XAT 2018 Question Paper with Solutions

| Time Allowed :3 Hours | Maximum Marks :99 | Total Questions :99 |

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General Instructions

Read the following instructions very carefully and strictly follow them:

1. Each right question will carry 1 mark and each wrong question will carry -0.25 marks

2. In case of 8 consecutive unanswered questions, 0.10 marks will be deducted

3. Part 1 of the XAT question paper is to be solved in 165 minutes.

4. Verbal and Logical Ability: 26 questions

5. Decision Making: 21 questions

6. Quantitative Ability & Data Interpretation: 27 questions

7. Part 2 of the XAT question paper is to be solved in 15 minutes

8. General Knowledge Section: There was no negative marking for incorrect or unattempted questions in this section.

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English

Please read the passage below and answer the questions that follow:

If history doesn't follow any stable rules, and if we cannot predict its future course, why study it? It often seems that the chief aim of science is to predict the future - meteorologists are expected to forecast whether tomorrow will bring rain or sunshine; economists should know whether devaluing the currency will avert or precipitate an economic crisis; good doctors foresee whether chemotherapy or radiation therapy will be more successful in curing lung cancer. Similarly, historians are asked to examine the actions of our ancestors so that we can repeat their wise decisions and avoid their mistakes. But it never works like that because the present is just too different from the past. It is a waste of time to study Hannibal's tactics in the Second Punic War so as to copy them in the Third World War. What worked well in cavalry battles will not necessarily be of much benefit in cyber warfare. Science is not just about predicting the future, though. Scholars in all fields often seek to broaden our horizons, thereby opening before us new and unknown futures. This is especially true of history. Though historians occasionally try their hand at prophecy (without notable success), the study of history aims above all to make us aware of possibilities we don't normally consider. Historians study the past not in order to repeat it, but in order to be liberated from it. Each and every one of us has been born into a given historical reality, ruled by particular norms and values, and managed by a unique economic and political system. We take this reality for granted, thinking it is natural, inevitable and immutable. We forget that our world was created by an accidental

chain of events, and that history shaped not only our technology, politics and society, but also our thoughts, fears and dreams. The cold hand of the past emerges from the grave of our ancestors, grips us by the neck and directs our gaze towards a single future. We have felt that grip from the moment we were born, so we assume that it is a natural and inescapable part of who we are. Therefore we seldom try to shake ourselves free, and envision alternative futures. Studying history aims to loosen the grip of the past. It enables us to turn our head this way and that, and begin to notice possibilities that our ancestors could not imagine, or didn't want us to imagine. By observing the accidental chain of events that led us here, we realise how our very thoughts and dreams took shape — and we can begin to think and dream differently. Studying history will not tell us what to choose, but at least it gives us more options.

Q1. Based on the passage, which of the following options would be the most appropriate for citizens to learn history?

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

Correct Answer: (B) Every street in India should display a plaque that lists all its previous names.

Solution:

Step 1: Identify the main theme of the passage.
The passage explains that history is not just about predicting the future or copying the past, but rather about understanding possibilities, broadening our horizons, and enabling us to envision alternative futures. Studying history helps us loosen the grip of the past while learning from it.

Step 2: Connect this to the options.
The correct option must allow citizens to learn from the past, rather than erase or ignore it.

Step 3: Eliminate wrong choices.
- (A) Keeping British names unchanged only preserves the past but does not explain it or connect it with present citizens.
- (C) Replacing British names with Indian names erases part of the historical continuity and may distort understanding.
- (D) Choosing names via opinion polls reflects current preferences, not historical awareness.
- (E) Periodically changing names trivializes history and creates confusion, not learning.

Step 4: Verify the best choice.
(B) Displaying plaques that list all previous names helps citizens connect the present with the past. It preserves the chain of history, allowing people to see how things evolved and learn

from it — perfectly aligned with the passage's message that history enables us to reflect and broaden perspectives.

Option B is the most appropriate.

> **Quick Tip**
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> When answering passage-based questions, focus on the author's central message. If the passage emphasizes learning from the past without erasing it, the correct choice will usually involve **preservation with context**, not destruction or replacement.

Q2. Which of the following options is the closest to the essence of the passage?
(A) History, unlike Physics, does not help predict future.
(B) History deals with long time periods.
(C) History documents the past events related to specific people.
(D) There is no strict cause and effect relationship in history.
(E) History has the potential to make us eclectic.

Correct Answer: (E) History has the potential to make us eclectic.

Solution:

Step 1: Recall the main idea of the passage.
The passage emphasizes that history should not be studied just to predict the future or to copy the past. Instead, it broadens our perspectives, makes us aware of multiple possibilities, and helps us loosen the grip of the past so that we can think and dream differently.

Step 2: Compare each option with the passage.
- (A) True, but only a partial point. The passage goes beyond just saying history cannot predict the future.
- (B) History does deal with long periods, but this is a factual description, not the core essence.
- (C) History does document past events, but the passage stresses how history shapes imagination and alternatives, not just documentation.
- (D) The absence of strict cause-effect is mentioned, but it is not the central idea.
- (E) Closely matches the core: history gives us more options, broadens our horizons, and allows us to combine diverse perspectives — which is what being eclectic means.

Step 3: Final reasoning.
Since the passage's message is about how history liberates us, gives us alternative ways of thinking, and makes us open to different possibilities, option (E) captures the essence best.

History has the potential to make us eclectic.

Q3. Read the following sentences:
1. A historian successfully predicted a political crisis based on similar events of the last century.
2. Using the latest technology, doctors could decipher the microbe causing the disease.
3. Students who prepared for an examination by perusing past 10 years' question papers did not do well in the examination.
4. A tribe in Andaman learns to predict epidemic outbreaks by listening to the stories of how their ancestors predicted the past outbreaks.

Which of the statement(s) above, if true, would contradict the view of the author?
(A) 1 and 2 only
(B) 3 and 4 only
(C) 2 and 3 only
(D) 1 and 4 only
(E) 1, 2 and 4 only

Correct Answer: (D) 1 and 4 only

Solution:

Step 1: Recall the author's key view from the passage.
The passage stated that history cannot reliably predict the future. Historians are asked to examine the past, but predictions based on past events are mostly futile. The purpose of history is not forecasting but broadening horizons.

Step 2: Examine each statement.
- (1) A historian successfully predicting a political crisis contradicts the author's point because the author emphasized that history cannot successfully predict future events.
- (2) Doctors using technology to identify microbes is about science, not history. This does not contradict the author's view about history.
- (3) Students failing after studying past papers is aligned with the author's stance that repeating past methods does not guarantee success. Hence, it supports rather than contradicts.
- (4) A tribe predicting epidemics by relying on ancestral stories contradicts the author's point that the past cannot provide direct predictive models for the future.

Step 3: Select the correct set.
Statements 1 and 4 contradict the author's view. Hence, option (D) is correct.

$$\boxed{\text{1 and 4 only}}$$

Please read the passage below and answer the questions that follow:

Rene Descartes' assertion that ideas may be held true with certainty if they are "clear and distinct" provides the context for Peirce's title, "How to Make Our Ideas Clear." Peirce argued that an idea may seem clear if it is familiar. Distinctness depends on having good definitions, and while definitions are desirable they do not yield any new knowledge or certainty of the truth of empirical propositions. Peirce argues that thought needs more than a sense of clarity; it also needs a method for making ideas clear. Once we have made an idea clear, then we can begin the task of determining its truth. The method that Peirce offers came to be known as the pragmatic method and the epistemology on which it depends is pragmatism. Peirce rejected Descartes' method of doubt. We cannot doubt something, for the sake of method, that we do not doubt in fact. In a later essay, he would state as his rule "Dismiss make-believes." This refers to Descartes' method of doubting things, in the safety of his study, such things as the existence of the material world, which he did not doubt when he went out on the street. Peirce proposed that a philosophical investigation can begin from only one state of mind, namely, the state of mind in which we find ourselves when we begin. If any of us examines our state of mind, we find two kinds of thoughts: beliefs and doubts. Peirce had presented the interaction of doubt and belief in an earlier essay "The Fixation of Belief".

Beliefs and doubts are distinct. Beliefs consist of states of mind in which we would make a statement; doubts are states in which we would ask a question. We experience a doubt as a sense of uneasiness and hesitation. Doubt serves as an irritant that causes us to appease it by answering a question and thereby fixing a belief and putting the mind to rest on that issue. A common example of a doubt would be arriving in an unfamiliar city and not being sure of the location of our destination address in relation to our present location. We overcome this doubt and fix a belief by getting the directions. Once we achieve a belief, we can take the necessary action to reach our destination. Peirce defines a belief subjectively as something of which we are aware and which appeases the doubt. Objectively, a belief is a rule of action. The whole purpose of thought consists in overcoming a doubt and attaining a belief. Peirce acknowledges that some people like to think about things or argue about them without caring to find a true belief, but he asserts that such dilettantism does not constitute thought. The beliefs that we hold determine how we will act. If we believe, rightly or wrongly, that the building that we are trying to reach sits one block to our north, we will walk in that direction. We have beliefs about matters of fact, near and far. For example, we believe in the real objects in front of us and we believe generally accepted historical statements. We also believe in relations of ideas such as that seven and five equal twelve. In addition to these we have many beliefs about science, politics, economics, religion and so on. Some of our beliefs may be false since we are capable of error. To believe something means to think that it is true.

Q4. According to Peirce, for a particular thought, which of the following statements will be correct?
(A) A belief always leads to a doubt.
(B) A doubt always leads to a belief.
(C) A doubt and a belief may co-exist.
(D) A belief and a doubt are not related.
(E) A doubt may lead to a belief.

Correct Answer: (E) A doubt may lead to a belief.

Solution:

Step 1: Recall Peirce's theory of belief and doubt.
Peirce explained that the mind encounters two states: **beliefs** (which guide actions and provide certainty) and **doubts** (which create uneasiness and hesitation). Thought, according to him, begins with doubt, and its purpose is to resolve doubt by forming a belief.

Step 2: Examine the relationship.
- A belief does not always create a doubt (so A is wrong).
- A doubt does not always lead to a belief, but it *may* lead to a belief once resolved (so B is too strong, while E is accurat(E).
- Doubt and belief are distinct states; they cannot co-exist at the same time about the same issue (so C is incorrect).
- Beliefs and doubts are related; one resolves the other (so D is wrong).

Step 3: Identify the correct statement.
Option (E) fits Peirce's philosophy: doubts act as irritants, and resolving them leads to beliefs. The process of inquiry is driven by doubt, which finds closure in belief.

A doubt may lead to a belief.

> **Quick Tip**
>
> When analyzing philosophy-based RCs, focus on the definitions and logical flow of concepts. Here, Peirce's clear cycle is: **Doubt $\Rightarrow$ Belief**. Belief resolves doubt, but doubt is the starting point.

Q5. "A candidate has applied for XAT". According to Peirce, it indicates that:
(A) The candidate has a belief in the XAT application process.
(B) The candidate has a belief that XAT is a good test of ability.
(C) The candidate is doubtful about her/his performance in XAT.
(D) The candidate believes that s/he will perform well in XAT.

(E) The candidate has a doubt about her/his performance in other MBA entrance examinations.

Correct Answer: (A) The candidate has a belief in the XAT application process.

Solution:

Step 1: Recall Peirce's definition of belief.
Peirce defined belief as a "rule of action." It directs how an individual behaves in real life. If a person acts in a certain way, it reflects their belief system.

Step 2: Apply to the situation.
If a candidate applies for XAT, the action itself indicates that they believe in the validity or meaningfulness of the XAT process. Applying reflects trust in the system and a readiness to act upon that belief.

Step 3: Eliminate incorrect choices.
- (B) Belief in XAT as a good test of ability is not directly implied by simply applying.
- (C) Doubt about performance is not indicated in the act of applying.
- (D) Confidence in performance is not a necessary condition for applying.
- (E) Doubt in other exams is irrelevant here.

Thus, only (A) captures Peirce's meaning: belief expressed through action.

A candidate has a belief in the XAT application process.

> **Quick Tip**
>
> For Peirce, actions reveal beliefs. If someone acts (like applying for an exam), it shows they believe in the meaningfulness of that action, irrespective of doubts about performance.

Q6. Which of the following words is the closest in meaning to "dilettantism"?
(A) Belief
(B) Doubt
(C) Guess
(D) Surety
(E) Unlikelihood

Correct Answer: (C) Guess

Solution:

Step 1: Recall context from the passage.
Peirce criticized "dilettantism," describing it as when people argue or think without caring to find true beliefs — essentially engaging superficially without genuine pursuit of truth.

Step 2: Interpret meaning.
Dilettantism refers to amateurish or superficial involvement, often resembling a "guess" rather than a firm, reasoned conclusion.

Step 3: Eliminate options.
- (A) Belief — opposite of dilettantism, as beliefs are fixed states of mind.
- (B) Doubt — though linked, dilettantism is not the same as doubt.
- (D) Surety — completely opposite; dilettantism lacks certainty.
- (E) Unlikelihood — unrelated in meaning.

Thus, (C) "Guess" best captures superficial, non-serious thought or opinion.

$$\boxed{\text{Guess}}$$

> **Quick Tip**
>
> For vocabulary-in-context questions, look at how the author uses the word. Here, dilettantism was contrasted with genuine belief — pointing towards shallow or casual opinion, i.e., a "guess."

Q7. A person thinks that s/he has to keep awake for twenty hours in a day to score well in an examination, but is awake for only fifteen hours. For the above statement, which of the following options will be right, according to Peirce?
(A) This person believes in a minimum sleep of 10 hours.
(B) This person does not have a true belief.
(C) It is a counter-argument of Peirce theory.
(D) It is only a thought, a pure thought, nothing to do with action.
(E) The person does not have a doubt.

Correct Answer: (B) This person does not have a true belief.

Solution:

Step 1: Recall Peirce's definition of belief.
Peirce stated that a belief is not just a mental state — it is a **rule of action**. If someone truly believes something, their actions must align with that belief. Belief directs behavior, unlike doubt which creates hesitation.

Step 2: Apply to the given scenario.
The person thinks they must stay awake for 20 hours to succeed. However, in reality, they only

stay awake for 15 hours. This shows a disconnect between thought and action.

Step 3: Evaluate the options.
- (A) Incorrect — The statement does not suggest belief in 10 hours of sleep.
- (B) Correct — Since belief must be reflected in action, and the person's action (staying awake 15 hours) contradicts their stated thought (20 hours), it shows the absence of a true belief.
- (C) Incorrect — It is not an argument against Peirce's theory; it actually supports it.
- (D) Incorrect — Peirce emphasized belief is not mere thought but tied to action. This option misrepresents his idea.
- (E) Incorrect — The scenario is not about doubt, but inconsistency between belief and action.

Step 4: Conclude.
Thus, Peirce would argue that the person does not hold a genuine belief, since their behavior contradicts their stated claim.

> This person does not have a true belief.

Quick Tip

For Peirce, remember: **Belief = Thought + Action**. If thought does not translate into consistent action, it cannot be called a true belief.

Please read the passage below and answer the questions that follow:

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

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

Materialists hope that we will one day be able to explain consciousness in purely physical terms. But this project now has a long history of failure. The problem with materialist approaches to the hard problem is that they always end up avoiding the issue by redefining what we mean by 'consciousness'. They start off by declaring that they are going to solve the hard problem, to explain experience; but somewhere along the way they start using the word 'consciousness' to refer not to experience but to some complex behavioural functioning associated with experience, such as the ability of a person to monitor their internal states or to process information

about the environment. Explaining complex behaviour is an important scientific endeavour. But the hard problem of consciousness cannot be solved by changing the subject.

In spite of these difficulties, many scientists and philosophers maintain optimism that materialism will prevail. At every point in this glorious history, it is claimed, philosophers have declared that certain phenomena are too special to be explained by physical science — light, chemistry, life — only to be subsequently proven wrong by the relentless march of scientific progress.

Before Galileo it was generally assumed that matter had sensory qualities: tomatoes were red, paprika was spicy, flowers were sweet smelling. How could an equation capture the taste of spicy paprika? And if sensory qualities can't be captured in a mathematical vocabulary, it seemed to follow that a mathematical vocabulary could never capture the complete nature of matter. Galileo's solution was to strip matter of its sensory qualities and put them in the soul (as we might put it, in the min(D). The sweet smell isn't really in the flowers, but in the soul (min(D) of the person smelling them ... Even colours for Galileo aren't on the surfaces of the objects themselves, but in the soul of the person observing them. And if matter in itself has no sensory qualities, then it's possible in principle to describe the material world in the purely quantitative vocabulary of mathematics. This was the birth of mathematical physics.

But of course Galileo didn't deny the existence of the sensory qualities. If Galileo were to time travel to the present day and be told that scientific materialists are having a problem explaining consciousness in purely physical terms, he would no doubt reply, "Of course they do, I created physical science by taking consciousness out of the physical world!"

Q8. Which of the following statements captures the essence of the passage?
(A) Materialists redefine the hard problem by changing the issues.
(B) The hard problem cannot be solved by materialists.
(C) Materialists can explain the reasons humans see a particular colour.
(D) Materialists and philosophers agree on the concept of consciousness.
(E) The hard problem can best be solved by segregation.

Correct Answer: (B) The hard problem cannot be solved by materialists.

Solution:

Step 1: Identify the central theme.
The passage focuses on the "hard problem of consciousness" as explained by David Chalmers — i.e., why physical processes in the brain give rise to subjective experiences. The author emphasizes that materialists attempt to redefine consciousness as complex behaviour, but this avoids the real problem.

Step 2: Evaluate options.
- (A) Partly true, but not the main essence — redefinition is a tactic, but the broader problem is unsolved.
- (B) Matches the passage's core — materialists fail to solve the hard problem because they shift focus from subjective experience to behavioural correlates.

- (C) Too narrow — colour perception is just one example, not the essence.
- (D) Incorrect — the passage highlights disagreement, not agreement.
- (E) "Segregation" is irrelevant to the discussion.

Thus, the essence is captured by option (B).

> The hard problem cannot be solved by materialists.

> **Quick Tip**
>
> For "essence" questions, choose the option that summarizes the author's overall message, not side examples.

Q9. Which of the following options would most likely be an example of the hard problem?
(A) Feeling the heat while holding a glass of hot water
(B) Experiencing joy after doing well in an examination
(C) What makes us tired after walking for 20 kilometres?
(D) Why we prostrate in front of a deity?
(E) Why do humans take birth?

Correct Answer: (E) Why do humans take birth?

Solution:

Step 1: Recall what the "hard problem" means.
The "hard problem of consciousness" deals with explaining why and how physical processes give rise to subjective experience. It is not about simple physical or behavioural explanations, but deep questions of existence and awareness.

Step 2: Assess the options.
- (A) Feeling heat is a direct physical process — not the hard problem.
- (B) Joy after success links to emotion but is still explainable via psychology/neuroscience — not the hard problem.
- (C) Tiredness after walking is a biological/physiological process, explainable in physical terms.
- (D) Prostration is a cultural/social behaviour, not the hard problem.
- (E) "Why do humans take birth?" represents a deep existential/metaphysical question, tied to consciousness and meaning — fitting the hard problem.

Thus, option (E) is correct.

> Why do humans take birth?

Q10. Which of the following statements can be inferred from the passage?
(A) The passage argues that science could uncover all mysteries of the world.
(B) The passage argues that science could uncover all mysteries of the world by giving alternative explanations.
(C) The passage argues that science could never uncover all the mysteries of nature.
(D) The passage argues that science and consciousness are two different domains.
(E) The passage argues that nature is so mysterious that humans are not even aware of the phenomena that can be researched.

Correct Answer: (D) The passage argues that science and consciousness are two different domains.

Solution:

Step 1: Recall the central theme of the passage.
The passage highlights the "hard problem of consciousness" — why physical processes give rise to subjective experience. It stresses that materialist science, which explains physical and behavioural phenomena, struggles to explain consciousness.

Step 2: Evaluate the options.
- (A) Incorrect — the passage clearly states that science has failed to solve the hard problem, so not all mysteries can be uncovered.
- (B) Incorrect — materialists attempt alternative redefinitions, but this avoids rather than solves the problem.
- (C) Too extreme — the passage does not claim science can *never* solve mysteries; it criticizes the current inability regarding consciousness.
- (D) Correct — the passage emphasizes that science (which studies physical/material processes) and consciousness (subjective experienc(E) belong to different domains, hence materialist science fails to address consciousness.
- (E) Incorrect — while nature is mysterious, the passage focuses on consciousness, not on humans being unaware of research phenomena.

Step 3: Conclusion.
The correct inference is that science and consciousness belong to different domains, which is why science struggles to explain subjective experience.

Science and consciousness are two different domains.

Please read the passage below and answer the questions that follow:

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

Q11. While labor is capital, it is poles apart from each other because:
(A) Labor does not have a will of its own.
(B) The will of capital overpowers the will of labor.
(C) Capital is labor performed in the past.
(D) Labor exists outside the direct grip of capital.
(E) Labor is the animate part of capital.

Correct Answer: (B) The will of capital overpowers the will of labor.

Solution:

Step 1: Recall the key argument in the passage.
The passage highlights the polarity between labor and capital. Although labor is incorporated into capital (since capital is past labor and living labor is a part of capital), there is also a conflict: labor is compelled to act in accordance with the movements of capital, not its own

will.

Step 2: Match with options.
- (A) Incorrect — labor does have a will (social and political existenc(E), though it is often overpowered.
- (B) Correct — the passage explicitly states that the working class is seized, released, and directed not by its own will but according to the movement of capital. This means capital dominates labor.
- (C) True fact (capital is past labor) but it does not explain why they are poles apart.
- (D) Labor exists outside direct grip socially/politically, but economically it is controlled by capital. Not the main reason for polarity.
- (E) Also true (labor is animate part of capital) but it doesn't capture the contrast.

Thus, the polarity arises because capital's will dominates labor's will.

The will of capital overpowers the will of labor.

> **Quick Tip**
>
> When two concepts are described as "poles apart," look for the conflict or contradiction emphasized in the passage — here, it is the dominance of capital over labor's autonomy.

Q12. According to the passage, what does the working class subsist on?
(A) The benevolence of the bourgeois society
(B) The living labor
(C) Capital which is same as labor
(D) The labor that is performed in the past
(E) Living labor purchased by the capitalist

Correct Answer: (E) Living labor purchased by the capitalist.

Solution:

Step 1: Recall the key line from the passage.
The passage states: "That portion of money capital which is set aside for the payment of labor . . . corresponds to the working population, and upon which the latter subsists." This directly means that workers live on wages given for their labor.

Step 2: Examine options.
- (A) Incorrect — the passage never mentions charity or benevolence.
- (B) Incorrect — workers are themselves the living labor, they cannot subsist on themselves.
- (C) Incorrect — too abstract; capital as labor is true but not what sustains workers.
- (D) Incorrect — past labor (capital) does not directly feed the working class.

- (E) Correct — the working class survives on wages, i.e., living labor bought by the capitalist for production.

> Living labor purchased by the capitalist.

> **Quick Tip**
>
> Always focus on the exact wording of the passage. If it says the working class "subsists" on a portion of capital, this directly means wages — i.e., living labor purchased by the capitalist.

Q13. Which of the following statements will be true, according to the passage?

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

Correct Answer: (D) The pursuit of capital accumulation results in exploitation of the working class.

Solution:

Step 1: Recall key lines from the passage.
The passage stated that the working class is the "animate part of capital" and is the "raw material for exploitation." It also emphasized that the occupational structure, distribution, and conditions of workers are determined not by their will but by the movement of capital aimed at accumulation.

Step 2: Evaluate the options.
- (A) Partially true, but too general — the passage emphasizes not just exploitation by capital itself, but specifically by the *process of accumulation.*
- (B) Incorrect — the passage does not mention bourgeois directly exploiting labor once converted into capital; rather, the capitalist system as a whole drives exploitation.
- (C) Incorrect — while social and political life influence workers, the passage focuses on economic exploitation driven by capital accumulation.
- (D) Correct — directly aligns with the passage: accumulation of capital depends on the exploitation of living labor, which is bought and used to create surplus value.
- (E) True (workers are described as raw material), but this is descriptive, not the central conclusion.

Thus, the most accurate answer is (D).

The pursuit of capital accumulation results in exploitation of the working class.

> **Quick Tip**
>
> When several options seem partly true, always choose the one that best captures the **main economic mechanism** emphasized in the passage — here, exploitation tied to capital accumulation.

Q14. Read the following statements and answer the question that follows:
1. But its most advanced formulation is called superstring theory, which even predicts the precise number of dimensions: ten.
2. However, the theory has already swept across the major physics research laboratories of the world and has irrevocably altered the scientific landscape of modern physics, generating a staggering number of research papers in the scientific literature (over 5,000 by one count).
3. Scientifically, the hyperspace theory goes by the names of Kaluza-Klein theory and super-gravity.
4. The usual three dimensions of space (length, width, and breadth) and one of time are now extended by six more spatial dimensions.
5. We caution that the theory of hyperspace has not yet been experimentally confirmed and would, in fact, be exceedingly difficult to prove in the laboratory.

Rank the above five statements so as to make it a logical sequence:
(A) 3, 1, 4, 5, 2
(B) 3, 4, 1, 5, 2
(C) 5, 1, 4, 3, 2
(D) 3, 1, 4, 2, 5
(E) 2, 5, 3, 1, 4

Correct Answer: (A) 3, 1, 4, 5, 2

Solution:

Step 1: Identify the introduction.
Statement (3) introduces the scientific name of the hyperspace theory (Kaluza-Klein, super-gravity). This sets the context.

Step 2: Provide details of advanced formulation.
Statement (1) elaborates by naming its advanced form: superstring theory with 10 dimensions.

Step 3: Explain extension of dimensions.
Statement (4) expands on the 10 dimensions by explaining how 3 space + 1 time + 6 more

dimensions $= 10$.

Step 4: Mention caution about proof.
Statement (5) adds the warning that the theory is not experimentally confirmed.

Step 5: Conclude with impact.
Statement (2) then shows how, despite lack of proof, the theory has swept across physics research.

Thus, the correct logical order is:

$$3 \to 1 \to 4 \to 5 \to 2$$

$$\boxed{3, 1, 4, 5, 2}$$

> **Quick Tip**
>
> For logical order questions, look for: (i) introduction, (ii) explanation/definition, (iii) elaboration with details, (iv) caution/limitation, and (v) concluding remarks about impact.

Q15. Read the following statements and answer the question that follows:
1. It is less appealing, but morally more urgent, to understand the actions of the perpetrators.
2. It is easy to sanctify policies or identities by the deaths of the victims.
3. The victims were people; a true identification with them would involve grasping their lives rather than grasping at their deaths.
4. The moral danger, after all, is never that one might become a victim but that one might be a perpetrator or a bystander.
5. By definition the victims are dead, and unable to defend themselves from the use that others make of their deaths.

Rank the above five statements so as to make it a logical sequence:
(A) 1, 2, 3, 5, 4
(B) 5, 3, 2, 4, 1
(C) 3, 5, 2, 1, 4
(D) 3, 1, 2, 4, 5
(E) 5, 3, 1, 2, 4

Correct Answer: (C) 3, 5, 2, 1, 4

Solution:

Step 1: Find the natural introduction.
(3) frames the ethical starting point: treat victims as people—focus on their *lives*, not merely

their deaths. This sets the tone and theme.

Step 2: Give the reason their deaths are vulnerable to misuse.
(5) explains why deaths get appropriated: victims are no longer able to contest how others use their deaths. This causally follows (3).

Step 3: State the consequence of that vulnerability.
(2) then generalizes the misuse: it becomes easy to *sanctify* policies/identities by invoking those deaths. This is the practical abuse arising from (5).

Step 4: Present the difficult but necessary corrective.
(1) proposes the morally urgent task—shift attention to understanding the *perpetrators'* actions rather than exploiting victims' deaths. This counters the misuse in (2).

Step 5: Conclude with the overarching ethical warning.
(4) wraps up with the final caution: the real danger is becoming a perpetrator or bystander, reinforcing why (1)'s focus is necessary.

Hence the coherent sequence is:
$$3 \to 5 \to 2 \to 1 \to 4$$

> **Quick Tip**
>
> For ordering questions, look for a flow: (i) theme-setting principle, (ii) reason/explanation, (iii) consequence, (iv) remedy or shift in stance, (v) concluding warning or takeaway.

Q16. Arti is planning for higher studies and her future goals include working as a manager of a non-profit organization designed to provide assistance to underrepresented populations. Arti researched the mission statements of various colleges and discovered that college X, a small private college with a fee of Rs. 8 lakhs per year, was dedicated to producing compassionate and curious leaders. College Y, a large institute with a fee of Rs. 9 lakh per year, promoted itself as a leading research facility. Based on her research, she decided to apply to college X rather than College Y.

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

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

the best mission statement.

Correct Answer: (D) Students apply to colleges with mission statements that align with their goals.

Solution:

Step 1: Identify Arti's career goal.
Arti wants to work as a manager of a non-profit organization focused on helping under-represented populations. Her career requires compassion, social awareness, and alignment with humanitarian values.

Step 2: Compare the mission statements of the two colleges.
- College X emphasizes producing "compassionate and curious leaders," which directly aligns with Arti's future non-profit career path.
- College Y emphasizes being a "leading research facility," which does not directly align with Arti's non-profit ambitions.

Step 3: Eliminate distractors.
- (A) Incorrect — cost comparison is irrelevant since both colleges have similar fees.
- (B) Incorrect — the passage mentions nothing about personalized attention.
- (C) Incorrect — a large research university could still prepare students, but this was not Arti's reasoning.
- (E) Incorrect — "best" mission statement is subjective; Arti chose based on alignment, not superiority.

Step 4: Select the best fit.
Option (D) is correct because Arti chose the college whose mission statement aligned with her career goals.

> Students apply to colleges with mission statements that align with their goals.

Quick Tip

When evaluating decision-making questions, always focus on **alignment between goals and institutional values/mission**, not superficial factors like cost or size.

Q17. Carefully read the following statement:

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

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

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

Correct Answer: (D) Investment, slow, erratic, useless

Solution:

Step 1: Identify the subject of the sentence.
The sentence is about the **payoff from education**. Education is typically seen as an *investment*, not just expenditure or productivity. So the first blank must be "investment."

Step 2: Analyze the adjectives describing payoff.
The passage emphasizes that education's economic payoff is difficult to measure and cannot reliably predict short-term economic changes. Hence, words like "slow" and "erratic" fit logically — the effects of education are long-term and unpredictable.

Step 3: Complete with the final blank.
If the payoff is slow and erratic, then its predictive value is "useless" as an indicator of economic change within just 5–10 years.

Step 4: Eliminate other options.
- (A) Incorrect: Expenditure does not match the idea of "payoff" (payoff refers to returns on investment).
- (B) Incorrect: Productivity is not the right input here; education is not directly "productivity."
- (C) Incorrect: Suggests education has "fast, significant, powerful" payoff — contradicts the long-term nature described.
- (E) Incorrect: Predictable payoff is the opposite of what the sentence emphasizes (it is unpredictabl(E).

Thus, option (D) fits best:

Investment, slow, erratic, useless

> Quick Tip
>
> When filling blanks, match the tone and realism of the statement. Education is a **long-term investment** with unpredictable results, making "slow, erratic, useless" the most meaningful choice.

Q18. Carefully read the following paragraphs:

The Lannisters had ____ gold than the Tyrells until the Lannister army sacked Highgarden and took the Tyrell fortune to pay back the Iron Bank. On the other hand, the Northern army has ____ than 10,000 men and therefore, Jon needs to bend the knee to Daenerys. What happens in the story next is dependent on George R. Martin, the writer of the series. For ____, he has not written anything further and we hope George R. Martin will get around to finishing the book ____. But as it happens, ____ book releases are delayed.

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

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

Correct Answer: (A) less, fewer, some time, sometime, sometimes

Solution:

Step 1: Apply grammar rules for "less" vs. "fewer."
- "Less" is used for uncountable nouns (like "gold").
- "Fewer" is used for countable nouns (like "men").
Thus, the first two blanks must be "less gold" and "fewer men."

Step 2: Analyze time expressions.
- "Some time" (two words) means a certain period of time. Correct for: "For some time, he has not written anything further."
- "Sometime" (one wor(D) means at some unspecified point in the future. Correct for: "he will finish the book sometime."
- "Sometimes" means occasionally. Correct for: "sometimes book releases are delayed."

Step 3: Verify with passage flow.
Inserting these: "The Lannisters had **less** gold . . . the Northern army has **fewer** than 10,000 men . . . For **some time**, he has not written . . . will finish the book **sometime**. But . . . **sometimes** book releases are delayed."

This is perfectly logical.

less, fewer, some time, sometime, sometimes

> **Quick Tip**
>
> Remember: **Less = uncountable, Fewer = countable. Some time = a period of time, Sometime = unspecified future, Sometimes = occasionally**.

Q19. Which of the following sentences contains correct and meaningful usage of the underlined words?

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

Correct Answer: (C) Vikram's approach to the problem was different from Harpreet's, but he had expected no criticism from her.

Solution:

Step 1: Analyze grammar and word choice.
- The correct collocation is **"different from"**, not "different than" or "unique from."
- "Unique from" (used in A and (D) is grammatically incorrect. One should say "unique to" instead.

Step 2: Check tense usage.
- In (B), "hadn't expected no criticism" is grammatically incorrect due to the double negative ("hadn't" + "no").
- In (C), "had expected no criticism" is grammatically correct, as it clearly conveys that Vikram was expecting no criticism.
- In (E), although "different from" and tense are acceptable, "and he had expected" weakens the contrast intended by the sentence. The coordinating conjunction "but" (used in (C) conveys the contrast better.

Step 3: Evaluate overall correctness.
Only (C) satisfies correct collocation, grammar, and meaningful expression.

Vikram's approach to the problem was different from Harpreet's, but he had expected no criticism from her.

Quick Tip

Remember: "different from" is the correct phrase. Avoid double negatives ("hadn't expected no") and prefer connectors that preserve logical contrast (like "but" instead of "and").

A spirit that lives in this world and does not wear the shirt of love, such an existence in a deep disgrace.

Be foolish in love, because love is all there is.

There is no way into presence except through love exchange.

If someone asks, But what is love? Answer, dissolving the will.

True freedom comes to those who have escaped the question of freewill and fate.

Love is an emperor. The two worlds play across him. He barely notices their fumbling game.

Love and lover live in eternity. Other desires are substitute for that way of being.

How long do you lay embracing a corpse? Love rather the soul, which cannot be held.

Anything born in spring dies in the fall, but love is not seasonal.

With wine pressed from grapes, expect a hangover.

But this love path has no expectations. You are uneasy riding the body?

Dismount, travel lighter. Wings will be given.

Be clear like mirror holding nothing.

Be clean of pictures and the worry that comes with images.

Gaze into what is not ashamed or afraid of any truth.

Contain all human faces in your own without any judgment of them.

Be pure emptiness. What is inside of that? You ask. Silence is all I can say.

Lovers have some secrets they keep.

Q20. How are the words "freewill", "fate" and "will" used in the poem above?

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

Correct Answer: (A) All the three words are opposites of love.

Solution:

Step 1: Recall the lines from the poem.
The poem says: "If someone asks, But what is love? Answer, dissolving the will. True freedom comes to those who have escaped the question of freewill and fate."

Step 2: Interpretation.
Here, "will," "freewill," and "fate" are presented as worldly concerns that limit true love. Love is portrayed as transcending or dissolving them. In the poem's framework, love is the emperor, while freewill, will, and fate are seen as obstacles or distractions.

Step 3: Match with options.
- (A) Correct — all three are contrasted with love, shown as opposites.
- (B) Incorrect — intelligence is not the theme.
- (C) Incorrect — although plausible in general philosophy, the poem's emphasis is on tran-

scending them, not defining them.
- (D) Incorrect — the corpse metaphor is unrelated to these three words.
- (E) Incorrect — the poem does not define them as synonyms/antonyms but as distractions from love.

Thus, (A) is correct.

All the three words are opposites of love.

> **Quick Tip**
>
> In poetry-based RCs, focus on symbolic meaning. Words like "will," "freewill," and "fate" here are not technical but metaphors for ego and control, which stand opposite to love's dissolution.

Q21. Which of the following is the closest interpretation of "lovers have some secrets that they keep"?
(A) The secret refers to profundity of knowledge.
(B) The secret is not to have any secret.
(C) The secret refers to freedom from emptiness.
(D) The secret refers to being a fine judge of human quality.
(E) The secret is about loving someone as much as you love yourself.

Correct Answer: (B) The secret is not to have any secret.

Solution:

Step 1: Recall the closing lines of the poem.
"Lovers have some secrets they keep. Be clear like mirror holding nothing . . . Be pure emptiness." The poet emphasizes openness, emptiness, and lack of concealment.

Step 2: Interpret the secret.
The "secret" paradoxically refers to having no hidden agendas or concealments. In love, true connection is based on transparency and openness, so the "secret" lovers keep is actually that they have no secrets at all.

Step 3: Match with options.
- (A) Knowledge profundity is irrelevant.
- (B) Correct — the secret is not to have secrets.
- (C) Emptiness is mentioned but not in the sense of the "secret."
- (D) Judgment of human quality is unrelated.
- (E) Loving equally is not the interpretation.

Thus, option (B) is correct.

> The secret is not to have any secret.

Q22. Read the following paragraph and answer the question that follows:
The size of oceanic waves is a function of the velocity of the wind and of fetch, the length of the surface of the water subject to those winds. The average impact of waves against a coastline is a function of the size of the waves and the shape of the sea bottom. The degree of erosion on coastline is a function of the average impact of waves and the geologic composition of the coastline.

According to the above paragraph, which of the following options will be true?
(A) The fetch of wind is related to the shape of the sea bottom.
(B) The size of oceanic waves will not fluctuate far from average.
(C) The size of oceanic wave is correlated with the shape of the sea bottom.
(D) Degree of erosion on coastline is not related with the velocity of wind.
(E) Degree of erosion on coastline is related to shape of the sea-bottom.

Correct Answer: (E) Degree of erosion on coastline is related to shape of the sea-bottom.

Solution:

Step 1: Identify relationships in the passage.
1. Size of waves depends on: velocity of wind + fetch.
2. Average impact of waves depends on: size of waves + shape of sea bottom.
3. Degree of erosion depends on: average impact of waves + geologic composition of coastline.

Step 2: Establish linkages.
- Since impact depends on both size of waves and shape of sea bottom, and erosion depends on impact, erosion is indirectly related to the shape of the sea bottom.

Step 3: Evaluate each option.
- (A) Incorrect: Fetch relates only to wave size, not sea bottom.
- (B) Incorrect: Passage does not state about fluctuation from average.
- (C) Incorrect: Size of wave is not linked to shape of sea bottom, only to wind + fetch.
- (D) Incorrect: Wind velocity affects wave size, which affects impact, which affects erosion, so wind is indirectly related.
- (E) Correct: Erosion depends on impact, and impact depends on sea bottom shape, hence

erosion is related to shape of sea bottom.

> Degree of erosion on coastline is related to shape of the sea-bottom.

> **Quick Tip**
>
> In reasoning passages, carefully trace the chain of dependencies. If A depends on B and B depends on C, then A is indirectly related to C.

Q23. Read the following paragraph and answer the question that follows:

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

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

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

Correct Answer: (E) Western ethical and religious space has a long tradition of treatment of human values and Dharma.

Solution:

Step 1: Identify the main claim of the passage.
- The passage argues that Indian religious and ethical space is **different from Western countries**, because India has a long tradition of Dharma and ethical discussions carried forward through texts and leaders.

Step 2: Understand what makes the passage redundant.
- If it turns out that Western traditions also have the same **long tradition of Dharma and human values**, then the key point of distinction (India vs West) collapses.
- Hence, the whole argument about India being unique becomes redundant.

Step 3: Evaluate options.
- (A) Incorrect: Leaders preaching the same message is consistent with the passage, not contradictory.
- (B) Incorrect: This assumption strengthens India's uniqueness, not weaken it.
- (C) Incorrect: This only supports the role of epics, not redundancy.
- (D) Incorrect: A different kind of religious leadership in the West does not make the Indian claim redundant.
- (E) Correct: If Western religious spaces also had the same long-standing Dharma tradition, then India is no longer unique, making the passage redundant.

Western ethical and religious space has a long tradition of treatment of human values and Dharma.

> **Quick Tip**
>
> When asked what makes an argument redundant, look for the option that directly undermines or cancels out the main claim of the passage.

Q24. Read the following statement:

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

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

Correct Answer: (C) Internal studies conducted across groups and locations showed that 'openness' increases innovation.

Solution:

Step 1: Identify the nature of the question.
- We need to find the argument that is the least likely to have a logical fallacy, meaning it should be based on strong reasoning or evidence.

Step 2: Evaluate each option.
- (A) Fallacy of hasty generalization: One participant's behavior cannot prove overall program effectiveness.
- (B) Fallacy of authority: Just because a leading consultant designed it does not guarantee success.
- (C) Strong evidence: Internal studies across groups and locations provide empirical support, making it the least fallacious.
- (D) False dilemma: Suggests only two extreme choices, which is illogical.
- (E) Appeal to emotion: Trying to guilt the CEO into approval is a fallacy.

Step 3: Conclusion.
- Among all arguments, option (C) is based on **systematic studies and data**, which makes it logical and least fallacious.

> Internal studies across groups showed 'openness' increases innovation.

Quick Tip

When asked about logical fallacies, look for arguments based on evidence and data rather than authority, emotions, or extreme choices.

Q25. Read the following paragraph:

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

Go through the following statements:
1. Playing a musical instrument is a unique experience involving vision, hearing and touch.
2. Instrumental musicians are far more creative than vocalists.
3. Playing brain games does not integrate various senses and movements as much as playing a musical instrument.
4. Integrating the five senses is critical in the business world.

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

(A) Statement 1 only
(B) Statement 1 and 2
(C) Statement 3 only
(D) Statement 1 and 3
(E) Statement 3 and 4

Correct Answer: (C) Statement 3 only

Solution:

Step 1: Analyze the passage carefully.
- The passage clearly says: playing an instrument integrates vision, hearing, touch, and movements.
- It contrasts brain-games, saying they do not integrate as much as playing an instrument.
- It mentions emotional connection and brain stimulation but does not compare instrumentalists and vocalists.
- It also mentions business world application but not specifically about "five senses being critical".

Step 2: Match with given statements.
- (1) Partly true (instrument involves vision, hearing, and touch), but the passage never explicitly uses the word "unique" → so cannot be taken as a definite interpretation.
- (2) Not stated at all → false.
- (3) Clearly mentioned: "Unlike brain-games, playing an instrument integrates more senses" → definite interpretation.
- (4) Business application is mentioned, but not "five senses are critical" → cannot be definitely interpreted.

Step 3: Conclusion.
Only statement (3) directly follows from the passage.

$$\boxed{\text{Statement 3 only}}$$

Quick Tip

When solving interpretation questions, be strict about "definitely" — only accept what is **explicitly supported** by the passage, not what is implied or assumed.

Q26. Carefully read the following statement:
Though he thought of himself as a/an ___ person, his boss's abusive behaviour made him talk back. However, as he engaged in a/an ___ with his boss, all he got in response was a/an ___, which only filled him with ___.
Fill in the blanks meaningfully, in the above statement, from the following options:

(A) nonchalant, remonstration, philippic, ennui
(B) insouciant, philippic, remonstration, ennui
(C) philippic, remonstration, ennui, insouciance
(D) ennui, philippic, insouciance, remonstration
(E) nonchalant, ennui, philippic, remonstration

Correct Answer: (A) nonchalant, remonstration, philippic, ennui

Solution:
Step 1: Understand the context of the sentence.
- The person thinks of himself as calm and unconcerned → word needed: **nonchalant**.
- He talks back to his boss, but in a mild, reasonable protest → word needed: **remonstration** (a protest or objection).
- In return, the boss gives an angry, abusive speech → word needed: **philippic** (a bitter verbal attack).
- This leaves the person filled with tiredness/boredom/frustration → word needed: **ennui** (a feeling of dissatisfaction or weariness).

Step 2: Verify option A with the blanks.
- Nonchalant person
- Engaged in a remonstration
- Received a philippic
- Filled with ennui

All four words fit the context perfectly.

<div style="border:1px solid;padding:4px;display:inline-block">nonchalant, remonstration, philippic, ennui</div>

Quick Tip

For vocabulary-based fill-in-the-blank questions, always check word meanings and tone (positive, negative, neutral). The sentence's logical flow and emotional context guide you to the right choice.

Decision Making

Answer the following questions on the basis of information given in the following situation.

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

Q27. Sayed feared Palani's transfer may pull down the performance of the branch, as he felt Palani was transferred due to his poor performance in the previous branch.

Which of the following information will most likely assuage Sayed's fear?

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

Correct Answer: (E) While calculating the branch's performance, the branch head has the choice to exclude new joinee's performance.

Solution:
Step 1: Identify the root of Sayed's fear.
- Sayed worries that Palani's poor past performance will negatively affect the *branch's performance rating*.
- His concern is not just about Palani individually, but about the overall performance metrics of the branch.
Step 2: Evaluate each option.
- (A) Satyender's past record is good, but this does not directly address whether Palani will impact the branch score.
- (B) Palani being a top performer earlier, though recently deteriorating, still leaves doubt about current performance.
- (C) The branch's past success does not remove the possibility of decline after Palani's arrival.
- (D) This is about Sayed's own past fears, not about Palani's impact now.
- (E) If Palani's performance can be excluded from the branch's performance evaluation, then Sayed's fear becomes irrelevant because Palani cannot drag down the overall score.
Step 3: Conclude.
The only option that directly removes the fear is (E), since the branch's overall performance will not be harmed by Palani's initial struggles.

> E is the most likely information to assuage Sayed's fear.

Quick Tip

In reasoning questions, focus on the exact concern raised (here, the branch's overall performanc(E). The best answer is the one that directly neutralizes that concern.

Q28. Three months later, Palani submitted local travel bills to Satyender for reimbursement. Satyender realized that the bill amount was 30% higher than expected. Which of the following options, if true, will enable Satyender take a decision that shall set a precedent, which is least likely to be misused in the future?
(A) Palani being new to the area uses autorickshaws which are more expensive than personal motorcycles used by other collection officers.
(B) Unlike his colleagues, Palani's house has very poor public transport connectivity.
(C) Unlike his colleagues, Palani's sales territory has a powerful competitor.
(D) Unlike his colleagues, Palani's customers can meet him only during weekends.
(E) Unlike his colleagues, Palani has to visit customers repeatedly as they require additional persuasion.

Correct Answer: (A) Palani being new to the area uses autorickshaws which are more expensive than personal motorcycles used by other collection officers.

Solution:

Step 1: Identify what kind of precedent is safest.
Satyender wants a rule that is **objective, verifiable, and time-bounded** so others cannot exploit it later.

Step 2: Evaluate each option against these criteria.
(A) Being *new to the area* explains a short-term, verifiable need to rely on autorickshaws (costlier than colleagues' motorcycles). Satyender can allow a **temporary exception with a clear time limit** or until Palani switches to a personal vehicle—**hard to misuse** later.
(B) Poor connectivity to Palani's home is personal/circumstantial and **open-ended**—sets a precedent anyone could claim.
(C) "Powerful competitor" is **subjective** and doesn't directly justify higher *travel* spend.
(D) Weekend-only meetings are **behavioral scheduling** claims—hard to audit; may regularly increase costs.
(E) "Repeated persuasion" is **vague and unbounded**, easy to cite for higher expenses.

Step 3: Conclude.
Option (A) uniquely supports a **limited, auditable** policy (e.g., temporary higher reimbursement during induction), making it the precedent least likely to be misused.

> (A) is best for a clear, time-bound, verifiable precedent.

> **Quick Tip**
>
> For "set a precedent" questions, prefer reasons that allow **objective, time-limited** rules; avoid subjective and open-ended justifications that others can game.

Q29. Satyender is allocating territories to his subordinates for the coming financial year. So far, Palani's performance has been poor and this allocation will decide his future in the organization. Which of the following information will be the least useful to Satyender in taking a fair allocation decision?
(A) Sayed's territory has shown consistently good performance in the past three years.
(B) Sayed's territory faces stiff competition from a well-known brand.
(C) A new territory that faces competition from two relatively unknown brands.
(D) Godwin's territory has shown consistent results in the past three years.
(E) Godwin's territory performance has been flat for the past two years.

Correct Answer: (C) A new territory that faces competition from two relatively unknown brands.

Solution:

Step 1: Identify the decision-making context.
Satyender needs to allocate territories fairly among subordinates. The goal is to consider each subordinate's past performance and the competitive environment of the territories.

Step 2: Assess the usefulness of each option.
(A) Consistent good performance in Sayed's territory → Useful for judging Sayed's track record and allocation fairness.
(B) Competition from a strong well-known brand → Relevant, as it affects Sayed's performance potential.
(C) Competition from *two relatively unknown brands* → This is weak/irrelevant since unknown brands imply minimal competitive threat. The information doesn't strongly affect allocation decisions.
(D) Godwin's consistent results → Useful to assess fairness in allocation.
(E) Godwin's flat performance → Also relevant to judge his effectiveness and future allocation.

Step 3: Conclude.
Option (C) is the **least useful**, because competition from weak or unknown brands doesn't substantially impact allocation fairness.

$$\boxed{\text{(C) is the least useful information.}}$$

Quick Tip

In allocation/fairness questions, focus on information that **directly impacts performance or competitive pressure**. Information about weak or irrelevant competitors is usually the least useful.

Answer questions 30-32 on the basis of information given in the following situation.

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

Q30. Two years after the handing over, Sudarshan was concerned that none of the companies, except one, is profitable. Which of the following information, if true, will most likely reduce Sudarshan's concerns?
(A) A leading financial institution recently advised its investors to purchase the shares of the two loss-making companies with a long-term outlook.
(B) The Corporation's performance was stagnant for three years, before Sudarshan handed it over to professionals.
(C) The best performing division belongs to an industry which is growing in double digits.
(D) People holding senior positions have been replaced two years ago by fresh and young talent.
(E) The rate at which employees are leaving the best performing division is higher than the industry average.

Correct Answer: (A)

Solution:

Step 1: Identify the concern.
Sudarshan worries because two companies are loss-making; he needs credible reason to believe their prospects are improving.

Step 2: Assess each option.
(A) Independent, expert endorsement to *buy* with a long-term view signals strong future potential for the two loss-making firms ⇒ **directly alleviates** concern.
(B) Past stagnation before handover does not address current/future profitability.
(C) Only speaks about the already profitable division; does not ease worry about the other two.
(D) Management changes two years ago are neutral without evidence of results.
(E) High attrition in the best division worsens, not reduces, concern.

A best reduces Sudarshan's concern.

> **Quick Tip**
>
> When asked which statement will *reduce concern*, look for credible, forward-looking evidence specifically about the problematic parts—not general history or unrelated positives.

Q31. Some of the senior employees who left Lal & Sons in recent past have complained to Sudarshan that the long cherished values of the organization such as respect for elders, job security etc. are being compromised. Which of the following options, if true, will indicate to Sudarshan that the employees are misleading him?

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

Correct Answer: (B)

Solution:

Step 1: Identify the employees' claim.
They argue that the organization no longer respects elders, compromises job security, and violates traditional values.

Step 2: Evaluate each option.
(A) Average performance of replaced employees only justifies removal—it does not prove "misleading," but suggests fair grounds.
(B) If senior employees quit after being offered challenging and critical roles, then their exit was not due to disrespect or insecurity, but rather their inability/unwillingness to handle responsibility. This directly shows their complaints are misleading.
(C) Internal replacements neither confirm nor deny the claim—it just reflects succession.
(D) Lack of compensation might validate the complaint rather than negate it.
(E) Lower attrition than industry average indicates stability, but does not specifically address whether their complaints are false.

> B clearly shows the employees misrepresented the cause of their exit.

Quick Tip

When the question asks which option shows employees are *misleading*, look for evidence that contradicts their stated reasons for dissatisfaction.

Q32. Chhaganlal Jha, the CEO, was certain that someone in his leadership team was leaking information to Sudarshan Lal, well before Chhaganlal communicated.

Given the following options, how best should Chhaganlal Jha respond to this situation?

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

Correct Answer: (A)

Solution:

Step 1: Identify the problem.
The CEO notices that Sudarshan Lal (the owner) is receiving premature information from informal channels before the CEO can officially communicate. This undermines authority and risks misinformation.

Step 2: Evaluate the options.
(A) Requesting Sudarshan directly to wait for official communication is polite, professional, and addresses the root problem: reliance on informal, possibly inaccurate channels. This preserves CEO authority and avoids unnecessary conflict.
(B) Threatening resignation is extreme and unprofessional—it does not solve the issue.
(C) Encouraging unofficial leaks worsens the problem and undermines the CEO's role.
(D) Ignoring the issue is not viable—it can damage credibility and cause miscommunication.
(E) Threatening the team with firing breeds fear, mistrust, and reduces cooperation.

Hence, option A is the best response as it is diplomatic, practical, and ensures clear communication.

> **Quick Tip**
>
> When facing organizational communication issues, the best response is to ensure clarity and professionalism, addressing the root cause without creating hostility.

Q33. Jonathan realized that he has limited arms and ammunition to fight on all the three fronts simultaneously. Therefore, he planned to double the arms and ammunition which will take a few years. When this news reached Emily and Rose they held a secret meeting to discuss the situation. Which of the following actions, by Emily and Rose, will be the best suited to delay Jonathan's plan?

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

Correct Answer: (D)

Solution:

Step 1: Identify Jonathan's weakness.
Jonathan has admitted that he currently lacks sufficient arms and ammunition to fight on three fronts at the same time. His strategy is to buy time—by building up resources over the next few years.

Step 2: Analyze the given options.
(A) Sending arms to Summer Sault does not directly weaken Jonathan or delay his plan—it is misdirected help.
(B) Attempting a peace pact only gives Jonathan more time to prepare and strengthen his forces.
(C) Emily and Rose doubling their armies would take years as well—thus it does not delay Jonathan immediately.
(D) Attacking Jonathan immediately exploits his present weakness. Since he does not yet have enough arms and ammunition, he will be vulnerable. This directly delays or destroys his plan of strengthening in the future.
(E) Ignoring the news is the worst option, as it allows Jonathan to execute his plan unhindered.

Hence, the best option is D — attack Jonathan immediately, as it exploits his present weakness.

Quick Tip

In strategic conflicts, when an opponent admits a temporary weakness and plans to recover later, the best response is often to act immediately before they strengthen.

Q34. Jonathan aims to invade and annex Kingdom K once and for all. Which of the following options will best enable him to accomplish the ambition?

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

Correct Answer: (D)

Solution:

Step 1: Understand Jonathan's ambition.
Jonathan's long-term goal is to annex Kingdom K completely, which requires strong and sustained military power.

Step 2: Evaluate the options.
(A) Requesting cooperation of the queens is unrealistic—they are Jonathan's enemies.
(B) Signing a peace pact only delays his ambition and does not secure annexation.
(C) Creating a rift is a diversionary tactic, but it does not strengthen Jonathan's own position.
(D) Secretly doubling his army ensures long-term military superiority, which is essential for annexation.
(E) Attacking all three kingdoms simultaneously without preparation will backfire, as Jonathan already lacks resources.

> Therefore, the best option is D — secretly invest in doubling his army.

> **Quick Tip**
>
> When the objective is complete conquest, strengthening one's own position is far more effective than relying on temporary tricks or alliances.

Q35. King Summer Sault was growing tired of the warring tribes, who slowed down the overall economic development of Kingdom K. Which of the following is the best option for King Summer Sault to focus on economic development?

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

Correct Answer: (C)

Solution:

Step 1: Identify the problem.
The main issue is that continuous tribal wars are slowing down the economic growth of Kingdom K. King Summer Sault needs a stable and long-term economic strategy.

Step 2: Assess the options.
(A) Aligning with Jonathan risks losing sovereignty and focuses on fear, not growth.
(B) Aligning with the Queens may create temporary unity but will not ensure sustainable economic development.
(C) Designing annual economic plans gives a constructive, structured path to development. Naming plans after tribes also builds inclusion and reduces tribal resentment.
(D) Instigating civil war only worsens instability and economic slowdown.
(E) Requesting Jonathan's help compromises independence and puts reliance on an external rival.

Hence, option C is best — design annual economic plans with inclusive tribal participation.

> **Quick Tip**
>
> For long-term development, internal reforms and structured planning are always more effective than relying on external powers or conflict-based strategies.

Q36. Post this public allegation, the share price of Ratan Brothers started falling. Which of the following is the best option for Ava to immediately stem the falling stock prices?

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

Correct Answer: (C)

Solution:

Step 1: Identify the urgency.
The share prices are falling rapidly after public allegations. Ava's immediate goal is to restore investor confidence and market trust.

Step 2: Evaluate each option.
(A) Firing Bhushan and blacklisting Dev and Sons is a hasty decision and may appear as an admission of guilt, further damaging trust.
(B) Forming a committee shows action, but it is a slow process and does not immediately reassure investors.
(C) Issuing a press statement that reinforces the company's quality standards, backed by openness to scrutiny, projects transparency and confidence. This is the fastest way to calm markets.

(D) Cancelling the order and calling for a fresh tender may lead to disruption and signal panic, which can worsen investor sentiment.

(E) Doing nothing will only escalate panic in the stock market, as silence is interpreted negatively.

> Thus, option (C) is the best immediate step to restore investor confidence.

> **Quick Tip**
>
> In crisis management, swift and transparent communication is the most effective way to reassure stakeholders and prevent further damage.

Q37. Under pressure from media and suppliers, Ava constituted a cross-functional committee of senior executives to investigate Dev and Sons' allegation against Bhushan. The committee exonerated Bhushan. However, rumors within the organization began to spread that the decision was influenced by nepotism. Which of the following should be the best response from Ava?

(A) Do nothing, as the committee has exonerated Bhushan.

(B) Force Bhushan to resign temporarily. Make an independent enquiry, if found innocent, reinstate Bhushan.

(C) Communicate to all shareholders that these kinds of practices are very common in organizations.

(D) Sack all those employees who questioned the authority of Ava.

(E) Explain in a town hall meeting, open to all the employees, how the decision to exonerate Bhushan was taken.

Correct Answer: (E)

Solution:

Step 1: Identify the problem.
Although Bhushan was cleared by the committee, internal rumors of nepotism are creating mistrust among employees. Silence or forceful action could worsen the situation. Transparency is needed to address employee concerns.

Step 2: Evaluate each option.
(A) Doing nothing will reinforce the rumors and weaken employee trust.
(B) Forcing Bhushan to resign again despite being exonerated undermines the credibility of the committee's decision. It also signals bias and indecisiveness.
(C) Telling shareholders that such practices are common is highly unethical and damages the company's image further.
(D) Sacking employees who raise concerns is authoritarian and will escalate mistrust, possibly

leading to more resistance.

(E) A town hall meeting with open communication about the committee's findings and the process ensures transparency, builds credibility, and restores employee confidence. This is the most constructive approach.

> Therefore, option (E) is the best response for Ava.

Quick Tip

When faced with internal rumors or mistrust, open and transparent communication is the best way to maintain organizational integrity and employee trust.

Q38. A few months after the issue of Dev and Sons, a vigilance committee discovered some financial irregularities attributable to Bhushan in his earlier stint as a senior manager in marketing. The board of directors was concerned about this and demanded a response from the CEO. Ava contemplated the following responses:

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

Question: Which of the following sequence of actions is the most appropriate for Ava?
(A) 5,2,1
(B) 5,4,3
(C) 1,2,3
(D) 2,1,4
(E) 3,4,1

Correct Answer: (A) 5,2,1

Solution:

Step 1: Understand the situation.
The vigilance committee has discovered financial irregularities linked to Bhushan. The board is demanding a clear response. Ava, as CEO, must handle the crisis effectively while protecting the organization's integrity and credibility.

Step 2: Evaluate the responses.
- (5) Informing the board that Bhushan was promoted due to his initiatives is important to show that decisions in the past were merit-based, not careless or nepotistic. This provides justification for Bhushan's earlier career growth.
- (2) Sacking Bhushan immediately and making the reason public is necessary once irregularities are proven. It reassures stakeholders and employees that unethical practices will not be tolerated. Transparency strengthens trust.
- (1) Finally, offering to resign as CEO demonstrates accountability. Even though Ava may not be directly responsible for Bhushan's earlier actions, taking ultimate responsibility reflects ethical leadership.

Step 3: Eliminate weak sequences.
- (3) Denying irregularities is dishonest and will worsen the problem if evidence exists.
- (4) While highlighting Ava's past performance is valid, it does not directly address the irregularities, so it cannot be prioritized over decisive actions.

Thus, the best course is sequence (5,2,1): Justify Bhushan's promotion → Sack Bhushan and reveal the reason → Offer resignation to show accountability.

> Therefore, option (A) 5,2,1 is the most appropriate sequence.

Quick Tip

In corporate crises, leaders must first explain past decisions, then take decisive corrective action, and finally demonstrate accountability to preserve organizational credibility.

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

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

Train Numbers →	T101	T102	T103	T104	T105
Jamshedpur Station	6:00	7:30	10:15	15:00	17:00
Kharagpur Station	7:30	9:05	12:05	16:50	18:25
Howrah Station	9:05	11:10	14:30	18:00	20:30
Train Numbers →	**T201**	**T202**	**T203**	**T204**	**T205**
Howrah Station	6:30	8:30	10:30	14:30	16:00
Kharagpur Station	8:15	10:40	12:15	16:15	17:55
Jamshedpur Station	10:20	12:35	14:00	17:45	20:00

Q39. What will be the minimum time required to deliver a parcel at Kharagpur office from Jamshedpur station and come back to Jamshedpur station?
(A) 4 hours 25 minutes
(B) 5 hours 5 minutes
(C) 6 hours 35 minutes
(D) 7 hours 30 minutes
(E) None of the above

Correct Answer: (B) 5 hours 5 minutes

Solution:

Given: From any station to the office (and back) takes $40 + 40 = 80$ min; delivery paperwork takes 10 min. So, the total station–office–station time at Kharagpur is $80 + 10 = 90$ min $= 1$ hr 30 min.

Test each feasible outward train from Jamshedpur → Kharagpur and catch the first return train ≥ ready time at Kharagpur:

- **T101** JSr 06:00 → KGp 07:30 (1h30). Ready at KGp station: 09:00. Next return **T202** 10:40 → JSr 12:35 (1h55). Total $= 1:30 + 1:30 + 1:40 + 1:55 = 6:35$.

- **T102** JSr 07:30 → KGp 09:05 (1h35). Ready: 10:35. Next return **T202** 10:40 → 12:35 (1h55).
Total $= 1:35 + 1:30 + 0:05 + 1:55 = $ **5 : 05**.

- **T103** JSr 10:15 → KGp 12:05. Ready: 13:35. Next return **T204** 16:15 → 17:45 (1h30).
Total $= 1:50 + 1:30 + 2:40 + 1:30 = 7:30$.

- **T104** and **T105** also yield totals $\geq 5:05$ (best case with **T105** gives $1:25 + 1:30 + 0:05 + 2:05 = 5:05$).

Minimum achievable round-trip time is therefore $\boxed{5 \text{ hours } 5 \text{ minutes}}$.

Q40. An employee, starting from Howrah station, has to deliver one parcel at Kharagpur office and another parcel at Jamshedpur office. His task starts the moment he boards the train at Howrah station, and gets completed immediately after delivering the second parcel. Which train should he board at Howrah to minimize the total time?
(A) T201
(B) T202
(C) T204
(D) Both Option A and Option B
(E) Both Option B and Option C

Correct Answer: (E) Both Option B and Option C

Solution:
Facts used. Station ↔ office takes $40 + 40 = 80$ min; delivery paperwork takes 10 min. Hence each *first* delivery needs 90 min (must return to station), while the *second* delivery needs only $40 + 10 = 50$ min (task ends at offic(E).

Try T202 (Howrah 08:30): 08:30 → Kharagpur 10:40; deliver at KGP (90 min) ⇒ 12:10. Next KGP→JSR: T203 12:15 → 14:00. Final JSR delivery (50 min) ⇒ **14:50**. Duration from start: **6 h 20 m**.

Try T204 (Howrah 14:30): 14:30 → KGP 16:15; deliver (90) ⇒ 17:45. Next KGP→JSR: T205 17:55 → 20:00. Final delivery (50) ⇒ **20:50**. Duration from start: **6 h 20 m**.

Other starts (e.g., T201) are longer.
Thus the minimum is achieved by **either T202 or T204**.

$$\boxed{\text{Both B and C}}$$

Q41. An employee, starting from Kharagpur station, has to deliver one parcel at Howrah office and another parcel at Jamshedpur office. His task starts the

moment he boards the train at Kharagpur station, and gets completed immediately after delivering the second parcel. **Which train should he board at Kharagpur to minimize the time?**

(A) T102

(B) T103

(C) T202

(D) T203

(E) Both Option B and Option D

Correct Answer: (B) T103

Solution:

Interpreting the instruction as delivering to **Howrah first, then Jamshedpur** (order as state(D)), we test trains from KGP → Howrah (T102, T103):

T102 (KGP 09:05 → HWH 11:10). First delivery at Howrah: 90 min ⇒ 12:40. Next HWH→JSR: earliest is T204 14:30 → JSR 17:45. Final delivery at JSR: 50 min ⇒ 18:35. Total from 09:05: **9 h 30 m**.

T103 (KGP 12:05 → HWH 14:30). First delivery: 90 min ⇒ 16:00; next HWH→JSR: T205 16:00 → 20:00; final delivery: 50 min ⇒ 20:50. Total from 12:05: **8 h 45 m**, which is shorter than with T102.

Trains T202/T203 go KGP→JSR first (reverse order), yielding longer total task times under the stated order.

Hence,

$$\boxed{\text{T103}}$$

> **Quick Tip**
>
> If the order of offices is implied by the statement, compare starts that follow that order. Pick the start that minimizes waiting between the first delivery and the onward connection.

Answer questions 42-43 on the basis of information given in the following situation.

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

to the land occupied by C. They wanted the stones back. But C argued that rolling down of stones is a natural process.

Q42. All three approached a wise man for the settlement of the ownership dispute. Which of the following is the best option available for the wise man?

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

Correct Answer: (D) Award equal rights to all three over all the resources.

Solution:

Step 1: Identify the source and mobility of resources.
- Water originates at the top (A's lan(D) but flows downhill;
- Timber is concentrated in the middle (B's lan(D) but can be used by all;
- Stones/sand accumulate at the bottom (C's lan(D) because they *naturally* roll down from upper parts.

Step 2: Note the problem with exclusive ownership.
Exclusive rights to any single party (A, B or (C) would be unfair because each resource's location is due to *natural flows* rather than the effort of any individual. Options A, B, C, and E privilege one resident and would intensify conflict (e.g., damming water deprives others).

Step 3: Fair, stable resolution.
A cooperative regime of **equal rights/shared access** to all resources compensates for natural transfers (water/stones flowing down), avoids zero-sum claims, and aligns with the island's interdependent ecology. Hence option (D) is the most equitable and sustainable settlement.

> Equal rights for A, B, and C over all resources.

Quick Tip

When resources shift due to nature (water flow, erosion), **shared rights** often give the fairest, least-dispute outcome compared to assigning strict, location-based ownership.

Q43. Six months later, the three realized that the solution offered by the wise man in the previous question wasn't working to the satisfaction of all, because it did not help them find the appropriate value of resources. Therefore, they reverted to status quo ante. After one year, all three of them wanted to construct a house each, on their respective property. Three types of resources – (1) Timber, (2)

Water, and (3) Stone & Sand – were required to build a house. While each had one resource in abundance, none of them had all three in sufficient quantity. They still could not come to an agreement on how to fairly value and use each other's resources to construct the house. They again approached the wise man for advice.

The wise man proposed three possible actions: 1. The governing body of the United Federation of Islands should take ownership of all the three properties and construct houses for the three.
2. Each person should own one-third of each of the resources.
3. The three persons should arrive at the value of resources by trading the resources among them.

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

(A) 1 only
(B) 2 only
(C) 3 only
(D) 1 and 2 only
(E) All of 1, 2, and 3

Correct Answer: (C) 3 only

Solution:

Step 1: Examine each proposed action.

- **Option 1:** If the governing body takes ownership, it removes local autonomy. It may create dependency and dissatisfaction since the three individuals lose control over their own resources. This is not sustainable or in their best interests.
- **Option 2:** Dividing each resource into one-third for each person looks fair on paper, but practically it is impossible because resources like water flow and stones/sand naturally accumulate differently. It ignores the ecological context and may be very hard to enforce.
- **Option 3:** Trading resources among themselves ensures that each person values the resource based on need. For example, A can trade water with B and C in exchange for timber or stones. This system promotes cooperation, fair valuation, and sustainability. It allows each to retain ownership while achieving balance.

Step 2: Identify the most appropriate.

Trading (Option 3) respects individual ownership, encourages cooperation, and helps in assigning fair value. This is the most logical and effective approach.

> The most appropriate action is Option 3 only.

Answer questions 44-45 on the basis of information given in the following situation.

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

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

Q44. Ramesh formed a committee to look into this matter and the committee came up with the following suggestions: 1. Create a fund to take care of immediate family expenses.
2. Finance the school and college education of his children.
3. Sponsor the vocational education of his wife and subsequently help her find a job.
4. Purchase insurance for all the family members.
5. Request all employees of the organization to contribute towards the welfare of the family.

Question: Which of the following options, from the above suggestions, will be the most sustainable for Pankaj's family?
(A) 1 and 2
(B) 2 and 3
(C) 3 and 4
(D) 4 and 5
(E) 3 and 5

Correct Answer: (B) 2 and 3

Solution:

Step 1: Assess each suggestion individually.
- **Option 1 (Immediate family expenses):** This is short-term relief, but not sustainable. Funds get exhausted quickly.

- **Option 2 (Education of children):** This is a long-term investment, helping children secure future livelihoods. It builds self-sufficiency.
- **Option 3 (Vocational education of wif(E):** This directly empowers the wife to become employable and generate income. It ensures financial independence rather than dependency.
- **Option 4 (Insurance for family):** Useful for risk coverage, but it does not provide immediate financial stability. It is preventive, not empowering.
- **Option 5 (Contributions from employees):** This is voluntary and temporary, not sustainable as a long-term solution.

Step 2: Identify sustainability.
The family requires sustainable livelihood opportunities rather than temporary relief. Financing the children's education (#2) ensures future security, and vocational education for the wife (#3) ensures present stability and income. Together, they create both short-term employability and long-term sustainability.

> The most sustainable solutions are Options 2 and 3.

Quick Tip

Sustainable support focuses on **empowerment and capacity building**, not just immediate financial relief. Education and vocational training create long-term resilience.

Q45. Ramesh, along with senior managers, was in the process of designing a policy to deal with such issues in the future.
Question: Which of the following policy statements will be the least amenable to misuse in the future?

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

Correct Answer: (E) The firm shall constitute a committee, with fair representation from all stakeholders, to decide on the course of action based on specifics of the case.

Solution:

Step 1: Evaluate each option.
- **Option A:** Providing one job to direct dependents may set a strong precedent and can be

misused. It also forces the company to employ someone irrespective of qualifications or company's needs.
- **Option B:** This broadens the scope even further, as it allows any dependent to claim a job, which is highly open to misuse.
- **Option C:** While it restricts eligibility to families without support, it is still difficult to objectively verify "no other support," which may lead to manipulation.
- **Option D:** Offering help for education and employment is constructive, but it still implies a form of obligation on the company that may be difficult to define and standardize fairly.
- **Option E:** Constituting a committee with fair stakeholder representation ensures case-by-case assessment. This approach allows flexibility while preventing blanket entitlements. It reduces the chance of misuse because every case is scrutinized individually.

Step 2: Identify the least amenable to misuse.
Options A–D create rigid entitlements or obligations, which can be exploited. Option E, however, uses a transparent, collective decision-making process, minimizing misuse and ensuring fairness.

> The least amenable to misuse is Option E.

Quick Tip

When designing policies, **flexibility with accountability** ensures fairness and minimizes misuse. Committees allow case-specific decisions rather than rigid rules.

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

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

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

Q46. While Madhuri Apte's studio apartment gets good feedback on other aspects, many seem unhappy as they found the operation of the digital lock complicated. **Question:** Which of the following options is the best for Madhuri Apte in this context?

(A) Madhuri should switch to a physical lock.
(B) Madhuri, on request, should send one of the physical keys five days ahead of customer's

arrival at an extra charge of \$75.

(C) Madhuri should request the cleaner to explain the working of the digital access code to customers for an extra charge.

(D) Madhuri should do nothing as digital locks shall be the norm in the future.

(E) Madhuri should create a video manual on "how to use the digital access code" and e-mail it to the customers before their arrival.

Correct Answer: (E) Madhuri should create a video manual on "how to use the digital access code" and e-mail it to the customers before their arrival.

Solution:

Step 1: Evaluate customer needs.
Madhuri's customers are mostly international travelers, who may not be familiar with digital locks. Since she cannot be physically present to explain, customer convenience and smooth check-in are crucial to maintaining good feedback and repeat bookings.

Step 2: Evaluate each option.
- **Option A:** Switching to a physical lock reduces the benefit of remote monitoring and security. This also increases dependency on physical keys, which is impractical given Madhuri lives three hours away.
- **Option B:** Sending physical keys is costly (\$75 extra, plus logistical hassl(E) and prone to risk if keys are lost in transit. Not sustainable.
- **Option C:** Asking the cleaner to explain the lock is not practical, as she is available for limited hours and customers often arrive outside that window. It also shifts responsibility away from Madhuri.
- **Option D:** Doing nothing ignores current dissatisfaction. Even if digital locks become a norm, present customers' issues must be addressed for good business.
- **Option E:** A video manual is a low-cost, scalable, and customer-friendly solution. It ensures all guests can understand and use the lock smoothly before arrival, without depending on Madhuri's physical presence or the cleaner.

Step 3: Identify best option.
Option E addresses the customer pain point effectively, enhances their experience, and allows Madhuri to continue leveraging digital lock advantages.

$$\boxed{\text{The best option is (E).}}$$

Quick Tip

In customer service, **simple, scalable solutions** like digital guides or videos improve satisfaction and reduce repeated operational hassles.

Q47. Madhuri's apartment received good feedback from the guests, except with respect to the operation of the digital lock. She decided to leave a spare physical

key in the house for her guests. Recently some of the guests had forgotten to leave the key behind during checkout. Making a spare key will cost $500 and will take about 10 days to arrive. She was confused if she should continue leaving the spare key and was looking for a way out.

Question: Which of the following would be the best way out for her?

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

Correct Answer: (E) Charge security deposit of $100 which will be forfeited if the keys are not left behind.

Solution:

Step 1: Identify the problem.
Madhuri gave guests an alternative to the digital lock by leaving a spare key. However, many guests forgot to return the key during checkout. Replacing the key is costly ($500) and slow (10 days). Thus, the risk of loss is significant.

Step 2: Evaluate each option.
- **Option A:** Keeping only the digital lock ignores the issue that guests already find it complicated. This could negatively impact customer experience and feedback.
- **Option B:** Being personally present is impractical since Madhuri lives three hours away from the apartment. Not feasible for every checkout.
- **Option C:** Involving the cleaner is unreliable because the cleaner has limited availability (15:00–17:00 hrs), while guest checkout times can vary widely.
- **Option D:** Reminders are helpful but not foolproof. Guests may still forget or ignore them, which does not eliminate the financial risk.
- **Option E:** A refundable security deposit creates accountability. Guests are financially incentivized to return the key. This balances convenience (guests can use physical keys if they wish) with protection for Madhuri against loss.

Step 3: Best solution.
Option E is the best because it minimizes Madhuri's risk of key loss, aligns with standard rental practices, and motivates guests to comply.

> The best way out for Madhuri is Option (E).

Quant

Q48. Find the value of the expression: $10 + 10^3 + 10^6 + 10^9$
(A) 1010101010
(B) 1001000010
(C) 1001000110
(D) 1001001010
(E) 100010001010

Correct Answer: (D) 1001001010

Solution:

Step 1: Expand each power of 10.

$$10 = 10, \quad 10^3 = 1000, \quad 10^6 = 1,000,000, \quad 10^9 = 1,000,000,000$$

Step 2: Add the numbers.

$$10 + 1000 = 1010$$
$$1010 + 1,000,000 = 1,001,010$$
$$1,001,010 + 1,000,000,000 = 1,000,001,010$$

Step 3: Verify placement of digits.
The final sum is:
$$1,001,001,010$$

Step 4: Compare with options.
This matches option (D) **1001001010**.

$$\boxed{1001001010}$$

Quick Tip

When dealing with powers of 10, align place values carefully. Adding step-by-step prevents digit misalignment errors.

Q49. Abdul, Bimal, Charlie and Dilbar can finish a task in 10, 12, 15 and 18 days respectively. They can either choose to work or remain absent on a particular day. If 50 percent of the total work gets completed after 3 days, then, which of the following options is possible?

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

Correct Answer: (E) Abdul and Charlie 1 day each, Bimal 2 days, Dilbar 3 days.

Solution:

Step 1: Write daily work rates.
Abdul $= \frac{1}{10}$, Bimal $= \frac{1}{12}$, Charlie $= \frac{1}{15}$, Dilbar $= \frac{1}{18}$ of work per day.

Step 2: Compute total work done in 3 days for each option.
$\Rightarrow$ (A): $2\left(\frac{1}{10} + \frac{1}{12} + \frac{1}{15} + \frac{1}{18}\right) = \frac{11}{18} > \frac{1}{2}$. (Not possibl(E)
$\Rightarrow$ (B): $3\left(\frac{1}{10}\right) + 2\left(\frac{1}{15}\right) + 1\left(\frac{1}{12} + \frac{1}{18}\right) = \frac{103}{180} > \frac{1}{2}$.
$\Rightarrow$ (C): $2\left(\frac{1}{10} + \frac{1}{15}\right) + 3\left(\frac{1}{12}\right) + 1\left(\frac{1}{18}\right) = \frac{23}{36} > \frac{1}{2}$.
$\Rightarrow$ (D): $2\left(\frac{1}{10} + \frac{1}{18}\right) + 3\left(\frac{1}{12}\right) + 1\left(\frac{1}{15}\right) = \frac{113}{180} > \frac{1}{2}$.
$\Rightarrow$ (E): $1\left(\frac{1}{10} + \frac{1}{15}\right) + 2\left(\frac{1}{12}\right) + 3\left(\frac{1}{18}\right)$
$= \frac{1}{10} + \frac{1}{15} + \frac{1}{6} + \frac{1}{6} = \frac{3}{30} + \frac{2}{30} + \frac{5}{30} + \frac{5}{30} = \frac{15}{30} = \frac{1}{2}$.

Thus only option (E) results in exactly 50% of the work done.

$$\boxed{\text{Option (E)}}$$

Quick Tip

For "work done in a few days" problems, convert to daily rates first and then add *(days worke(D)×(rat(E)*. Use fractions to avoid rounding errors; compare with the target fraction directly.

Q50. If the diagonals of a rhombus of side 15 cm are in the ratio 3:4, find the area of the rhombus.

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

Correct Answer: (E) None of the above

Solution:

Step 1: Recall property of rhombus diagonals.
If diagonals are d_1 and d_2, then they bisect each other at right angles. Side length:

$$\left(\frac{d_1}{2}\right)^2 + \left(\frac{d_2}{2}\right)^2 = \text{side}^2$$

Step 2: Assume ratio.
Let $d_1 = 3k$, $d_2 = 4k$.

Step 3: Apply Pythagoras for side.

$$\left(\frac{3k}{2}\right)^2 + \left(\frac{4k}{2}\right)^2 = 15^2$$

$$\frac{9k^2}{4} + \frac{16k^2}{4} = 225$$

$$\frac{25k^2}{4} = 225$$

$$25k^2 = 900 \quad \Rightarrow \quad k^2 = 36 \quad \Rightarrow \quad k = 6$$

Step 4: Find diagonals.

$$d_1 = 3k = 18, \quad d_2 = 4k = 24$$

Step 5: Find area.
Area of rhombus $= \frac{1}{2}d_1d_2$.

$$\text{Area} = \frac{1}{2} \times 18 \times 24 = 216 \,\text{sq. cm.}$$

Step 6: Compare with options.
216 is not listed in A–D, so correct answer is (E).

$$\boxed{216 \text{ sq. cm.}}$$

Quick Tip

For rhombus area problems, always use diagonals formula $\frac{1}{2}d_1d_2$. The ratio trick helps to set $d_1 = 3k, d_2 = 4k$ quickly.

Q51. The price of a product is P. A shopkeeper raises its price by X% and then offers a discount of Y% on the raised price. The discounted price again becomes P. If Y is the difference between X and Y, then find X.

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

Correct Answer: (D) 100

Solution:

Step 1: Price after increase.
Original price $= P$. After increasing by $X\%$:

$$P \times \left(1 + \frac{X}{100}\right)$$

Step 2: Price after discount.
Discount applied $= Y\%$. New price:

$$P \times \left(1 + \frac{X}{100}\right) \times \left(1 - \frac{Y}{100}\right)$$

Step 3: Given condition.
This final price $= P$.

$$P \times \left(1 + \frac{X}{100}\right) \times \left(1 - \frac{Y}{100}\right) = P$$

$$\left(1 + \frac{X}{100}\right) \times \left(1 - \frac{Y}{100}\right) = 1$$

Step 4: Simplify.

$$1 + \frac{X}{100} - \frac{Y}{100} - \frac{XY}{10000} = 1$$

$$\frac{X - Y}{100} - \frac{XY}{10000} = 0$$

$$(X - Y) = \frac{XY}{100}$$

Step 5: Use given relation.
It is given that $Y = X - Y$.
So, $X - Y = Y$.

$$\Rightarrow X = 2Y$$

Step 6: Substitute.

$$(X - Y) = \frac{XY}{100} \quad \Rightarrow \quad Y = \frac{XY}{100}$$

$$100Y = XY \quad \Rightarrow \quad X = 100$$

$$\boxed{100}$$

> **Quick Tip**
>
> When both an increase and a discount bring the price back to the original, always set up the percentage change equation: $(1 + \frac{X}{100})(1 - \frac{Y}{100}) = 1$.

Q52. A mixture comprises water and liquids A and B. The volume of water is 1/3rd of the total mixture and the volume of liquids A and B are in the ratio 5:3. To remove the water, the mixture is passed through a porous medium which completely absorbs the water and partially absorbs liquid A. Altogether this porous medium absorbs 200 ml of the initial mixture. If the ratio of volume of liquids A and B in the residual concentrated mixture becomes 7:9 then find the volume of water absorbed by the porous medium.

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

Correct Answer: (E) 120 ml

Solution:

Step 1: Let total initial volume be T ml.
Water $= \dfrac{T}{3}$. The remaining $A + B = \dfrac{2T}{3}$ in the ratio $5 : 3$:

$$A = \frac{5}{8} \cdot \frac{2T}{3} = \frac{5T}{12}, \qquad B = \frac{3}{8} \cdot \frac{2T}{3} = \frac{T}{4}.$$

Step 2: Account for absorption.
Porous medium absorbs all water and some of A.
If absorbed $A = \alpha$, then total absorbed $= \dfrac{T}{3} + \alpha = 200 \Rightarrow \alpha = 200 - \dfrac{T}{3}$.

Step 3: Use final ratio $A : B = 7 : 9$.
Remaining A is $A - \alpha = \dfrac{5T}{12} - \left(200 - \dfrac{T}{3}\right) = \dfrac{3T}{4} - 200$.

$$\frac{A - \alpha}{B} = \frac{\frac{3T}{4} - 200}{\frac{T}{4}} = 3 - \frac{800}{T} = \frac{7}{9}.$$

Solve: $3 - \dfrac{7}{9} = \dfrac{800}{T} \Rightarrow \dfrac{20}{9} = \dfrac{800}{T} \Rightarrow T = 360$ ml.

Step 4: Water absorbed.
All water is absorbed, so volume $= \dfrac{T}{3} = \dfrac{360}{3} = 120$ ml.

$$\boxed{120 \text{ ml}}$$

Q53. A coin of radius 3 cm is randomly dropped on a square floor full of square shaped tiles of side 10 cm each. What is the probability that the coin will land completely within a tile? In other words, the coin should not cross the edge of any tile.
(A) 0.91
(B) 0.5
(C) 0.49
(D) 0.36
(E) 0.16

Correct Answer: (E) 0.16

Solution:

Step 1: Condition for coin to fit in a tile.
The coin of radius $r = 3$ cm must be completely inside a tile of side 10 cm. The center of the coin must lie at least 3 cm away from each edge.

Step 2: Effective safe area for coin's center.
So the region available for the center is a smaller square of side:

$$10 - 2r = 10 - 6 = 4 \text{ cm.}$$

Area of safe region $= 4 \times 4 = 16$ cm^2.
Step 3: Total possible region.
Total area of a tile $= 10 \times 10 = 100$ cm^2.
Step 4: Probability.

$$P = \frac{\text{Safe area}}{\text{Total area}} = \frac{16}{100} = 0.16.$$

$$\boxed{0.16}$$

Q54. It takes 2 liters to paint the surface of a solid sphere. If this solid sphere is sliced into 4 identical pieces, how many liters will be required to paint all the surfaces of these 4 pieces?
(A) 2.2 liters
(B) 2.5 liters
(C) 3.0 liters
(D) 4.0 liters
(E) None of the above

Correct Answer: (D) 4.0 liters

Solution:

Step 1: Original painting requirement.
The sphere requires 2 liters for its curved surface.
Step 2: Effect of slicing.
When the sphere is sliced into 4 identical pieces, each piece gains new flat surfaces in addition to the curved surface. These new surfaces also need painting.
Step 3: Surface area doubles.
By symmetry, slicing into 4 pieces approximately doubles the total surface area (original sphere surface + newly created flat surfaces).
Step 4: New requirement.
Thus paint required $= 2 \times 2 = 4$ liters.

$$\boxed{4.0 \text{ liters}}$$

Q55. Every day a person walks at a constant speed, V_1 for 30 minutes. On a particular day, after walking for 10 minutes at V_1, he rested for 5 minutes. He finished the remaining distance of his regular walk at a constant speed, V_2, in another 30 minutes. On that day, find the ratio of V_2 and his average speed (i.e., total distance covered / total time taken including resting tim(E).

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

Correct Answer: (A) 1:1

Solution:
Step 1: Daily target distance.
Regular distance $D = V_1 \times 30$ (minutes).

Step 2: Particular day progress.
First 10 minutes at $V_1 \Rightarrow$ covered $V_1 \times 10$.
Remaining distance $= D - V_1 \times 10 = V_1 \times 20$.
This remaining distance is covered in 30 minutes at speed V_2, so

$$V_2 = \frac{V_1 \times 20}{30} = \frac{2}{3}V_1.$$

Step 3: Average speed that day (including rest).
Total time $= 10 + 5 + 30 = 45$ minutes. Total distance $= D = V_1 \times 30$.

$$\text{Average speed} = \frac{V_1 \times 30}{45} = \frac{2}{3}V_1.$$

Step 4: Ratio.

$$V_2 : \text{Average speed} = \frac{2}{3}V_1 : \frac{2}{3}V_1 = 1 : 1.$$

$$\boxed{1 : 1}$$

> **Quick Tip**
>
> When the total distance is fixed, compare speeds by writing distances in terms of the original speed V_1; include rest time only in the *average* speed calculation.

Q56. A boat, stationed at the North of a lighthouse, is making an angle of $30°$ with the top of the lighthouse. Simultaneously, another boat, stationed at the East of the same lighthouse, is making an angle of $45°$ with the top of the lighthouse. What will be the shortest distance between these two boats? The height of the lighthouse is 300 feet. Assume both the boats are of negligible dimensions.

(A) 300 feet
(B) $\dfrac{600}{\sqrt{3}}$ feet
(C) $\dfrac{300}{\sqrt{3}}$ feet

(D) 600 feet

(E) None of the above

Correct Answer: (D) 600 feet

Solution:

Step 1: Horizontal distances from the lighthouse.

Let d_N be the north boat's horizontal distance. $\tan 30° = \dfrac{300}{d_N} \Rightarrow d_N = \dfrac{300}{\tan 30°} = 300\sqrt{3}.$

Let d_E be the east boat's horizontal distance. $\tan 45° = \dfrac{300}{d_E} \Rightarrow d_E = 300.$

Step 2: Boats lie on perpendicular axes (north and east).

Shortest distance between boats:

$$\sqrt{d_N^2 + d_E^2} = \sqrt{(300\sqrt{3})^2 + 300^2} = \sqrt{270000 + 90000} = \sqrt{360000} = 600 \text{ feet.}$$

$$\boxed{600 \text{ feet}}$$

> **Quick Tip**
>
> From a height h, horizontal distance $d = \dfrac{h}{\tan \theta}$. If observers are on perpendicular directions, use Pythagoras on their ground distances for the separation.

Q57. Two different quadratic equations have a common root. Let the three unique roots of the two equations be A, B and C — all positive integers. If $(A+B+(C) = 41$ and the product of the roots of one of the equations is 35, which of the following options is definitely correct?

(A) The common root is 29.

(B) The smallest among the roots is 1.

(C) One of the roots is 5.

(D) Product of the roots of the other equation is 5.

(E) All of the above are possible, but none are definitely correct.

Correct Answer: (C) One of the roots is 5.

Solution:

Step 1: Structure of roots.

Let the two equations have roots (r, s) and (r, t) with common root r. Hence the three distinct roots are r, s, t and

$$r + s + t = 41. \tag{1}$$

Step 2: Use the given product.

One equation has product 35. Since all roots are integers and positive,

$$rs = 35 \quad \text{or} \quad rt = 35,$$

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whose factor pairs are $(1, 35)$ or $(5, 7)$.

Case I: r and s are $(1, 35)$. Then from (1) $t = 41 - (1 + 35) = 5$. **Case II:** r and s are $(5, 7)$. Then $t = 41 - (5 + 7) = 29$.

Step 3: Deduce the definite statement.

In both possibilities the set of roots contains 5 (either as t in Case I or as one of the paired roots in Case II). However, the smallest root need not be 1 (Case II), the common root need not be 29 (Case I), and the other equation's product need not be 5 (Case II it is $5 \times 29 = 145$).

$$\boxed{\text{Hence, one of the roots is 5.}}$$

> **Quick Tip**
>
> When sums and one product of integer roots are given, list factor pairs of the product and use the sum to check possibilities; look for a value that appears in *all* cases.

Q58. An antique store has eight clocks. At a moment, seven clocks show: 1:55 pm, 2:03 pm, 2:11 pm, 2:24 pm, 2:45 pm, 3:19 pm, 4:14 pm. If all eight displayed times form a mathematical series, what is the missing time on the remaining clock?

(A) 1:53 pm
(B) 1:58 pm
(C) 2:18 pm
(D) 3:08 pm
(E) 5:08 pm

Correct Answer: (B) 1:58 pm

Solution:

Step 1: Look at successive gaps (in minutes).

$$
\begin{aligned}
1{:}55 \to 2{:}03 &= +8 \\
2{:}03 \to 2{:}11 &= +8 \\
2{:}11 \to 2{:}24 &= +13 \\
2{:}24 \to 2{:}45 &= +21 \\
2{:}45 \to 3{:}19 &= +34 \\
3{:}19 \to 4{:}14 &= +55
\end{aligned}
$$

These suggest Fibonacci-like increments $\ldots, 5, 8, 13, 21, 34, 55$.

Step 2: Insert the missing term.

To precede the two consecutive $+8$ gaps, the missing increment should be $+5$ after 1:55, giving

$$1{:}55 \xrightarrow{+5} \boxed{1{:}58} \xrightarrow{+5} 2{:}03 \xrightarrow{+8} 2{:}11 \xrightarrow{+13} 2{:}24 \xrightarrow{+21} 2{:}45 \xrightarrow{+34} 3{:}19 \xrightarrow{+55} 4{:}14.$$

Now the minute gaps are $3, 5, 8, 13, 21, 34, 55$ if we also include the first gap $1{:}55 \to 1{:}58 = +3$, a Fibonacci sequence.

$$\boxed{1{:}58 \text{ pm}}$$

Q59. The number of boys in a school was 30 more than the number of girls. Subsequently, a few more girls joined the same school. Consequently, the ratio of boys and girls became 3:5. Find the minimum number of girls who joined subsequently.

(A) 31
(B) 51
(C) 52
(D) 55
(E) Solution not possible

Correct Answer: (C) 52

Solution:
Step 1: Set up variables.
Let initial girls $= G$. Then boys $= G + 30$.

Step 2: Use final ratio.
If x girls join, $\dfrac{G + 30}{G + x} = \dfrac{3}{5} \Rightarrow 5(G + 30) = 3(G + x)$.
$\Rightarrow 2G + 150 = 3x \Rightarrow x = \dfrac{2G + 150}{3}$.

Step 3: Minimize x.
For integer x, G must be a multiple of 3. Also $(G + 30)$:
$(G + x) = 3 : 5 \Rightarrow G + 30 = 3k,\ G + x = 5k$.
Then $G = 3k - 30$ and $x = 2k + 30$. To keep $G > 0$, $k \geq 11$.
Minimum x at $k = 11$: $x = 2(11) + 30 = 52$.

$$\boxed{52}$$

Q60. A girl travels A→B at speed V_1 for T s, then B→C at speed V_2 for T s. The angle $\angle ABC = 105°$. The straight return path C→A makes $\angle BCA = 30°$ with BC.

How much time will she take to go directly from C to A at constant speed V_2?

(A) $0.53(\sqrt{3} - 1)T$
(B) T
(C) $0.5(\sqrt{3} + 1)T$
(D) $\sqrt{3}$
(E) None of the above

Correct Answer: (C) $0.5(\sqrt{3} + 1)T$

Solution:
Let $AB = V_1 T = s_1$ and $BC = V_2 T = s_2$.
Triangle ABC has $\angle B = 105°$, $\angle C = 30° \Rightarrow \angle A = 45°$.

Step 1: Relate s_1 and s_2 (Law of Sines).
$$\frac{s_1}{\sin 30°} = \frac{s_2}{\sin 45°} \Rightarrow \frac{s_1}{1/2} = \frac{s_2}{\sqrt{2}/2} \Rightarrow s_1 = \frac{s_2}{\sqrt{2}}.$$

Step 2: Find CA.
By Law of Sines, $\dfrac{CA}{\sin 105°} = \dfrac{s_2}{\sin 45°} \Rightarrow CA = s_2 \cdot \frac{\sin 105°}{\sin 45°} = s_2 \cdot \sqrt{2} \sin 105°.$

Compute $\sqrt{2} \sin 105° = \sqrt{2} \sin(60° + 45^{(}C) = \sqrt{2} \left(\frac{\sqrt{3}}{2} \cdot \frac{\sqrt{2}}{2} + \frac{1}{2} \cdot \frac{\sqrt{2}}{2} \right) = \frac{\sqrt{3}+1}{2}.$

Hence $CA = s_2 \cdot \frac{\sqrt{3}+1}{2} = (V_2 T) \cdot \frac{\sqrt{3}+1}{2}.$

Step 3: Time at speed V_2.

$$t = \frac{CA}{V_2} = T \cdot \frac{\sqrt{3} + 1}{2}.$$

$$\boxed{0.5(\sqrt{3} + 1)T}$$

> **Quick Tip**
>
> In oblique triangles, use the Law of Sines to express the unknown side in terms of a known side and angles; time = distance/speed.

Q61. In the final semester, an engineering college offers three elective courses and one mandatory course. A student has to register for exactly three courses: two electives and the mandatory course. The registration in three of the four courses is: 45, 55 and 70. What will be the number of students in the elective with the lowest registration?

(A) 35
(B) 40
(C) 42

(D) 45
(E) Either B or D

Correct Answer: (E) Either B or D

Solution:
Let total students be N. Since every student must take the mandatory course, its registration equals N.
Let elective registrations be e_1, e_2, e_3. Because each student chooses exactly two electives,

$$e_1 + e_2 + e_3 = 2N. \tag{1}$$

Case 1: The three given numbers are *two* electives and the mandatory.
Then N must be 70 (since an elective cannot exceed N). Hence $e_1 = 45, e_2 = 55$, and from (1) $e_3 = 2N - (45 + 55) = 40$. Lowest elective $= \boxed{40}$.

Case 2: The three given numbers are all *electives*.
Then $e_1 + e_2 + e_3 = 45 + 55 + 70 = 170 \Rightarrow 2N = 170 \Rightarrow N = 85$ (so the mandatory course has 85).
Lowest elective $= \min\{45, 55, 70\} = \boxed{45}$.

Both cases satisfy the conditions, hence the lowest elective can be $\boxed{40 \text{ or } 45} \Rightarrow$ Option (E).

> **Quick Tip**
>
> If everyone must take the mandatory course, its registration equals the total number of students N. Also, the sum of all elective registrations equals $2N$.

Q62. X and Y are the unit digits of the numbers $(408X)$ and $(789Y)$ where $X \neq Y$. The unit digits of $(408X)^{63}$ and $(789Y)^{85}$ are the same. What is the possible value(s) of $X + Y$?

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

Correct Answer: (B) 10

Solution:
Only unit digits matter: $(408X)^{63}$ ends with X^{63} and $(789Y)^{85}$ ends with Y^{85}.
Cycles of unit digits give:

$$X^{63} \text{ ends with } f(X) = \begin{cases} 0, 1, 5, 6, 4, 9 & \text{for } X = 0, 1, 5, 6, 4, 9 \\ 8, 7, 3, 2 & \text{for } X = 2, 3, 7, 8 \end{cases}$$

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(i.e., 0→0, 1→1, 2→8, 3→7, 4→4, 5→5, 6→6, 7→3, 8→2, 9→9.)

Since $85 \equiv 1 \pmod{\text{cycle}}$, Y^{85} ends with Y itself.

Thus we need $f(X) = Y$ with $X \neq Y$. Valid pairs:

$$(2, 8), \ (3, 7), \ (7, 3), \ (8, 2),$$

each giving $X + Y = 10$. All other digits force $X = Y$, which is forbidden.

$$\boxed{10}$$

> **Quick Tip**
>
> For last-digit problems, reduce to power cycles mod 10. If the exponent is 1 mod the cycle length, the last digit equals the base digit.

Q63. **If $2 \leq |x - 1| \times |y + 3| \leq 5$ and both x and y are negative integers, find the number of possible combinations of x and y.**

(A) 4
(B) 5
(C) 6
(D) 8
(E) 10

Correct Answer: (E) 10

Solution:
Let $a = |x - 1|$ and $b = |y + 3|$. Since $x \leq -1 \Rightarrow x - 1 \leq -2$, we have $a \geq 2$.
Also $y \leq -1 \Rightarrow b \geq 1$ (note $b \neq 0$ as $y \neq -3$ by the inequality).

We need $ab \in \{2, 3, 4, 5\}$. With $a \geq 2$, the feasible $(a, (B)$ are:

$$(2, 1), \ (3, 1), \ (2, 2), \ (4, 1), \ (5, 1).$$

Now solve $|x - 1| = k$ with $x < 0$: for each $k \geq 2$, the only negative solution is $x = 1 - k$. For b, $|y + 3| = 1 \Rightarrow y = -4, -2$ (two values), and $|y + 3| = 2 \Rightarrow y = -5, -1$ (two values).
Counting pairs:

$(a, (B)$	of (x, y)
$(2, 1)$ $(x = -1, \ y = -4, -2)$	2
$(3, 1)$ $(x = -2, \ y = -4, -2)$	2
$(2, 2)$ $(x = -1, \ y = -5, -1)$	2
$(4, 1)$ $(x = -3, \ y = -4, -2)$	2
$(5, 1)$ $(x = -4, \ y = -4, -2)$	2
Total	10

$$\boxed{10}$$

Q64. David spends exactly £X on the Xth day of a month. On some occasions, his cumulative spending during the last _four consecutive days_ equals 2^N (for natural N). What are the possible value(s) of N?

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

Correct Answer: (B) 6

Solution:
If the four days are within the same month and are $d - 3, d - 2, d - 1, d$, the sum is

$$(d - 3) + (d - 2) + (d - 1) + d = 4d - 6.$$

For $d \in [4, 31]$, this ranges from 10 to 118. The powers of 2 in this range are $16, 32, 64$, but none equal $4d - 6$ for an integer d. Hence the four days must cross a month boundary.

Check the only wrap-around patterns:

$$(M - 2, M - 1, M, 1): \ 3M - 2 \in \{83, 86, 88, 92\} \ (\text{for } M = 28, 29, 30, 31) \ — \ \text{not a power of 2};$$
$$(M - 1, M, 1, 2): \ 2M + 2.$$

For $M = 31$, $2M + 2 = 64 = 2^6$. (This corresponds to days $30, 31, 1, 2$.)

Other wrap patterns like $(M, 1, 2, 3) = M + 6$ are not powers of 2 for $M \in \{28, 29, 30, 31\}$.

Therefore the only possible power is 2^6.

$$\boxed{N = 6}$$

> **Quick Tip**
>
> Sum of four consecutive day numbers inside a month is $4d - 6$ (never a power of two). Crossing from a 31-day month gives $30 + 31 + 1 + 2 = 64 \Rightarrow N = 6$.

Q65. A cone of radius 4 cm with a slant height of 12 cm was sliced horizontally, resulting in a smaller cone (upper portion) and a frustum (lower portion). If the

ratio of the curved surface area of the upper smaller cone and the lower frustum
is 1:2, what will be the slant height of the frustum?

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

Correct Answer: (D) $12 - 4\sqrt{3}$

Solution:
Let the top (smaller) cone have slant height l_1 and radius r_1. By similarity with the original
cone ($R = 4$, $l = 12$),
$$\frac{r_1}{4} = \frac{l_1}{12} \Rightarrow r_1 = \frac{l_1}{3}.$$

Curved surface areas: small cone $= \pi r_1 l_1$, frustum $= \pi(R + r_1)(l - l_1) = \pi(4 + r_1)(12 - l_1)$.
Given ratio $1 : 2$:
$$\frac{\pi r_1 l_1}{\pi(4 + r_1)(12 - l_1)} = \frac{1}{2} \Rightarrow 2r_1 l_1 = (4 + r_1)(12 - l_1).$$

Substitute $r_1 = l_1/3$:
$$\frac{2}{3}l_1^2 = \frac{(12 + l_1)(12 - l_1)}{3} \Rightarrow 2l_1^2 = 144 - l_1^2 \Rightarrow l_1^2 = 48 \Rightarrow l_1 = 4\sqrt{3}.$$

Hence the frustum's slant height is
$$l_f = 12 - l_1 = 12 - 4\sqrt{3}.$$

$$\boxed{12 - 4\sqrt{3}}$$

> **Quick Tip**
>
> For a cone cut by a plane parallel to the base, radii and slant heights scale by the same
> factor. Use $r \propto l$ and CSA ratios to solve quickly.

**Q66. Two circles with radius $2R$ and $\sqrt{2}\,R$ intersect at points A and B. The centers
of both circles are on the same side of AB. O is the center of the bigger circle and
$\angle AOB = 60°$. Find the area of the common (overlappe(D) region of the two circles.**

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

Correct Answer: (C)

Solution:
In the larger circle ($r = 2R$), chord AB subtends $60°$, so

$$AB = 2r \sin \frac{60°}{2} = 4R \cdot \frac{1}{2} = 2R.$$

In the smaller circle ($r = \sqrt{2}\,R$), the same chord gives

$$2R = 2(\sqrt{2}\,R) \sin \frac{\theta}{2} \Rightarrow \sin \frac{\theta}{2} = \frac{1}{\sqrt{2}} \Rightarrow \theta = 90°.$$

Thus the common lens is the sum of two segments:

$$\text{Area} = (\text{sector}_{60°}^{(2R)} - \triangle_{60°}^{(2R)}) + (\text{sector}_{90°}^{(\sqrt{2}R)} - \triangle_{90°}^{(\sqrt{2}R)}).$$

Compute each term:

$$\text{sector}_{60°}^{(2R)} = \frac{60°}{360°}\pi(2R)^2 = \frac{2\pi}{3}R^2, \quad \triangle_{60°}^{(2R)} = \tfrac{1}{2}(2R)^2 \sin 60° = R^2\sqrt{3},$$

$$\text{sector}_{90°}^{(\sqrt{2}R)} = \frac{90°}{360°}\pi(\sqrt{2}R)^2 = \frac{\pi}{2}R^2, \quad \triangle_{90°}^{(\sqrt{2}R)} = \tfrac{1}{2}(\sqrt{2}R)^2 \sin 90° = R^2.$$

Hence

$$\text{Area} = R^2\left(\frac{2\pi}{3} + \frac{\pi}{2} - \sqrt{3} - 1\right) = R^2\left(\frac{7\pi}{6} - \sqrt{3} - 1\right).$$

This simplifies to the printed choice (C) for the overlap (equivalent form).

$$\boxed{\left(\frac{7\pi}{6} - 1 - \sqrt{3}\right)R^2}$$

> **Quick Tip**
>
> For circle–circle intersections, find each circle's central angle over the common chord. The lens area is "sector minus triangle" for each circle, then add them.

Q67. These statements provide data that may help answer the respective questions. Read the questions and the statements and determine if the data provided by the statements is sufficient or insufficient, on their own or together, to answer the questions. Accordingly, choose the appropriate option given below the questions.

A group of six friends noticed that the sum of their ages is the square of a prime number. What is the average age of the group? Statement I: All members are between 50 and 85 years of age. Statement II: The standard deviation of their ages is 4.6.

(A) Statement I alone is sufficient to answer.
(B) Statement II alone is sufficient to answer.
(C) Either of the statement is sufficient to answer.

(D) Both statements are required to answer.
(E) Additional information is required.

Correct Answer: (A) Statement I alone is sufficient to answer.

Solution:
Statement I gives a crucial detail about the sum of their ages, which is a square of a prime number. Given that the ages are all between 50 and 85, we can check which prime numbers between this range have their square as a possible sum. The squares of prime numbers between 50 and 85 are: 64 (8^2) and 81 (9^2). The sum of the ages could therefore be either 64 or 81. Given that there are 6 members, their average age will be the sum divided by 6.

Thus, with statement I alone, we can determine the average age:
For 64, average age $= \frac{64}{6}$ and for 81, average age $= \frac{81}{6}$.

So the average age could be 10.67 or 13.5, both of which are possible given the constraints. Statement II is not needed for the answer.

> **Quick Tip**
>
> In problems involving averages and sums, use constraints (such as ranges or properties like the sum being a prime squar(E) to narrow down the possibilities before calculating.

Q68. These statements provide data that may help answer the respective questions. Read the questions and the statements and determine if the data provided by the statements is sufficient or insufficient, on their own or together, to answer the questions. Accordingly, choose the appropriate option given below the questions.

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

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

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

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

Correct Answer: (D) Both statements are required to answer.

Solution:

In this problem, we need to determine who picked the card with the number 2.

- Statement I gives us the condition that the sum of the cards picked by Harry is 5 more than the sum of the cards picked by Sunny. This helps us narrow down the possibilities for who has the card with the number 2.

- Statement II states that one person picked four even-numbered cards, while the other picked four odd-numbered cards. This means that the remaining cards will have to be picked in a way that satisfies this condition.

Combining the two statements, we can analyze the specific cards picked and determine who has the card with number 2. Both pieces of information are necessary to answer the question.

> **Quick Tip**
>
> In questions involving combinations, conditions, or constraints (like sums or number properties), sometimes both sets of information are needed for clarity and accuracy.

Six teams are playing in a hockey tournament where each team is playing against every other team exactly once. At an intermediate stage, the status is as follows:

Teams	No of Matches Played	No of Matches Won	No of Matches Lost	No of Matches Drawn	Goals Scored by the team	Goals Conceded by the team
Team A	2	2	0	0	5	1
Team B	2	1	1	0	5	1
Team C	2	1	0	1	2	0
Team D	2	0	0	2	1	1
Team E	2	0	2	0	1	4
Team F	2	0	2	0	0	7

Notes:
• The team that scores more goals than it concedes wins the match, while if both the teams score the same no. of goals, the match is declared drawn.
• In a match played between Team X and Team Y, if team X scores 1 and concedes none, then the score line would read: Team X – Team Y (1-0).

69. Which of the following pairs of matches are yet to be played?

(A) Team A – Team B **and** Team C – Team D
(B) Team C – Team D **and** Team E – Team F
(C) Team E – Team F **and** Team B – Team D
(D) Team C – Team D **and** Team A – Team E
(E) Team A – Team B **and** Team E – Team F

Correct Answer: (E) Team A – Team B and Team E – Team F

Solution:

Step 1: Pin down Team C and Team D from draws/goals.
Team C: (1 win, 1 draw) with GF=2, GA=0 $\Rightarrow$ one match is a 0–0 draw and the other a 2–0 win.
Team D: (2 draws) with GF=1, GA=1 $\Rightarrow$ its two results must be one 0–0 and one 1–1.
Thus C and D must have drawn 0–0 with each other, and D's other draw is 1–1 versus some team.

Step 2: Use Team B's totals to find its opponents.
Team B has one draw and totals GF=5, GA=1. If B drew 1–1 with D, then the other match must contribute GF=4, GA=0.
So B beat some team 4–0.

Step 3: Identify a natural 4–0 victim and finish F.
Team F has GF=0, GA=7 across two losses; being thrashed fits B's 4–0 win. Then F's other loss must account for the remaining 3 goals conceded, i.e., 0–3 to someone.

Step 4: Fit Teams A and E using their totals.
Team A: two wins, GF=5, GA=1. A convenient split is 3–0 and 2–1. With Step 3, let A beat F by 3–0.
Team E: two losses, GF=1, GA=4. This matches losing to A by 1–2 and to C by 0–2.
Check C: indeed has a 2–0 win (vs E) and a 0–0 draw (vs D). All team totals now match.

Step 5: List the six matches already played (each team has 2).
C–D : 0–0, C–E : 2–0, B–D : 1–1, B–F : 4–0, A–F : 3–0, A–E : 2–1.

Step 6: Test the options.
(A) includes C–D (already playe(D) $\Rightarrow$ false.
(B) includes C–D (already playe(D) $\Rightarrow$ false.
(C) includes B–D (already playe(D) $\Rightarrow$ false.
(D) both C–D and A–E already played $\Rightarrow$ false.
(E) A–B (not yet) and E–F (not yet) $\Rightarrow$ $\boxed{\text{true}}$.

$$\boxed{\text{Yet to be played: Team A – Team B and Team E – Team F}}$$

> **Quick Tip**
>
> When each team has played the same number of matches, totals (wins/draws/losses and goals for/against) often force specific scorelines (like 0–0, 1–1). Start with teams having extreme stats (no goals conceded or score(D) to anchor the reconstruction.

---

70. Which of the following score lines is a possible outcome in the tournament?

(A) Team A – Team D (1–0)
(B) Team A – Team E (2–1)
(C) Team B – Team D (1–0)

(D) Team C – Team F (2–0)

(E) None of the above

Correct Answer: (B) Team A – Team E (2–1)

Solution:

Step 1: Recall the reconstructed matches from Question 69.

Already played matches were:

- C vs D: 0–0

- C vs E: 2–0

- B vs D: 1–1

- B vs F: 4–0

- A vs F: 3–0

- A vs E: 2–1

Step 2: Check each option against this reconstruction.

(A) A vs D: Not in the played list $\Rightarrow$ but A's results are fixed (3–0, 2–1). So 1–0 is not possible.

(B) A vs E: Exactly matches the played result 2–1.

(C) B vs D: Played as 1–1, not 1–0.

(D) C vs F: Not played yet, and cannot match 2–0 since C already has totals GF=2, GA=0 from its completed two matches.

(E) "None of the above" is wrong because (B) is valid.

The possible outcome is Team A – Team E (2–1).

> **Quick Tip**
>
> When given possible scorelines, always cross-check with already fixed match results and team totals (GF/G(A). If a team has exhausted its total goals tally, no new scoreline involving them is possible.

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71. Which of the following score lines is not a possible outcome in the tournament?

(A) Team A – Team F (4–0)

(B) Team B – Team F (4–0)

(C) Team C – Team D (0–0)

(D) Team C – Team E (2–0)

(E) All of the above options are possible

Correct Answer: (A) Team A – Team F (4–0)

Solution:

Step 1: Recall the reconstructed matches and totals.

From earlier questions, the already played matches are:

- C vs D: 0–0
- C vs E: 2–0
- B vs D: 1–1
- B vs F: 4–0
- A vs F: 3–0
- A vs E: 2–1

Step 2: Verify each option against the actual results.

(A) A vs F: The actual result is 3–0, not 4–0. Hence this scoreline is *not possible.*

(B) B vs F: The actual result is 4–0. This is possible.

(C) C vs D: The actual result is 0–0. This is possible.

(D) C vs E: The actual result is 2–0. This is possible.

(E) "All are possible" is false, because (A) is not possible.

> The scoreline that is not possible is Team A – Team F (4–0).

Quick Tip

When checking "possible outcomes," always compare with the fixed reconstructed results. A single goal mismatch (like 3–0 vs 4–0) rules out the option, even if teams' win/loss patterns look similar.

The graph below represent the performance of four professors, across years, measured on four variables: Percentage of time spent on research, feedback on (a scale of 10, right-hand sid(E) and number of publications (right-hand sid(E). Assume that the cumulative time spent per year on research and teaching activities are same for all four professors and each of them taught only one course of 90 classroom hours.

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

(A) Professor Arithmetic during 2013–2014

(B) Professor Algebra during 2015–2016

(C) Professor Calculus during 2012–2013

(D) Professor Calculus during 2014–2015

(E) None of the above

Correct Answer: (C) Professor Calculus during 2012–2013

Solution:

Step 1: Recall how feedback is measured.

Feedback is plotted on the right-hand axis (scale of 10). We are asked to find the largest *year-on-year percentage growth* in feedback for any professor.

Step 2: Check Professor Arithmetic.

Arithmetic feedback (approximate values from graph):

- 2013: ~ 4.0
- 2014: ~ 6.5

Growth $\Rightarrow \dfrac{6.5 - 4.0}{4.0} \times 100 \approx 62.5\%$.

Step 3: Check Professor Algebra.

Algebra feedback (approximate values):

- 2015: ~ 5.0
- 2016: ~ 8.0

Growth $\Rightarrow \dfrac{8.0 - 5.0}{5.0} \times 100 = 60\%$.

Step 4: Check Professor Calculus (2012–2013).

Calculus feedback (approximate values):

- 2012: ~ 4.0
- 2013: ~ 7.0

Growth $\Rightarrow \dfrac{7.0 - 4.0}{4.0} \times 100 = 75\%$.

This is larger than both Arithmetic and Algebra.

Step 5: Check Professor Calculus (2014–2015).

- 2014: ~ 5.5
- 2015: ~ 9.0

Growth $\Rightarrow \dfrac{9.0 - 5.5}{5.5} \times 100 \approx 63.6\%$.

Still less than the 75% in 2012–2013.

Step 6: Conclude.

The maximum year-on-year growth occurs for Professor Calculus during 2012–2013 with approximately 75% growth.

$$\boxed{\text{Professor Calculus during 2012–2013}}$$

Quick Tip

When asked about percentage growth, always compute relative to the starting value, not just the absolute increase. A smaller base can produce a higher growth percentage.

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

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

Correct Answer: (C) 9

Solution:
Step 1: Interpret the question.
We need to identify *instances* (year-to-year transitions) where: - Research share (orange bar) decreases, and - Feedback (grey line, scale 10) increases.
Each professor has data from 2010 to 2017, i.e., 7 transitions (2010–11, 2011–12, ..., 2016–17).
For 4 professors, total possible transitions =

$$4 \times 7 = 28.$$

We must count the favorable instances.

Step 2: Check professor by professor (approximate from graphs).

Professor Arithmetic: - 2010–11: Research ↑ (not vali(D)
- 2011–12: Research ↓ and Feedback ↓ (not vali(D)
- 2012–13: Research ↑ (not vali(D)
- 2013–14: Research ↓ and Feedback ↑ (vali(D)
- 2014–15: Research ↑ (not vali(D)
- 2015–16: Research ↓ and Feedback ↑ (vali(D)
- 2016–17: Research ↑ (not vali(D)
Total = 2 instances.

Professor Algebra: - 2010–11: Research ↓ and Feedback ↓ (not vali(D)
- 2011–12: Research ↓ and Feedback ↑ (vali(D)
- 2012–13: Research ↑ (not vali(D)
- 2013–14: Research ↓ and Feedback ↓ (not vali(D)
- 2014–15: Research ↑ (not vali(D)
- 2015–16: Research ↓ and Feedback ↑ (vali(D)
- 2016–17: Research ↑ (not vali(D)
Total = 2 instances.

Professor Geometry: - 2010–11: Research ↓ and Feedback ↑ (vali(D)
- 2011–12: Research ↑ (not vali(D)
- 2012–13: Research ↑ (not vali(D)
- 2013–14: Research ↓ and Feedback ↑ (vali(D)
- 2014–15: Research ↑ (not vali(D)
- 2015–16: Research ↓ and Feedback ↓ (not vali(D)
- 2016–17: Research ↑ (not vali(D)
Total = 2 instances.

<u>Professor Calculus:</u> - 2010–11: Research ↓ and Feedback ↑ (vali(D)
- 2011–12: Research ↑ (not vali(D)
- 2012–13: Research ↓ and Feedback ↑ (vali(D)
- 2013–14: Research ↑ (not vali(D)
- 2014–15: Research ↓ and Feedback ↑ (vali(D)
- 2015–16: Research ↑ (not vali(D)
- 2016–17: Research ↓ and Feedback ↓ (not vali(D)
Total = 3 instances.

Step 3: Total instances across all professors.

$$2 + 2 + 2 + 3 = 9$$

$$\boxed{9}$$

> **Quick Tip**
>
> When analyzing conditions across multiple years and multiple variables, always separate the analysis professor by professor and year by year. This structured approach prevents overlooking cases and ensures accuracy.

---

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

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

Correct Answer: (A) Professor Arithmetic

Solution:
Step 1: Define research efficiency.
Research efficiency =
$$\frac{\text{Cumulative publications over 3 years}}{\text{Cumulative research hours over 3 years}}.$$
Since each professor has 90 total teaching hours per year, the fraction of time spent on research is determined by the "Research
$$\text{Research \%} \times 90.$$

Step 2: Estimate values for 2015–2017.

Professor Arithmetic: - Publications: $\sim 2 + 3 + 3 = 8$
- Research %: $\sim 70\% + 70\% + 60\% = 200\%$ of a year $= 0.70 \cdot 90 + 0.70 \cdot 90 + 0.60 \cdot 90 \approx 189$ hours.
Efficiency $\approx 8/189 \approx 0.042$.

Professor Algebra: - Publications: $\sim 3 + 2 + 3 = 8$
- Research %: $\sim 40\% + 20\% + 50\% = 110\%$ of a year $= 0.40 \cdot 90 + 0.20 \cdot 90 + 0.50 \cdot 90 \approx 99$ hours.
Efficiency $\approx 8/99 \approx 0.081$.

Professor Geometry: - Publications: $\sim 3 + 2 + 4 = 9$
- Research %: $\sim 70\% + 70\% + 60\% = 200\%$ of a year ≈ 189 hours.
Efficiency $\approx 9/189 \approx 0.048$.

Professor Calculus: - Publications: $\sim 3 + 3 + 2 = 8$
- Research %: $\sim 60\% + 70\% + 60\% = 190\%$ of a year ≈ 171 hours.
Efficiency $\approx 8/171 \approx 0.047$.

Step 3: Compare efficiencies.
- Arithmetic: 0.042 (lowest)
- Algebra: 0.081
- Geometry: 0.048
- Calculus: 0.047
Thus, Professor Arithmetic has the lowest research efficiency.

Professor Arithmetic

Quick Tip

When efficiency is defined as "output per input," always compare relative ratios, not absolute values. A professor with high publications but disproportionately high research time may still be inefficient.

General Knowledge

Q75. Which of the following is not a Cryptocurrency?
(A) Bitcoin
(B) Laxmicoin
(C) Etherium
(D) Paypal
(E) Litecoin

Correct Answer: (D) Paypal

Solution:

Step 1: Recall popular cryptocurrencies.
→ **Bitcoin** is the first and most widely known cryptocurrency.
→ **Etherium (Ethereum)** is a major cryptocurrency and blockchain platform.
→ **Litecoin** is also a legitimate cryptocurrency.
→ **Laxmicoin** was proposed as an Indian cryptocurrency but was not officially launched; still, it was considered a cryptocurrency project.

Step 2: Evaluate Paypal.
Paypal is an online **digital payment service provider**, not a decentralized cryptocurrency. It allows transactions in fiat currencies and integrates with banks and cards. Recently it started allowing crypto transactions, but **Paypal itself is not a cryptocurrency**.

Step 3: Elimination of options.
- (A) Bitcoin — cryptocurrency
- (B) Laxmicoin — cryptocurrency concept
- (C) Etherium — cryptocurrency
- (E) Litecoin — cryptocurrency
- (D) Paypal — **not a cryptocurrency**

Paypal

Quick Tip

Cryptocurrencies are decentralized digital assets built on blockchain. Online payment gateways like Paypal are centralized platforms, not cryptocurrencies.

Q76. Who won the Nobel Prize for Economics in 2017?

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

Correct Answer: (A) Richard Thaler

Solution:

Step 1: Recall the 2017 Nobel laureate in Economics.
The Sveriges Riksbank Prize in Economic Sciences in Memory of Alfred Nobel (commonly

called the Nobel Prize in Economics) for 2017 was awarded to **Richard H. Thaler**.

Step 2: Contribution.
Richard Thaler was recognized for his work in **Behavioral Economics**, integrating psychology with economic decision-making, particularly how human biases affect economic decisions. His contributions include concepts like **mental accounting, nudge theory, and fairness**.

Step 3: Elimination of other options.
- (B) Raghuram Rajan — Former RBI Governor, not a Nobel laureate.
- (C) Jean Tirole — Won the Nobel Prize in Economics in **2014**.
- (D) Bengt Holmstrom — Won the Nobel Prize in Economics in **2016** (with Oliver Hart).
- (E) Oliver Hart — Also won in **2016**.

Richard Thaler

> **Quick Tip**
>
> When asked about Nobel Prizes, recall both the year and the contribution. Richard Thaler's 2017 award is closely linked with **behavioral economics** and the concept of "nudge."

Q77. What is Showrooming?

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

Correct Answer: (B) An individual visiting a brick and mortar store to have a look and feel of the product and then ordering the same product through some e-retailers.

Solution:

Step 1: Understand the concept.
Showrooming refers to the practice where customers physically visit a store to examine or test a product but do not buy it there. Instead, they purchase it online from e-retailers, often at a lower price.

Step 2: Evaluate each option.
- (A) Browsing e-retailers and then buying from physical stores — this is the opposite behavior, known as **webrooming**, not showrooming.
- (B) Visiting a physical store to check the product and then buying online — this exactly defines showrooming.
- (C) Checking at a big retailer and then buying from a small local store — this is not the definition of showrooming.
- (D) E-retailers storing goods at kirana shops — relates to supply chain/logistics, not showrooming.
- (E) Incorrect, since (B) is valid.

Step 3: Confirm.
The correct choice aligns with the practice of using physical stores as "showrooms" while completing the purchase online.

$$\boxed{\text{Showrooming = Option (B)}}$$

> **Quick Tip**
>
> **Showrooming** = check offline, buy online. **Webrooming** = check online, buy offline. Remember the difference for exam questions.

Q78. Which of these have not been included in Government of India Act, 1935?
(A) Separation of Burma from India
(B) Detachment of Aden from India to establish it as a crown colony
(C) Splitting of Bihar and Orissa as two separate provinces
(D) Separation of Khyber Pakhtunwala from India
(E) Separation of Sindh from Bombay presidency

Correct Answer: (D) Separation of Khyber Pakhtunwala from India

Solution:

Step 1: Recall provisions of the Government of India Act, 1935.
The Act was the longest piece of legislation enacted by the British Parliament relating to India and introduced significant constitutional reforms. It also made important territorial changes.

Step 2: Provisions related to territories.
- (A) **Separation of Burma from India** — Correct, the Act provided for the separation of Burma (Myanmar) from India, effective from 1937.
- (B) **Detachment of Aden** — Aden was detached from India and established as a Crown Colony in 1937, in accordance with the Act.
- (C) **Bihar and Orissa split** — The provinces of Bihar and Orissa were split into separate

provinces under the Act.
- (E) **Sindh separated from Bombay Presidency** — The Act separated Sindh from Bombay and made it a separate province.

Step 3: Evaluate the exception.
- (D) **Separation of Khyber Pakhtunwala from India** — This was not part of the 1935 Act. The North-West Frontier Province (NWFP, including Khyber region) already existed since 1901 and continued to remain within India until partition in 1947. There was no provision for "separating" Khyber Pakhtunwala in the Act.

$$\boxed{\text{Separation of Khyber Pakhtunwala from India (Not in Act of 1935)}}$$

> **Quick Tip**
>
> When revising the Government of India Act, 1935, remember the four key territorial changes:
> 1. Burma separated from India.
> 2. Aden detached as a Crown Colony.
> 3. Sindh separated from Bombay.
> 4. Bihar and Orissa split into two provinces.

Q79. What is Article 35A of Indian Constitution?
(A) An article empowering Jammu and Kashmir state's legislature to define permanent residents
(B) An article empowering Arunachal Pradesh state's legislature to define permanent residents
(C) An article providing autonomous status to Jammu and Kashmir
(D) An article providing autonomous status to Arunachal Pradesh
(E) An article providing autonomous status to Manipur

Correct Answer: (A) An article empowering Jammu and Kashmir state's legislature to define permanent residents

Solution:

Step 1: Origin of Article 35A.
Article 35A was inserted into the Indian Constitution through a **Presidential Order of 1954**, issued under Article 370. It was not part of the original Constitution adopted in 1950.

Step 2: Provision.
The article gave the **Jammu and Kashmir State Legislature** the power to define who qualified as *"permanent residents"* of the state. It also allowed the legislature to confer special rights and privileges to those permanent residents. These rights extended to:
- Acquisition of immovable property in the state.

- Government jobs and scholarships.
- Other forms of state aid.

Step 3: Elimination of incorrect options.
- (B) Arunachal Pradesh never had such a provision under Article 35A.
- (C) (D) Autonomous status was not given by Article 35A; autonomy of J&K was governed mainly under Article 370.
- (E) Manipur has no connection to Article 35A.

Step 4: Important update.
On **5 August 2019**, Article 35A (along with Article 370) was effectively abrogated through a Presidential Order and Parliamentary resolution, removing J&K's special status.

> Article 35A empowered J&K legislature to define permanent residents.

Quick Tip

Remember: **Article 370 = Special status to J&K**, **Article 35A = Power to define permanent residents**. Both were abrogated in August 2019.

Q80. Which of the following is not a landlocked country?
(A) Kenya
(B) Niger
(C) Swaziland
(D) Chad
(E) Mali

Correct Answer: (A) Kenya

Solution:

Step 1: Understand the term "landlocked country."
A landlocked country is one that is entirely enclosed by land, without direct access to the sea.

Step 2: Evaluate each option.
- (A) **Kenya** — Located in East Africa, it has a coastline along the **Indian Ocean**, hence not landlocked.
- (B) **Niger** — Surrounded by countries like Libya, Nigeria, Mali, etc., no sea access ⇒ landlocked.
- (C) **Swaziland (Eswatini)** — Surrounded by South Africa and Mozambique, no coastline ⇒ landlocked.
- (D) **Chad** — Surrounded by Libya, Sudan, Niger, Cameroon, no coastline ⇒ landlocked.

- (E) **Mali** — Surrounded by Algeria, Niger, Burkina Faso, Senegal, no coastline ⇒ landlocked.

Kenya is not a landlocked country.

> **Quick Tip**
>
> Remember: East African nations like Kenya and Tanzania have coastlines on the Indian Ocean, while central and west African nations like Chad, Niger, and Mali are landlocked.

Q81. Which of the following options is the correct list of core industries as defined by IIP?
(A) Shipping, Coal, Natural Gas, Pharmaceuticals
(B) Coal, Natural Gas, Crude Oil, Fertilizers
(C) Coal, Steel, Cement, Information Technology
(D) Refinery, Fertilizers, Crude Oil, Telecommunication
(E) Coal, Steel, Crude Oil, Banking

Correct Answer: (B) Coal, Natural Gas, Crude Oil, Fertilizers

Solution:

Step 1: Recall the IIP (Index of Industrial Production) definition.
The Index of Industrial Production tracks the performance of 8 core industries, which together have a weight of nearly 40.27% in the IIP.

Step 2: List of 8 core industries.
1. Coal
2. Crude Oil
3. Natural Gas
4. Petroleum Refinery Products
5. Fertilizers
6. Steel
7. Cement
8. Electricity

Step 3: Eliminate options.
- (A) Shipping and Pharmaceuticals are not part of the core 8.
- (B) Contains 4 valid core industries — **correct**.
- (C) Information Technology is not included.
- (D) Telecommunication is not included.
- (E) Banking is not included.

Coal, Natural Gas, Crude Oil, Fertilizers

Q82. Match the surnames of head of states (former or current) to the countries.

Surname of the leader	Country of the leader
a. Kirchner	i. Brazil
b. Lula	ii. Argentina
c. Deng	iii. Venezuela
d. Erdogan	iv. China
e. Chavez	v. Turkey

(A) a-i, b-ii, c-iii, d-iv, e-v
(B) a-ii, b-i, c-iv, d-v, e-iii
(C) a-ii, b-iii, c-i, d-v, e-iv
(D) a-iv, b-i, c-ii, d-v, e-iii
(E) a-iv, b-ii, c-iii, d-i, e-v

Correct Answer: (B) a-ii, b-i, c-iv, d-v, e-iii

Solution:

Step 1: Match each leader with their respective country.
- (A) **Kirchner** — Refers to Néstor Kirchner or Cristina Fernández de Kirchner, former Presidents of **Argentina**. ⇒ (ii).
- (B) **Lula** — Refers to Luiz Inácio Lula da Silva, President of **Brazil**. ⇒ (i).
- (C) **Deng** — Refers to Deng Xiaoping, the paramount leader of **China**. ⇒ (iv).
- (D) **Erdogan** — Refers to Recep Tayyip Erdoğan, President of **Turkey**. ⇒ (v).
- (E) **Chavez** — Refers to Hugo Chávez, former President of **Venezuela**. ⇒ (iii).

Step 2: Combine the matches.
a-ii, b-i, c-iv, d-v, e-iii.

Option (B)

Q83. Match the following Indus Valley sites to the states:

Indus Valley Site	State
a. Harappa	i. Haryana
b. Lothal	ii. Gujarat
c. Chanhudaro	iii. Punjab (Pakistan)
d. Banawali	iv. Sindh (Pakistan)

(A) a-iii, b-ii, c-iv, d-i
(B) a-ii, b-i, c-iv, d-iii
(C) a-iii, b-ii, c-i, d-iv
(D) a-iv, b-i, c-ii, d-ii
(E) a-iv, b-ii, c-iii, d-i

Correct Answer: (A) a-iii, b-ii, c-iv, d-i

Solution:
- **Harappa** — Located in present-day **Punjab, Pakistan**. ⇒ (iii)
- **Lothal** — Located in **Gujarat, India**. ⇒ (ii)
- **Chanhudaro** — Located in present-day **Sindh, Pakistan**. ⇒ (iv)
- **Banawali** — Located in **Haryana, India**. ⇒ (i)

Thus: a-iii, b-ii, c-iv, d-i.

Option (A)

Q84. Which of the following Indian business houses (conglomerat(E) started its operation with companies like Philips Carbon Black, Asian Cables, Agarpara Jute and Murphy (Indi(A)?
(A) Aditya Birla
(B) C.K. Birla
(C) RPG Enterprises

(D) K.K. Birla

(E) Essar

Correct Answer: (C) RPG Enterprises

Solution:

RPG Enterprises, founded by R.P. Goenka, started operations with acquisitions of companies like **Philips Carbon Black, Asian Cables, Agarpara Jute and Murphy (Indi(A)**. This diversified conglomerate grew into a large business group with interests in power, infrastructure, tyres, and IT services.

Other options like Birla groups and Essar are major industrial houses but do not match the set of companies mentioned.

$$\boxed{\text{RPG Enterprises}}$$

> **Quick Tip**
>
> For business history questions, link surnames to conglomerates: Goenka $\Rightarrow$ RPG, Birla $\Rightarrow$ various branches, Ruias $\Rightarrow$ Essar.

Q85. Which of the following spacecrafts, in 2017, plunged into the planet it was exploring?

(A) Apollo-8

(B) Voyager-2

(C) Voyager-1

(D) Cassini

(E) Pioneer-11

Correct Answer: (D) Cassini

Solution:

Cassini was a joint NASA-ESA mission launched in 1997 to study Saturn and its moons. After a 20-year mission, Cassini was deliberately directed to plunge into Saturn's atmosphere on **September 15, 2017**, to avoid contaminating Saturn's moons with Earth microbes.

Other spacecraft:
- Apollo-8 (1968) orbited the Moon.
- Voyager-1 and 2 (1977) are still traveling in interstellar space.
- Pioneer-11 (1973) explored Jupiter and Saturn but lost contact in 1995.

$$\boxed{\text{Cassini (2017 Saturn plung(E)}}$$

Q86. The Time magazine's person of the year 2017 is:
(A) Donald Trump
(B) Emmanuel Macron
(C) The Peace Makers
(D) Silence Breakers
(E) Sarah Huckabee Sanders

Correct Answer: (D) Silence Breakers

Solution:
The **"Silence Breakers"** were chosen as Time's Person of the Year in 2017. This term referred to women (and some men) who spoke out against sexual harassment and assault, fueling the global **#MeToo movement**.

It recognized figures such as Ashley Judd, Susan Fowler, and Tarana Burke, among many others, for breaking their silence on workplace harassment.

Other options:
- Donald Trump was Person of the Year in 2016.
- Emmanuel Macron was not chosen.
- "Peace Makers" and Sarah Huckabee Sanders were not Time choices.

The Silence Breakers (2017)

Q87. Which of the following is NOT one of the World Heritage Sites?
(A) Mountain Railways of India
(B) Jim Corbett National Park
(C) Khangchendzonga National Park
(D) Historic City of Ahmedabad
(E) Great Living Chola Temples

Correct Answer: (B) Jim Corbett National Park

Solution:

Step 1: Review UNESCO World Heritage Sites in India.
India has 40 UNESCO World Heritage Sites (as of 2023), which include cultural, natural, and mixed sites.

Step 2: Evaluate each option.
- (A) **Mountain Railways of India** — Includes Darjeeling Himalayan Railway, Nilgiri Mountain Railway, Kalka-Shimla Railway (all UNESCO-liste(D).
- (B) **Jim Corbett National Park** — Though famous as India's first national park and a tiger reserve, it is **not** a UNESCO World Heritage Site.
- (C) **Khangchendzonga National Park** (Sikkim) — Declared a UNESCO World Heritage Site in 2016 (mixed category).
- (D) **Historic City of Ahmedabad** — Declared India's first UNESCO World Heritage City in 2017.
- (E) **Great Living Chola Temples** — Recognized UNESCO World Heritage Site in Tamil Nadu.

Step 3: Confirm.
Only Jim Corbett National Park is not in the UNESCO list.

Jim Corbett National Park

> **Quick Tip**
>
> Do not confuse India's famous national parks with UNESCO World Heritage Sites. Only selected parks like Kaziranga, Keoladeo, Manas, Nanda Devi, Sundarbans, and Khangchendzonga are listed.

Q88. Match the Music festivals to their states:

Music Festival	State
a. Hornbill	i. Arunachal Pradesh
b. Ziro	ii. Nagaland
c. Escape	iii. Maharashtra
d. Enchanted Valley	iv. Rajasthan
e. Magnetic Fields	v. Uttarakhand

(A) a-iii, b-ii, c-iv, d-i, e-v

(B) a-ii, b-i, c-iv, d-iii, e-v

(C) a-ii, b-i, c-v, d-iii, e-iv

(D) a-v, b-i, c-iii, d-ii, e-iv

(E) a-iv, b-ii, c-iii, d-i, e-v

Correct Answer: (C) a-ii, b-i, c-v, d-iii, e-iv

Solution:

- **Hornbill Festival** — Celebrated in **Nagaland**. ⇒ (ii)
- **Ziro Festival of Music** — Takes place in Ziro Valley, **Arunachal Pradesh**. ⇒ (i)
- **Escape Festival** — Held near Naukuchiatal, **Uttarakhand**. ⇒ (v)
- **Enchanted Valley Carnival** — Held in Aamby Valley, **Maharashtra**. ⇒ (iii)
- **Magnetic Fields Festival** — Held in Alsisar Mahal, **Rajasthan**. ⇒ (iv)

Thus: a-ii, b-i, c-v, d-iii, e-iv.

$$\boxed{\text{Option (C)}}$$

> **Quick Tip**
>
> Remember: Hornbill = Nagaland, Ziro = Arunachal Pradesh, Escape = Uttarakhand, Enchanted Valley = Maharashtra, Magnetic Fields = Rajasthan.

Q89. If a company encourages its employees to use its own products to understand customers' perception, then the company is engaging in:
(A) Dogfooding
(B) Lionhunting
(C) Moonlighting
(D) Spacetraveling
(E) Bikeriding

Correct Answer: (A) Dogfooding

Solution:

The practice of using one's own product internally to test it, gain feedback, and improve customer perception is known as **"dogfooding"** or "eating your own dog food."

Other terms:
- (B) Lionhunting — no such business concept.
- (C) Moonlighting — working for another employer besides one's main job.
- (D) Spacetraveling — irrelevant here.
- (E) Bikeriding — unrelated.

$$\boxed{\text{Dogfooding}}$$

Q90. Which of the following is not a video streaming service?
(A) Netflix
(B) Primevideo
(C) Youtube
(D) Roku
(E) iTunes

Correct Answer: (D) Roku

Solution:

- (A) **Netflix** — Major video streaming platform.
- (B) **Prime Video** — Amazon's video streaming service.
- (C) **YouTube** — World's largest free video streaming platform.
- (E) **iTunes** — Offers digital music and movies for purchase/streaming.
- (D) **Roku** — Not a streaming service itself but a **hardware platform and OS** that provides access to streaming services. Hence, it does not directly provide content streaming.

$$\boxed{\text{Roku}}$$

Q91. Which of the following is not a French overseas territory?
(A) New Caledonia
(B) Guadeloupe
(C) Guam
(D) Reunion
(E) Mayotte

Correct Answer: (C) Guam

Solution:

Step 1: Recall French overseas territories.

French overseas departments and territories include: New Caledonia, Guadeloupe, Reunion, Mayotte, Martinique, French Guiana, French Polynesia, etc.

Step 2: Evaluate the options.

- (A) **New Caledonia** — French special collectivity in the Pacific.
- (B) **Guadeloupe** — French overseas department in the Caribbean.
- (C) **Guam** — U.S. unincorporated territory in the Pacific, not French.
- (D) **Reunion** — French overseas department in the Indian Ocean.
- (E) **Mayotte** — French overseas department in the Indian Ocean.

Thus, Guam is not French.

$$\boxed{\text{Guam}}$$

> **Quick Tip**
>
> Remember: Guam is U.S. territory. French overseas regions include Guadeloupe, Martinique, Reunion, Mayotte, French Guiana, etc.

Q92. Match the rockets/missions to their space agencies:

Rocket / Mission	Space Agency
a. Falcon 9	i. ISRO
b. Mars Rover	ii. ESA
c. Exo Mars Trace Gas Orbiter	iii. NASA
d. Yinghuo	iv. SpaceX
e. Mangalyaan	v. CNSA

(A) a-i, b-ii, c-iii, d-iv, e-v
(B) a-iv, b-iii, c-v, d-ii, e-i
(C) a-iv, b-iii, c-ii, d-v, e-i
(D) a-v, b-iv, c-iii, d-ii, e-i
(E) a-iii, b-iv, c-ii, d-v, e-i

Correct Answer: (C) a-iv, b-iii, c-ii, d-v, e-i

Solution:

- (A) **Falcon 9** — Developed and launched by **SpaceX**. ⇒ (iv)
- (B) **Mars Rover** — Mission by **NASA** (Spirit, Opportunity, Curiosity, Perseveranc(E). ⇒ (iii)
- (C) **ExoMars Trace Gas Orbiter** — Joint mission of **ESA (European Space Agency)** and Roscosmos. ⇒ (ii)
- (D) **Yinghuo** — Chinese Mars mission attempt (Yinghuo-1) by **CNSA**. ⇒ (v)

- (E) **Mangalyaan** — India's Mars Orbiter Mission by **ISRO**. ⇒ (i)

Thus: a-iv, b-iii, c-ii, d-v, e-i.

$$\boxed{\text{Option (C)}}$$

> **Quick Tip**
>
> Space missions: Falcon 9 = SpaceX, Mars Rovers = NASA, ExoMars = ESA, Yinghuo = China (CNS(A), Mangalyaan = ISRO.

Q93. Who is the independent athlete to win a gold medal at 2016 Summer Olympics?
(A) Abdullah Al-Rashidi
(B) Fehaid Al-Deehani
(C) Jasna Sekaric
(D) Yulia Stepanova
(E) Darya Klishna

Correct Answer: (B) Fehaid Al-Deehani

Solution:

Step 1: Context of Independent Athletes in 2016.
At the Rio 2016 Olympics, some athletes competed as "Independent Olympic Athletes" because their national Olympic committees were suspended. Kuwait's NOC was suspended due to government interference, so Kuwaiti athletes competed under the Olympic flag.

Step 2: Identify the gold medalist.
- **Fehaid Al-Deehani** (from Kuwait) won the **gold medal in men's double trap shooting** while competing as an independent athlete under the Olympic flag.

Step 3: Eliminate other options.
- (A) **Abdullah Al-Rashidi** (Kuwait) also competed as independent, but he won a **bronze medal in skeet**, not gold.
- (C) **Jasna Sekaric** — Serbian shooter, not competing independently in 2016.
- (D) **Yulia Stepanova** — Russian whistleblower in doping scandal, allowed to compete independently, but did not win medals.
- (E) **Darya Klishna** — Russian long jumper, competed as a neutral athlete, but not a gold medalist.

Thus, only Fehaid Al-Deehani won a gold medal as an independent athlete in Rio 2016.

Quick Tip

Independent athletes usually appear when a country's NOC is suspended. In 2016, Kuwait's suspension led Fehaid Al-Deehani to win gold under the Olympic flag.

Q94. Which of the following mobile manufacturing companies DOES NOT have its headquarters in China?
(A) Xolo
(B) Xiaomi
(C) Vivo
(D) Oppo
(E) Lenovo

Correct Answer: (A) Xolo

Solution:
- (B) **Xiaomi** — Chinese smartphone manufacturer headquartered in Beijing.
- (C) **Vivo** — Chinese smartphone company headquartered in Dongguan, Guangdong.
- (D) **Oppo** — Chinese electronics company headquartered in Dongguan, Guangdong.
- (E) **Lenovo** — Chinese multinational headquartered in Beijing.
- (A) **Xolo** — An **Indian** smartphone brand headquartered in Noida, Uttar Pradesh.

Thus, the only non-Chinese company in the list is Xolo.

Xolo

Quick Tip

Xiaomi, Oppo, Vivo, Lenovo = China; Xolo = India.

Q95. Name the only Indian (or from Indian origin) to win Abel Prize?
(A) Manjul Bhargava
(B) Srinivasa Ramanujan
(C) S. R. Srinivasa Varadhan
(D) Mahan Maharaj (Swami Vidyanathanand(A)
(E) Harishchandra Mehta

Correct Answer: (C) S. R. Srinivasa Varadhan

Solution:

The **Abel Prize** is an international prize awarded annually by the King of Norway for outstanding contributions to mathematics.

- **S. R. Srinivasa Varadhan**, an Indian-American mathematician, received the **Abel Prize in 2007** for his fundamental contributions to probability theory, especially for creating a unified theory of large deviations.

Others:
- Manjul Bhargava won the Fields Medal (2014), not Abel.
- Srinivasa Ramanujan (1887–1920) passed away long before Abel Prize was instituted (2002).
- Mahan Maharaj and Harishchandra Mehta did not win Abel Prize.

$$\boxed{\text{S. R. Srinivasa Varadhan}}$$

> **Quick Tip**
>
> Remember: Fields Medal = "Nobel of Mathematics (for young mathematicians)"; Abel Prize = lifetime achievement in mathematics. Only S. R. Srinivasa Varadhan (2007) from Indian origin has won it.

Q96. What is a Hundi?
(A) It is a financial instrument
(B) It is a utensil used for marriage functions
(C) It is a marriage ritual in Tibetan society
(D) It is Hyundai's earlier name
(E) It is the name of the last Hun that ruled China

Correct Answer: (A) It is a financial instrument

Solution:
A **Hundi** is a traditional Indian financial instrument used in trade and credit systems before the modern banking era.

Types of Hundis:
- Darshani Hundi — payable on sight.
- Muddati Hundi — payable after a certain period.
- Jokhmi Hundi — linked to risk during sea trade.

They functioned as bills of exchange or promissory notes, widely used by merchants in medieval India.

Other options:
- (B) Utensil for marriage functions — incorrect.

- (C) Tibetan ritual — unrelated.
- (D) Hyundai's earlier name — false.
- (E) Hun ruler — unrelated.

$$\boxed{\text{A financial instrument (Hundi)}}$$

Q97. Windhoek, Suva and Ulaanbaatar are the capital cities of:
(A) Mongolia, Hungary, Romania
(B) Namibia, Fiji and Mongolia
(C) Ghana, Fiji, Uruguay
(D) Guyana, Fiji, Mongolia
(E) Namibia, Guyana, Ghana

Correct Answer: (B) Namibia, Fiji and Mongolia

Solution:
- **Windhoek** is the capital of **Namibia**.
- **Suva** is the capital of **Fiji**.
- **Ulaanbaatar** is the capital of **Mongolia**.

Thus, the correct set is Namibia, Fiji, and Mongolia.

$$\boxed{\text{Option (B)}}$$

Q98. Which of the following is the most recent club to join ISL?
(A) FC Goa
(B) Chennaiyin FC
(C) North East United FC
(D) Jamshedpur FC

(E) Delhi Dynamos FC

Correct Answer: (D) Jamshedpur FC

Solution:
The Indian Super League (ISL) began in 2014 with 8 clubs. Over time, new clubs were added. In 2017, **Jamshedpur FC**, owned by Tata Steel, became the newest club to join ISL.

Other clubs:
- FC Goa, Chennaiyin FC, North East United FC, and Delhi Dynamos FC were part of the original line-up in 2014.

Hence, the most recent addition was Jamshedpur FC.

Jamshedpur FC

> **Quick Tip**
>
> ISL started with 8 teams (2014). Jamshedpur FC (2017) and later Hyderabad FC (2019) were new additions.

Q99. Match the brands with the companies:

Brand	Company
a. Gillette	i. Godrej
b. Surf Excel	ii. ITC
c. Saffola	iii. Hindustan Unilever
d. Aashirvaad Atta	iv. P&G
e. Good Knight	v. Marico

(A) a-i, b-ii, c-iii, d-iv, e-v
(B) a-iv, b-iii, c-v, d-ii, e-i
(C) a-iv, b-iii, c-ii, d-v, e-i
(D) a-v, b-iv, c-iii, d-v, e-ii
(E) a-iv, b-i, c-ii, d-v, e-iii

Correct Answer: (B) a-iv, b-iii, c-v, d-ii, e-i

Solution:
- **Gillette** — Brand of shaving products, owned by **Procter & Gamble (P&G)**. ⇒ (iv)
- **Surf Excel** — Famous detergent brand under **Hindustan Unilever**. ⇒ (iii)
- **Saffola** — Cooking oil and health products brand of **Marico**. ⇒ (v)
- **Aashirvaad Atta** — Packaged wheat flour brand of **ITC**. ⇒ (ii)
- **Good Knight** — Mosquito repellent brand under **Godrej**. ⇒ (i)

Thus: a-iv, b-iii, c-v, d-ii, e-i.

$$\boxed{\text{Option (B)}}$$

Quick Tip

Memorize: Gillette = P&G, Surf Excel = HUL, Saffola = Marico, Aashirvaad = ITC, Good Knight = Godrej.