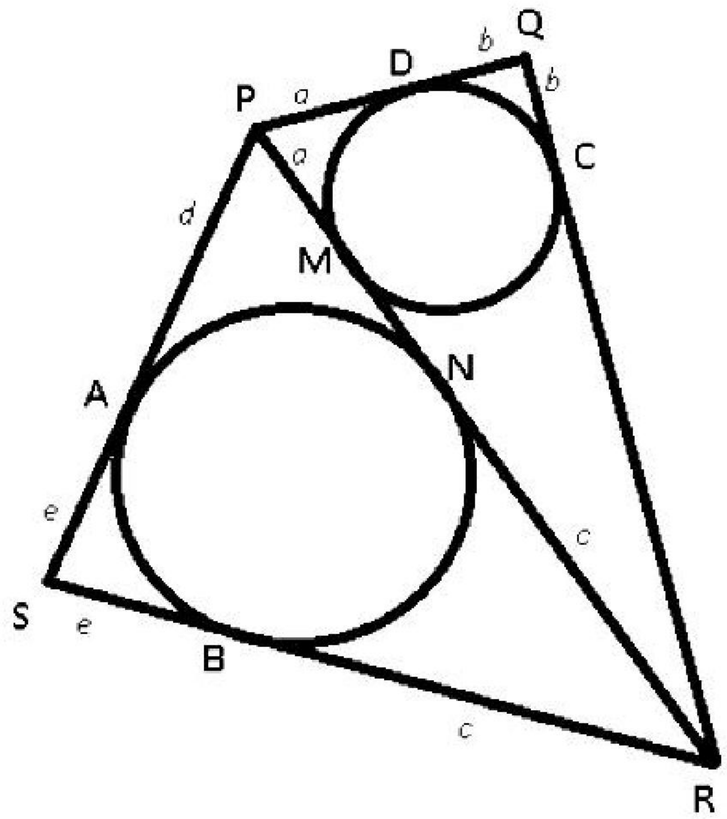
D Either Statement I or Statement II alone is sufficient to answer the question.

E Neither Statement I nor Statement II is necessary to answer the question.

Answer: A

Explanation:

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Using the property that, tangents from same point to a circle are equal in lengths.

In above quadrilateral, PA = PM + MN, => $d = a + MN$ ---------Eqn(I)

RC = RN + NM

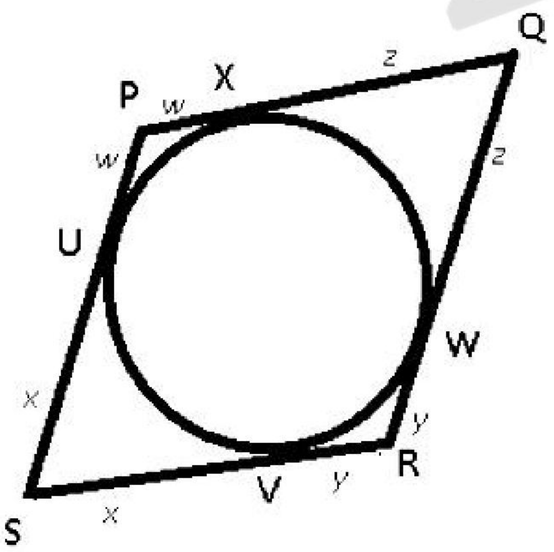
=> $PS = d - e$

$SR = e + c$

$QR = b + c - MN$

$PQ = a + b$

From statement I :



We can conclude that, $w + x - y + z = w + x + y + z$

=> $(w + z) + (x + y) = (w + x) + (y + z)$

=> $PQ + SR = PS + QR$

Substituting values from above equation, we get :

$\therefore a + b + c + c - d + e + b + c + MN$

Using eqn(I),

=> $a = a + MN + MN$

=> $MN = 0$

Thus, statement I alone is sufficient.

Statement II alone is not sufficient, for we can have more than one value of MN possible.

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Question 94

Given below is an equation where the letters represent digits.
(PQ). (RQ) = XXX. Determine the sum of P + Q + R+ X.
I. X = 9.
II. The digits are unique.

A Statement I alone is sufficient to answer the question.

B Statement II alone is sufficient to answer the question.

C . Statement I and Statement II together are sufficient, but neither of the two alone is sufficient to answer the question.

D Either Statement I or Statement II alone is sufficient to answer the question.

E Neither Statement I nor Statement II is necessary to answer the question.

Answer: E

Explanation:
Given relationship is $(PQ)(RQ) = XXX$

Since, X can take nine values from 1 to 9, thus we have 9 possibilities.

$111 = 3 \times 37$ $\quad$ $666 = 18 \times 37$

$222 = 6 \times 37$ $\quad$ $777 = 21 \times 37$

$333 = 9 \times 37$ $\quad$ $888 = 24 \times 37$

$444 = 12 \times 37$ $\quad$ $999 = 27 \times 37$

$555 = 15 \times 37$

But, out of these 9 cases, only in 999, we get the unit's digit of the two numbers same. Since it is a unique value,

Thus, we need neither statement I nor II to answer the question.

Instructions

Answer questions based on the following information:
Mulchand Textiles produces a single product of only one quality – waterproof synthetic fabric. Mr.Sharma, the cost accountant of Mulchand Textiles, estimated the costs of Mulchand Textiles for different possible monthly output levels. Before he could tabulate his estimates his computer crashed, and Mr. Sharma lost all data. Fortunately he had some printouts of some incomplete tables, charts and diagrams. The table titled "Variable Cost Estimates of Mulchand Textiles" provided the estimates of labour and material costs.

Variable Cost Estimates of Mulchand Textiles		
Output (Square feet)	Labour cost (Rs.)	Material cost (Rs.)
25000	21500	11050
50000	41500	22000
75000	60000	33000
100000	78000	44000
125000	95000	54750
150000	111000	65700
175000	133000	76650
200000	160000	88000

Apart from labour and material costs Mulchand Textiles incurs administrative costs of Rs. 40,000 per month, and electricity costs. Mr. Sharma recalled that estimate data of variable electricity cost had certain peculiar characteristics. Values at every 25000 sq ft of output increased in geometric progression till 150000 sq ft of output, after which values increased in arithmetic progression for every 25000 sq ft of output. Mr. Sharma remembered that the electricity cost was estimated to be Rs. 3800 for 25000 sq.ft. of output, Rs. 5700 for 50000 square feet of output and Rs. 38856.50 for 175000 square feet of output.

Question 95

The estimated cost per square feet of output is least for:

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A 75000 square feet output

B 100000 square feet output

C 125000 square feet output

D 150000 square feet output

E 175000 square feet output

Answer: D

Explanation:
It is given that cost for electricity changed in geometric progression till 150000 sq ft.

Estimated electricity cost for 25000 sq. ft = Rs. 3800

Estimated electricity cost for 50000 sq. ft = Rs. 5700

Hence, we can say that common ratio of the GP that is formed by electricity cost = $\frac{5700}{3800} = 1.5$

Therefore, estimated electricity cost for 75000 sq. ft = 5700*1.5 = Rs. 8550.

Similarly, we can calculate the electricity cost till 150000 sq. ft.

Estimated electricity cost for 200000 sq. ft = 2*Estimated electricity cost for 175000 sq. ft - Estimated electricity cost for 150000 sq. ft = 2*38856.5 - 28856.25 = Rs. 48856.75 (As these numbers are in an arithmetic sequence).

Tabulating the all data and calculating the cost per square feet.

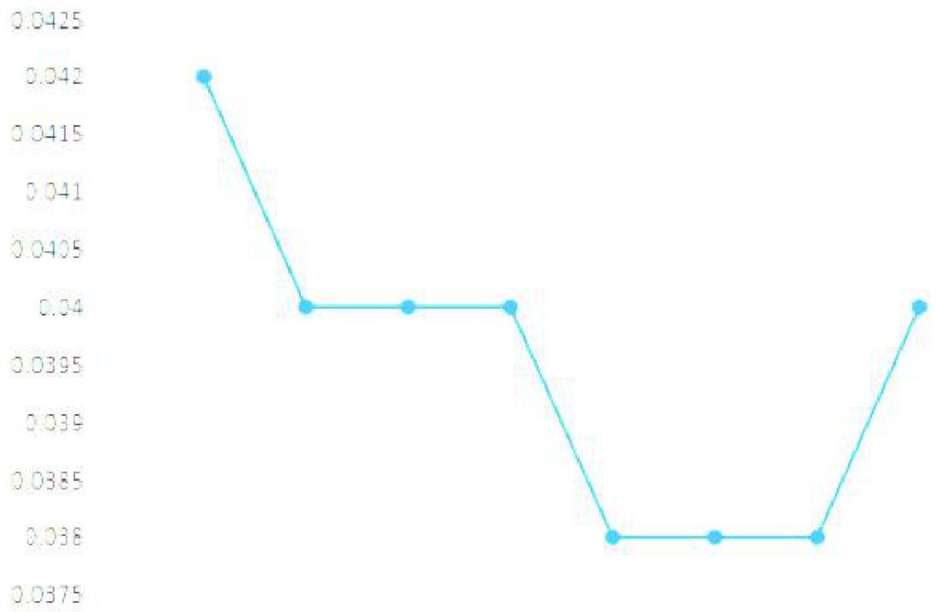
Variable Cost Estimates of Mulchand Textiles						
Output (Square feet)	Labour cost (Rs.)	Material cost (Rs.)	Electricity cost (Rs.)	Administrative cost (Rs.)	Total cost (Rs.)	Cost per square feet of output
25000	21500	11050	3800	40000	76350	3.054
50000	41500	22000	5700	40000	109200	2.184
75000	60000	33000	8550	40000	141550	1.887333333
100000	78000	44000	12825	40000	174825	1.74825
125000	95000	54750	19237.5	40000	208987.5	1.6719
150000	111000	65700	28856.25	40000	245556.25	1.637041667
175000	133000	76650	38856.5	40000	288506.5	1.648608571
200000	160000	88000	48856.75	40000	336856.75	1.68428375

From the table, we can that cost per square feet of output is least for 150000 sq ft output. Hence, option D is the correct answer.

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Question 96

The estimated material cost given in the table titled "Variable Cost Estimates of Mulchand Textiles" included the cost of material that gets spoiled in the production process. Mr. Sharma decomposed the estimated material cost into material spoilage cost and material usage cost, but he lost the data when his computer crashed. When he saw the following line diagram, here called that he measured the estimate of material spoilage cost per square feet of output on the y - axis and monthly output on the x - axis.



Estimated material usage cost per square feet of output.

A Decreases up to 125000 square feet of monthly output and then increases monotonically.

B Decreases up to 50000 square feet of monthly output, remains constant between 50000 and l00000, decreases between 100000 and 125000, remains constant between 125000 and 175000 and finally increases between 175000 and 200000 of monthly output.

C Remains constant for all levels of monthly output.

D Increases up to 50000 square feet of monthly output, remains constant between 50000 and l00000, increases between 100000 and 125000, remain constant between 125000 and 175000 and finally decreases between 175000 and 200000 of monthly output.

E Increases up to 100000 square feet of monthly output and then decreases monotonically.

Answer: C

Explanation:

Material cost for 25000 sq. ft output = Rs. 11050

Spoilage cost per sq. ft = 0.042 {Form the graph}

Therefore the spoilage cost for 25000 sq. ft = 25000*0.042 = Rs. 1050. Hence, the usage cost = 11050 - 1050 = Rs. 10000.

Therefore, the usage cost per sq. ft. = $\frac{10000}{25000}$ = Rs. 0.40.

Similarly, we can calculate for the remaining output and tabulating the same.

Variable Cost Estimates of Mulchand Textiles					
Output (Square feet)	Material cost	Spoilage cost per sq. ft.	Spoilage cost	Usage cost	Usage cost per sq. ft.
25000	11050	0.042	1050	10000	0.4
50000	22000	0.04	2000	20000	0.4
75000	33000	0.04	3000	30000	0.4
100000	44000	0.04	4000	40000	0.4
125000	54750	0.038	4750	50000	0.4
150000	65700	0.038	5700	60000	0.4
175000	76650	0.038	6650	70000	0.4
200000	88000	0.04	8000	80000	0.4

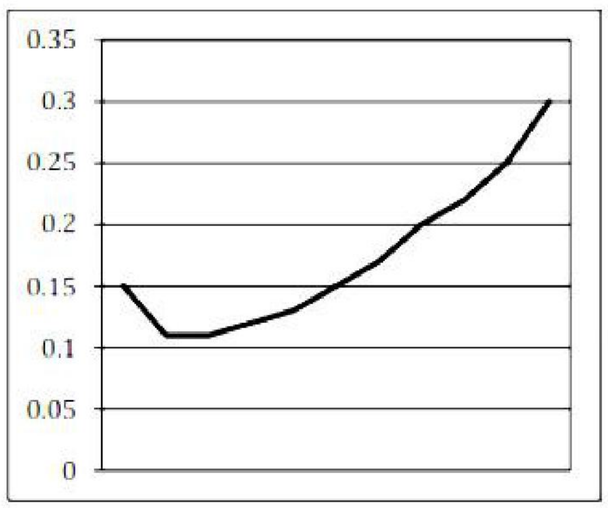
From the table we can see that that the usage cost per sq.ft is the same for all outputs. Hence, we can see that option C is the correct answer.

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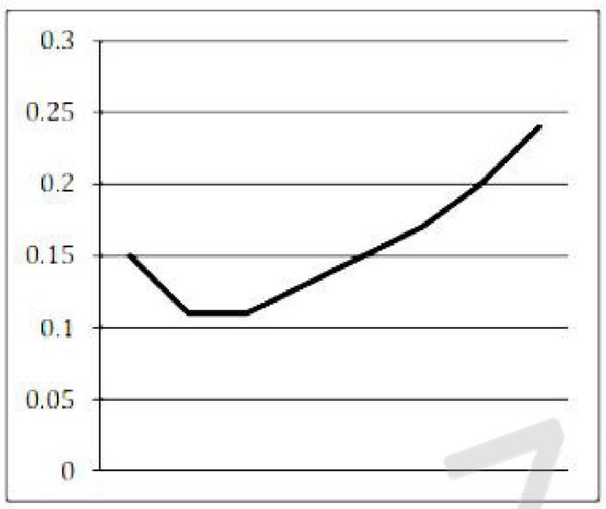
Question 97

Mr. Sharma found some printouts of line diagrams. The axes of the graphs were not marked, but Mr. Sharma remembered that he measured monthly output on the x - axis. Which of the following diagrams would represent the estimates of electricity cost per square feet of output versus monthly output?

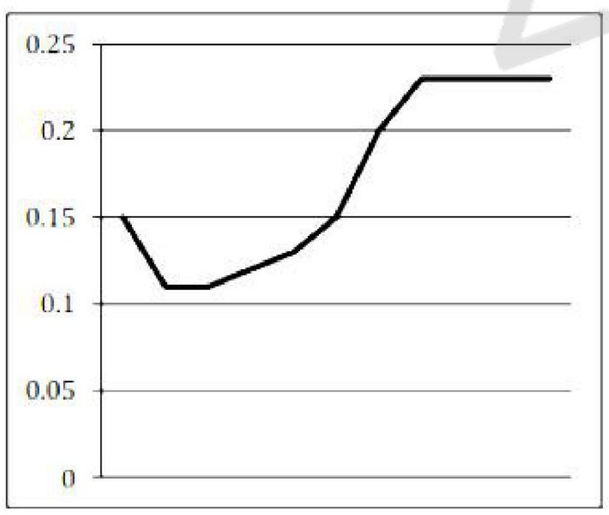
A



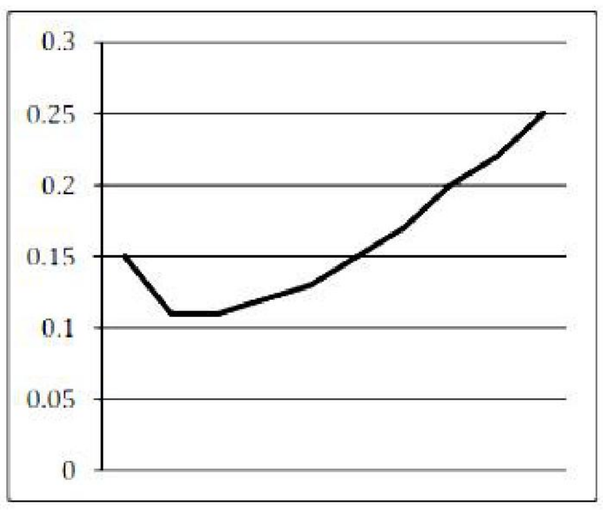
B



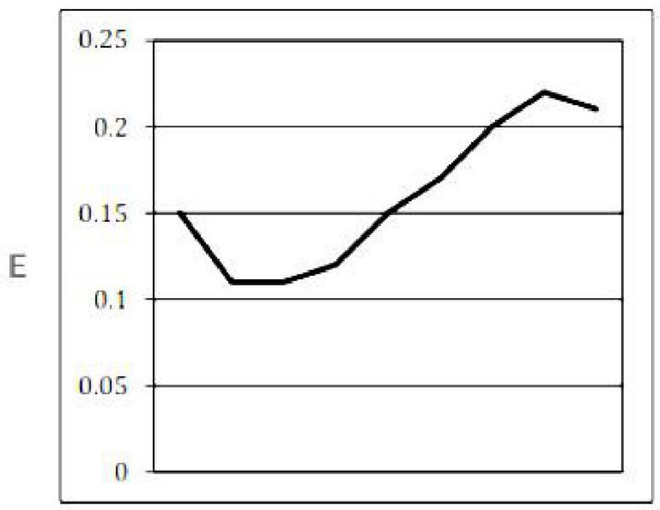
C



D



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Answer: B

Explanation:

It is given that cost for electricity changed in geometric progression till 150000 sq ft.

Estimated electricity cost for 25000 sq. ft = Rs. 3800

Estimated electricity cost for 50000 sq. ft = Rs. 5700

Hence, we can say that common ratio of the GP that is formed by electricity cost = $\frac{5700}{3800} = 1.5$

Therefore, estimated electricity cost for 75000 sq. ft = 5700*1.5 = Rs. 8550.

Similarly, we can calculate the electricity cost till 150000 sq. ft.

Estimated electricity cost for 200000 sq. ft = 2*Estimated electricity cost for 175000 sq. ft - Estimated electricity cost for 150000 sq. ft = 2*38856.5 - 28856.25 = Rs. 48856.75 (As these numbers are in an arithmetic sequence).

Electricity cost per sq. ft. for 25000 sq. ft = $\frac{3800}{25000}$ = Rs. 15

Similarly, we can calculate the remaining data.Tabulating the all data,

Variable Cost Estimates of Mulchand Textiles		
Output (Square feet)	**Electricity cost (Rs.)**	**Electricity cost per sq.ft**
25000	**3800**	**0.15**
50000	**5700**	**0.11**
75000	**8550**	**0.11**
100000	**12825**	**0.13**
125000	**19237.5**	**0.15**
150000	**28856.25**	**0.19**
175000	**38856.5**	**0.22**
200000	**48856.75**	**0.24**

We can see from the table that the cost per sq. ft decreased first then increased to 0.24 which is present in option B. Hence, option B is the correct answer.

Instructions

answer questions based on the following information:

In the beginning of the year 2010, Mr. Sanyal had the option to invest Rs. 800000 in one or more of the following assets – gold, silver, US bonds, EU bonds, UK bonds and Japanese bonds. In order to invest in US bonds, one must first convert his investible fund into US Dollars at the ongoing exchange rate. Similarly, if one wants to invest in EU bonds or UK bonds or Japanese bonds one must first convert his investible fund into Euro, British Pounds and Japanese Yen respectively at the ongoing exchange rates. Transactions were allowed only in the beginning of every month. Bullion prices and exchange rates were fixed at the beginning of every month and remained unchanged throughout the month. Refer to the table titled "Bullion Prices and Exchange Rates in 2010" for the relevant data.

Bullion Prices and Exchange Rates in 2010

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Date	Gold prices	Sliver prices	US$	€	£	¥
	Rs/ 10 gram	Rs/ 10 gram	Rs/ US$	Rs/€	Rs/ £	Rs/ ¥
1-Jan	20000	300	40	60	70	0.5
1-Feb	20100	302	41	61.5	71	0.51
1-Mar	20250	307	41	62	71	0.52
1-April	20330	310	42	62	71	0.52
1-May	20400	312	42	62.5	72	0.53
1-Jun	20500	318	42	62.5	72	0.54
1-Jul	20650	330	44	63	73	0.55
1-Aug	20720	335	45	63	73	0.55
1-Sep	20850	340	47	64	74	0.57
1-Oct	20920	342	49	65	74	0.58
1-Nov	20950	345	50	65	74.5	0.59
1-Dec	21000	350	50	65	75	0.6

Interest rates on US, EU, UK and Japanese bonds are 10%, 20%, 15% and 5% respectively.

Question 98

Mr. Sanyal invested his entire fund in gold, US bonds and EU bonds in January 2010. He liquefied his assets on 31st August 2010 and gained 13% on his investments. If instead he had held his assets for an additional month he would have gained l6.25%. Which of the following options is correct?

A Mr. Sanyal invested less than 40% in gold and more than 40% in EU bonds.

B Mr. Sanyal invested less than 40% in each of gold and US bonds.

C Mr. Sanyal invested less than 40% in gold, and less than 25% in US bonds.

D Mr. Sanyal invested more than 40% in gold, less than 25% in EU bonds.

E Mr. Sanyal invested more than 40% in each of US bonds and EU bonds.

Answer: B

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Question 99

At the beginning of every month, by sheer luck, Mr. Sanyal managed to correctly guess the asset that gave maximum return during that month and invested accordingly. If he liquefied his assets on 31st December 2010, how much was the percentage gain from his investments?

A 34.64%

B 46.71%

C 47.5%

D 49.15%

E 49.96%

Answer: B

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Question 100

Mr. Sanyal adopted the following investment strategy. On Ist January 2010 he invested half of his investible fund in gold and the other half he kept in fixed deposit of an Indian bank that offered 25% interest per annum. At the beginning of every quarter he liquefied his assets to create his investible fund for that quarter. Every quarter he invested half of his fund in the bullion that gave maximum return in the previous quarter and the other half in the foreign bond that gave maximum return in the previous quarter. However, if in any quarter none of the foreign bonds gave a better return than the fixed deposit of his Indian bank, he invested half of his investible fund in the fixed deposit for the next quarter. On 31st December 2010 Mr. Sanyal liquefied his assets and realized that all of the following options are true except:

A By investing the entire amount in US bonds, he would have gained an additional Rs. 118395.

B By investing the entire amount in UK bonds, he would have gained an additional Rs. 65035.

C By investing the entire amount in EU bonds, he would have gained an additional Rs. 65035.

D By investing the entire amount in Japanese bonds, he would have gained an additional Rs. 38395.

E By investing the entire amount in fixed deposit of his Indian bank he would have gained an additional Rs.38395.

Answer: A

Question 101

Advisors were asked to prepare an investment strategy that involved US Bonds, EU Bonds and Japanese Bonds, keeping at least 20% of the initial fund in each of these assets for the entire year, and allowing exactly four additional transactions in the course of the year. On 2nd January 2011, while comparing five different recommendations that he had received from his financial advisors in the beginning of 2010, Mr. Sanyal referred to the table "Bullion Prices and Exchange Rates in 20 10". One transaction is defined as the buying or selling of an asset. Which of the recommendation out of the following was the best one?

A Two additional transactions each during the month of June and November.

B Two additional transactions each during the month of June and October.

C Two additional transactions each during the month of May and June.

D Two additional transactions each during the month of March and November.

E Two additional transactions each during the month of March and October.

Answer: A

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