

# XAT 2019 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.

## English

**Q1. Choose the option that would fill in the blanks meaningfully in the sentence(s) below:**

\_\_\_ the importance of 'horizontal stratification' \_\_\_ higher education is widely acknowledged, \_\_\_ attention has been applied to horizontal stratification \_\_\_ compulsory schooling.

- (A) Whereas; with; too less; to
- (B) While; within; far less; within
- (C) While; without; further less; within
- (D) While; on; far fewer; about
- (E) Whereas; about; for less; of

**Correct Answer:** (B) While; within; far less; within

**Solution:**

**Step 1: Analyze the first blank.**

The sentence starts by contrasting two related facts. The correct connector is “**While**”, which indicates contrast and fits smoothly: “While the importance of horizontal stratification ...”.

**Step 2: Analyze the second blank.**

The phrase is about “horizontal stratification . . . higher education.” The preposition “**within**” is appropriate here: “within higher education.”

**Step 3: Analyze the third blank.**

The contrast continues: compared to higher education, there is less focus on compulsory schooling. The phrase “**far less**” correctly expresses the degree: “. . . far less attention . . .”

**Step 4: Analyze the fourth blank.**

The phrase should be “. . . applied to horizontal stratification within compulsory schooling.” The preposition “**within**” is correct here.

**Step 5: Verify the full sentence.**

“**While** the importance of ‘horizontal stratification’ **within** higher education is widely acknowledged, **far less** attention has been applied to horizontal stratification **within** compulsory schooling.”

This sentence is grammatically correct and meaningful.

While; within; far less; within

**Quick Tip**

For fill-in-the-blank grammar questions, focus on connectors (“while,” “whereas”), prepositions (“within”), and comparative phrases (“far less”) that ensure both grammatical correctness and logical meaning.

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**Q2. Please study the paragraph given below:**

In 1942, the French writer Albert Camus composed an essay, ‘The Myth of Sisyphus’. It draws on the Greek fable of a man condemned to roll a rock up a mountain only to have it roll back down under its own weight, a \_\_\_\_ that lasts for eternity. Camus argues that this image \_\_\_\_ the human condition in a world where we can no longer make sense of events; but instead of committing suicide, we should \_\_\_\_ ourselves to this ‘elusive feeling of absurdity’ and bear it as best we can. In this sense, Sisyphus is the ideal hero.

Consider the following words:

1. surrender
2. choice
3. symbolises
4. quandary
5. attune
6. option
7. reconcile
8. depicts

Which of the following options is the most appropriate sequence that best fits the blanks in the above paragraph?

- (A) 4, 2, 6
- (B) 2, 3, 1
- (C) 4, 5, 1
- (D) 2, 5, 7
- (E) 4, 3, 7

**Correct Answer:** (E) 4, 3, 7

**Solution:**

**Step 1: First blank.**

The sentence is: "... a \_\_\_\_ that lasts for eternity."

The situation of endlessly rolling a rock uphill only to see it fall again reflects a **predicament or dilemma**. The best fit here is "**quandary**" (4).

**Step 2: Second blank.**

The sentence is: "Camus argues that this image \_\_\_\_ the human condition..."

The fable is not literally showing but rather **representing/standing for** human existence. Thus, the word "**symbolises**" (3) is the best fit.

**Step 3: Third blank.**

The sentence is: "... but instead of committing suicide, we should \_\_\_\_ ourselves to this 'elusive feeling of absurdity'..."

Here, the act is about **acceptance and adjustment**, and the correct word is "**reconcile**" (7).

**Step 4: Sequence.**

Hence, the correct sequence is: 4 (quandary), 3 (symbolises), 7 (reconcile).

4, 3, 7

#### Quick Tip

For paragraph completion, always check meaning + tone. Words like "symbolises" indicate abstract representation, while "reconcile" implies acceptance of a difficult truth.

**Q3. Study the first sentence and then identify from among the options given the closest antonym of the highlighted word in the second sentence:**

*It's conventional wisdom that procreation between first cousins is unhealthy. But what are the actual genetic risks?*

- (A) tangible
- (B) relative
- (C) abstract
- (D) hard
- (E) unfounded

**Correct Answer:** (E) unfounded

**Solution:**

**Step 1: Identify the highlighted word.**

The highlighted word is “conventional”. It means traditional, widely accepted, or established belief.

**Step 2: Search for the antonym.**

The opposite of “conventional” would mean something that lacks foundation, justification, or general acceptance.

**Step 3: Evaluate the options.**

- (A) Tangible — means concrete or real; not an antonym.
- (B) Relative — means in comparison to something else; not opposite of conventional.
- (C) Abstract — means theoretical; not the opposite of conventional.
- (D) Hard — means solid or difficult; irrelevant.
- (E) Unfounded — means baseless, without evidence or justification; opposite of widely accepted “conventional.”

**Step 4: Confirm.**

Thus, the best antonym for “conventional” in this context is **unfounded**.

unfounded

#### Quick Tip

When finding antonyms, always check the contextual meaning of the word. “Conventional” means “accepted/traditional,” while “unfounded” means “without basis,” making them opposites here.

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**Q4. Carefully read the following paragraph:**

Who could resist the idea of remembering everything they wanted to, without trying? Learning would be made easy, exams a ---- and you would never forget where you left your keys. And memory-related disorders like Alzheimer’s would have met their match. So, it is of little surprise that scientists have turned their attention to ways of ---- human memory using techniques that ----, supplement or even mimic parts of the brain. The immediate goal is to treat memory disorders, but the idea of a memory ---- for everyday life is gaining ground.

Fill in the blanks in the above paragraph, with the best option from among the following:

- (A) joy; augmenting; awaken; crutch
- (B) routine; expanding; invigorate; crutch
- (C) breeze; enhancing; stimulate; prosthesis
- (D) routine; expanding; trigger; support
- (E) breeze; exploring; simulate; aid

**Correct Answer:** (C) breeze; enhancing; stimulate; prosthesis

**Solution:**

**Step 1: First blank.**

The sentence is: “Learning would be made easy, exams a -----”

The correct idiomatic phrase is “exams a **breeze**,” meaning “exams would be very easy.” Thus, the word **breeze** fits best.

**Step 2: Second blank.**

The sentence is: “... ways of ---- human memory...”

The context is about improving human memory. The word **enhancing** conveys “improving/strengthening” most appropriately.

**Step 3: Third blank.**

The sentence is: “... using techniques that ----, supplement or even mimic parts of the brain.”

Here, the word should convey “activating or energizing.” The best fit is **stimulate**.

**Step 4: Fourth blank.**

The sentence is: “... the idea of a memory ---- for everyday life...”

In medical/scientific context, a supportive artificial aid is called a **prosthesis**. Thus, “memory prosthesis” makes logical sense.

**Step 5: Final sequence.**

The sequence is: **breeze; enhancing; stimulate; prosthesis**.

breeze; enhancing; stimulate; prosthesis
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**Quick Tip**

In paragraph completion, look for **collocations** (e.g., “exams a breeze”), **scientific terminology** (like “prosthesis”), and logical flow. This helps eliminate distractors quickly.

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**Q5. Read the following statements and answer the question that follows:**

1. They subjected the residues from sherds of the rhyta- vessels to radiocarbon dating to determine their ages and chromatography - mass spectrometry (GC-MS) - to identify their structure and isotopic composition and found that the vessels were used to store cheese.

2. In many Neolithic sites near the Adriatic Sea, researchers unearthed cone-shaped clay vessels, known as *rhyta*, with four legs on the bottom and a round opening on the side.
3. Fresh milk couldn't be kept for long without going bad; cheese, on the other hand, could be stored for months at a time, providing much-needed calories to early farmers between harvests.
4. Archaeologists who used to assume animals such as cows and goats were mainly used for meat early in their domestication history are thus forced to admit that humans might have been using animals for dairy quite early in their domestication history.
5. "If you kill one cow, you eat meat for about a week until it goes off; but by milking the animals, the farmer would be spreading the food gain from that animal over several months rather than just one week."

- (A) 2, 1, 5, 4, 3  
 (B) 4, 5, 2, 1, 3  
 (C) 4, 2, 1, 3, 5  
 (D) 2, 1, 3, 5, 4  
 (E) 4, 1, 2, 5, 3

**Correct Answer:** (D) 2, 1, 3, 5, 4

**Solution:**

**Step 1: Establish the setting (Discovery).**

Statement **2** introduces the archaeological context—*rhyta* vessels found at Neolithic sites. A narrative normally begins with what was found.

**Step 2: Provide the methods and key finding.**

Statement **1** logically follows: the residues on those vessels are analyzed (radiocarbon dating + GC-MS)  $\Rightarrow$  conclusion that they were used to *store cheese*. This explains the purpose of the objects introduced in (2).

**Step 3: Explain the significance of that finding.**

Statement **3** generalizes why cheese matters: milk spoils quickly but cheese stores for months  $\Rightarrow$  caloric security between harvests. This interprets the finding in (1).

**Step 4: Give an illustrative rationale.**

Statement **5** offers an example/quotation reinforcing (3): milking spreads food gains over months versus slaughtering once. This strengthens the advantage of dairying.

**Step 5: Draw the historical conclusion.**

Statement **4** is the wrap-up inference: these lines of evidence force archaeologists to accept *early dairying* in domestication history. This is the natural conclusion after (2) $\Rightarrow$ (1) $\Rightarrow$ (3) $\Rightarrow$ (5).

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

### Quick Tip

For paragraph-order questions, look for a logical arc: **Discovery/Context** (what was found)  $\Rightarrow$  **Method/Result** (what analysis shows)  $\Rightarrow$  **Reason/Implication** (why it matters)  $\Rightarrow$  **Example**  $\Rightarrow$  **Conclusion**.

#### Q6. Read the following statements and answer the question that follows:

1. An in-depth exploration of the Indian case and case studies of early adopters of mobile technology will provide spectrum managers a pragmatic and modern approach whereby they could utilize their resources efficiently and optimally.
2. Even as spectrum management regimes are moving from a command and control regime to a flexible use regime, new technological developments are suggesting that there are significant opportunities in managing large swathes of spectrum as a common property resource, in addition to flexible use.
3. Political legacies and market realities in different regimes pose unique challenges for spectrum managers who must negotiate a tricky path to the land promised by technological possibility.
4. On the other hand, supply of spectrum is restricted due to competing nature of uses and vested interests of incumbent holders.
5. The demand for spectrum has never been so acute as today's communication services extend beyond simple voice to complex data and video, augmented by evolving technologies such as peer-to-peer sharing, social networking, Fourth and Fifth Generation networks, Big Data, and cloud computing.

- (A) 1, 2, 4, 5, 3  
(B) 5, 2, 3, 1, 4  
(C) 4, 5, 2, 3, 1  
(D) 3, 4, 5, 2, 1  
(E) 2, 5, 4, 3, 1

**Correct Answer:** (E) 2, 5, 4, 3, 1

#### Solution:

##### Step 1: Identify the introductory idea.

Statement **2** sets the stage: spectrum management is moving from a rigid regime to a flexible one, with new technological opportunities. This provides the background and context.

##### Step 2: Establish the rising demand.

Statement **5** highlights the *demand side*: modern communication services (voice, data, video, social networks, 4G/5G, Big Data, cloud) are fueling an unprecedented demand for spectrum. This logically follows the introduction in (2).

##### Step 3: Point out the supply constraint.

Statement **4** contrasts (5) by showing the *supply side limitation*: spectrum is restricted due to

competing uses and vested interests. This creates the demand–supply tension.

**Step 4: Show the challenges.**

Statement **3** generalizes the difficulties: political legacies and market realities complicate spectrum management, despite the opportunities and demands.

**Step 5: Conclude with practical insight.**

Statement **1** closes the sequence by pointing to the *Indian case study*, offering spectrum managers pragmatic approaches to resolve the challenges highlighted earlier.

2→5→4→3→1

**Quick Tip**

In para-jumble questions, always look for: (i) a broad introduction, (ii) expansion with demand or opportunities, (iii) contrast through limitations, (iv) mention of challenges, and (v) a specific conclusion or example.

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**Q7. Which of the following options best explains the effect of the images in Line 1?**

Black lake, black boat, two black, cut-paper people.  
Where do the black trees go that drink here?  
Their shadows must cover Canada.

A little light is filtering from the water flowers  
Their leaves do not wish us to hurry:  
They are round and flat and full of dark advice.

Cold words shake from the oar.  
The spirit of blackness is in us, it is in the fishes.  
A snag is lifting a valedictory, pale hand;  
Stars opening among the lilies.  
Are you not blinded by such expressionless sirens?  
This is the silence of abandoned souls.

- (A) The first line encapsulates the theme of the poem.
- (B) The images are suffused with an overpowering sense of rebellion.
- (C) The atmosphere indicates a cyclical nature of life and death.
- (D) The black lake lacks regenerative potential; ‘black boat’ connotes the funerary boat; cut-paper people are unreal.
- (E) The repeated use of black suggests evil.



**Correct Answer:** (D) The black lake lacks regenerative potential; ‘black boat’ connotes the funerary boat; cut-paper people are unreal.

**Solution:**

**Step 1: Examine the imagery in Line 1.**

The poem opens with repeated references to “black” — lake, boat, and people — suggesting darkness, death, and lifelessness. The “cut-paper people” add an unreal, fragile quality, as if the figures are mere shadows or artificial imitations.

**Step 2: Interpret symbolic meanings.**

- “Black lake” → water body without vitality, lacking renewal.
- “Black boat” → resembles the mythological funerary boat (symbol of passage after death).
- “Cut-paper people” → lifeless, flimsy, and lacking depth, symbolizing hollowness of existence.

**Step 3: Match with options.**

- (A) Too broad and vague; not just encapsulation but deeper imagery.
- (B) No rebellion is indicated; imagery is mournful, not defiant.
- (C) No evidence of cyclical renewal; focus is on lifelessness.
- (D) Correct; highlights lack of regenerative power, funerary symbolism, and unreal figures.
- (E) “Black” does not simply mean evil here; it points more toward death and emptiness.

**Therefore:** Option **D** best explains the effect of the images in Line 1.

D

**Quick Tip**

In poetry analysis, repeated words like “black” often suggest mood and tone. Look beyond literal meaning—here it indicates lifelessness, death, and artificiality, not simply evil.

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**Q8. Which of the following options presents a convincing evaluation of the line, ‘Stars opening among the lilies’?**

- A. The stars are flowers in the sky and the flowers in the lake are stars in water.
- B. The ethereal light of the stars gets reflected among the lilies.
- C. The spirit of blackness does not hinder the appearance of beauty in nature which is symbolic of hope blossoming in the soul.
- D. The mirror images, the worlds above and overlap.
- E. Lilies purify the ‘dark’ into ‘light’ as symbolized in and by stars.

**Correct Answer:** (C) The spirit of blackness does not hinder the appearance of beauty in nature which is symbolic of hope blossoming in the soul.

## Solution:

### Step 1: Understand the imagery.

The poetic line “Stars opening among the lilies” juxtaposes two symbols of purity and beauty: stars (light, eternity, guidance) and lilies (purity, peace, calmness). Together, they emphasize hope and resilience even in the presence of darkness.

### Step 2: Evaluate each option.

- **Option A:** Compares stars and flowers in a literal, mirror-image sense. While creative, it misses the symbolic depth of the line.
- **Option B:** Refers to reflection of starlight among lilies. This captures an image but fails to emphasize the spiritual meaning of hope.
- **Option C:** Correctly identifies the symbolism: despite the blackness (darkness/night), beauty continues to appear, signifying hope and renewal in the soul.
- **Option D:** Talks about mirror images and overlapping worlds, but this remains vague and does not directly address the symbolic essence.
- **Option E:** Suggests lilies purify darkness into light. While close, this is an overextension that changes the intended meaning of the line.

### Step 3: Conclude.

The line uses imagery to convey that even amidst darkness, nature allows beauty to blossom, a metaphor for hope within the soul. Option C captures this meaning most convincingly.

Correct Answer: C

#### Quick Tip

In poetry-based questions, always look beyond literal interpretation. Focus on symbolic meanings like purity, hope, resilience, or renewal to capture the poet’s deeper intent.

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Read the passage given below and answer the questions that follow it:

Does having a mood disorder make you more creative? That’s the most frequent question I hear about the relationship. But because we cannot control the instance of a mood disorder (that is, we can’t turn it on and off, and measure that person’s creativity under both conditions), the question should really be: Do individuals with a mood disorder exhibit greater creativity than those without? Studies that attempt to answer this question by comparing the creativity of individuals with a mood disorder against those without, have been well, mixed.

Studies that ask participants to complete surveys of creative personality, behavior or accomplishment, or to complete divergent thinking measures (where they are asked to generate lots of ideas) often find that individuals with mood disorders do not differ from those without. However, studies using “creative occupation” as an indicator of creativity (based on the assumption that those employed in these occupations are relatively more creative than others) have found

that people with bipolar disorders are overrepresented in these occupations. These studies do not measure the creativity of participants directly, rather they use external records (such as censuses and medical registries) to tally the number of people with a history of mood disorders (compared with those without) who report being employed in a creative occupation at some time. These studies incorporate an enormous number of people and provide solid evidence that people who have sought treatment for mood disorders are engaged in creative occupations to a greater extent than those who have not. But can creative occupations serve as a proxy for creative ability?

The creative occupations considered in these studies are overwhelmingly in the arts, which frequently provide greater autonomy and less rigid structure than the average nine-to-five job. This makes these jobs more conducive to the success of individuals who struggle with performance consistency as the result of a mood disorder. The American psychiatrist Arnold Ludwig has suggested that the level of emotional expressiveness required to be successful in various occupations creates an occupational drift and demonstrated that the pattern of expressive occupations being associated with a greater incidence of psychopathology is a self-repeating pattern. For example, professions in the creative arts are associated with greater psychopathology than professions in the sciences whereas, within creative arts professions, architects exhibit a lower lifetime prevalence rate of psychopathology than visual artists and, within the visual arts, abstract artists exhibit lower rates of psychopathology than expressive artists. Therefore, it is possible that many people who suffer from mood disorders gravitate towards these types of professions, regardless of creative ability or inclination.

**Q9. Go through the following:**

1. Mood disorders do not lead to creativity
2. The flexibility of creative occupations makes them more appealing to people with mood disorder
3. Mood swings in creative professions is less prevalent than in non-creative professions

Which of the following would undermine the passage's main argument?

- A) 2 & 3
- B) 1 & 2
- C) 3 only
- D) 2 only
- E) 1, 2 & 3

**Correct Answer:** (C) 3 only

**Solution:**

**Step 1: Identify the passage's main argument.**

The passage argues that people with mood disorders are overrepresented in creative professions. The reason given is that these professions (especially in the arts) provide flexibility, autonomy, and space for emotional expressiveness, making them attractive to individuals with mood swings. Thus, the link is not that mood disorders *cause* creativity, but rather that people with mood disorders tend to *gravitate* towards creative jobs.

**Step 2: Examine each statement.**

1. *Mood disorders do not lead to creativity.*

This actually supports the passage, since the passage itself says creativity is not necessarily caused by mood disorders—it is about occupation drift. So, this does not undermine.

2. *The flexibility of creative occupations makes them more appealing to people with mood disorder.*

This *supports* the passage, because the author explicitly mentions that creative jobs are more conducive for such people. Hence, this also does not undermine.

3. *Mood swings in creative professions is less prevalent than in non-creative professions.*

This directly **undermines** the passage. The whole argument depends on the fact that mood disorders are more prevalent among people in creative occupations. If this statement were true, it would completely contradict the evidence and conclusion of the passage.

**Step 3: Final Answer.**

Only statement 3 contradicts the passage's argument.

Correct Answer: C (3 only)

**Quick Tip**

When asked which statement undermines an argument, focus on the one that directly contradicts the central claim or evidence. Supporting or restating points are not undermining.

**Q10. All of the following can be inferred from the passage except:**

- A) Individuals with mood disorder often do better in creative job profiles than in regular nine-to-five jobs.
- B) In creative professions, people with mood disorder are more creative than those without mood disorder.
- C) Mood disorder is more prevalent among people in creative occupations than in non-creative occupations.
- D) An architect is more likely to have mood disorder than a botanist.
- E) An abstract painter is less likely to have mood disorder than an interpretive dance performer.

**Correct Answer:** (B) In creative professions, people with mood disorder are more creative than those without mood disorder.

**Solution:**

**Step 1: Recall the main argument of the passage.**

The passage states that people with mood disorders are overrepresented in creative occupations, not because mood disorders *cause* creativity, but because such occupations provide autonomy, flexibility, and emotional expressiveness.

**Step 2: Check each option.**

- A) True. The passage indicates that individuals with mood disorders do better in flexible and expressive jobs (creative) than in rigid nine-to-five jobs.
- B) False. This is **not** supported by the passage. The text clearly mentions that mood disorders do not necessarily make people more creative. Therefore, this option cannot be inferred.
- C) True. The studies show mood disorders are more prevalent in creative occupations compared to non-creative ones.
- D) True. Arnold Ludwig's findings suggest that expressive professions (like creative arts/architecture) have higher psychopathology compared to non-expressive fields (like botany).
- E) True. Within the arts, expressive artists (like dancers) exhibit higher prevalence of mood disorders compared to abstract artists.

**Step 3: Final Answer.**

Option B makes a claim that mood disorders increase creativity in people, which the passage explicitly denies.

Correct Answer: B

**Quick Tip**

When solving “*All EXCEPT*” inference questions, check which option contradicts or goes beyond the passage’s evidence. All others must be consistent with the text.

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**Q11. Which of the following will make the author’s contention in the passage fallacious?**

- A) Everyone in a mental asylum is potentially a great artist.
- B) Patients in mental asylums prefer time-bound repetitive jobs.
- C) Creative geniuses never end up in mental asylum.
- D) Those with a creative spark will land up in a mental asylum.
- E) Creativity is a form of bipolar disorder.

**Correct Answer:** (B) Patients in mental asylums prefer time-bound repetitive jobs.

**Solution:**

**Step 1: Recall the main argument of the passage.**

The passage argued that mood disorders are linked with people choosing creative occupations because such jobs provide flexibility and autonomy that suit individuals with mood swings. Therefore, the author’s contention is that patients with mood disorders gravitate towards creative fields.

**Step 2: Evaluate each option.**

- A) Incorrect. Claiming everyone in an asylum is a potential artist exaggerates but does not directly undermine the reasoning.
- B) Correct. If patients in asylums actually prefer structured, time-bound, and repetitive jobs,

this directly contradicts the author’s claim that creative, flexible jobs are more suitable for them. This would make the author’s argument fallacious.

C) Incorrect. Saying creative geniuses never end up in asylums doesn’t challenge the claim about mood disorder patients gravitating towards creativity.

D) Incorrect. This option exaggerates but still supports the notion that creativity and mental illness are linked.

E) Incorrect. Equating creativity with bipolar disorder is false but not directly undermining the author’s claim.

### Step 3: Final Answer.

Thus, option (B) most directly undermines the contention.

Correct Answer: B

#### Quick Tip

When asked which statement makes an argument fallacious, look for the one that **contradicts the core assumption**. Here, the assumption was that mood disorders align better with creative, flexible jobs.

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## Reading Comprehension Passage

### Instructions

Lately it seems everyone’s got an opinion about women’s speech. Everybody has been getting his two cents in about vocal fry, upspeak, and women’s allegedly over-liberal use of apologies. The ways women live and move in the world are subject to relentless scrutiny, their modes of speech are assessed against a (usually) masculine standard. This is increasingly true as women have entered previously male-dominated fields like industry and politics.

In his essay “On Speech and Public Release,” Joshua Gunn highlights the field of public address as an important arena where social roles and norms are contested, reshaped, and upheld. Gunn argues that the field of public address is an important symbolic arena where we harbor an “[ideological] bias against the feminine voice,” a bias, that is rooted in positive primal associations with masculinity (and the corresponding devaluation of femininity, the voice that constrains and nags—the mother, the droning Charlie Brown schoolteacher, the wife).

Gunn contends that masculine speech is the cultural standard. It’s what we value and respect. The low pitch and assertive demeanor that characterize the adult male voice signify reason, control, and authority, suitable for the public domain. Women’s voices are higher pitched, like those of immature boys, and their characteristic speech patterns have a distinctive cadence that exhibits a wider range of emotional expression. In Western cultures, this is bad because it comes across as uncontrolled. We associate uncontrolled speech—the cry, the grunt, the scream, and the yawp—with things that happen in the private, domestic spheres (both coded as feminine). Men are expected to repress passionate, emotional speech, Gunn explains, precisely because it threatens norms of masculine control and order.

The notion of control also relates to the cultural ideal of eloquence. Language ideologies in the U.S. are complex and highly prescriptive, but not formal or explicit. They are internalized by osmosis, from early observations of adult language use, criticism from teachers (i.e., telling little girls not to “be so bossy” and boys to “act like gentlemen”), and sanctions imposed by peers. These norms become most obvious when they are violated. When men fall off the “control and reason” wagon, they suffer for it. Gunn recalls Howard Dean’s infamous 2004 “I Have a Scream” speech, in which Dean emitted a spontaneous high-pitched screech of joy after he rattled off a list of planned campaign stops. The rest, as they say, is history. Women face a different dilemma—how to please like a woman and impress like a man. Women in the public sphere have, historically, been expected to “perform” femininity and they usually do this by adopting a personal tone, giving anecdotal evidence, using domestic metaphors, and making emotional appeals to ideals of wifely virtue and motherhood.

Gunn arrives at the conclusion that “eloquence” is, essentially, code for values associated with masculinity, saying, “Performances of femininity are principally vocal and related, not to arguments, but to tone; not to appearance, but to speech; not to good reasons, but to sound. This implies that the ideology of sexism is much more insidious, much more deeply ingrained than many might suppose.”

**Q12. Which of the following statements if true, is contrary to the ideas developed in the passage?**

- A) Women in their communicative behavior are said to prefer a high-involvement style and men a high-considerate style.
- B) Women who use the lowest frequency of women’s vocal traits have an unusually high status and are well educated professionals with middle class backgrounds.
- C) In certain hierarchically organized Indian political parties, women can participate in discussions as long as they appeal, persuade, and support others, and not initiate new ones.
- D) The linguistic ideology in vogue in ancient North India allowed only men of higher-castes and ruling dynasties to use Sanskrit; women and servants spoke Prakrit or Pali.
- E) Studies show that male followers of powerful women political leaders in Indian states imitate their leaders’ cadence, rhetoric and rhythm.

**Correct Answer:** (E) Studies show that male followers of powerful women political leaders in Indian states imitate their leaders’ cadence, rhetoric and rhythm.

**Solution:**

**Step 1: Identify the central argument of the passage.**

The passage argues that masculine speech is considered the cultural standard, linked with control, reason, and authority, while women’s voices are undervalued as emotional, uncontrolled, and coded as feminine. The ideology of eloquence favors masculinity and devalues feminine speech.

**Step 2: Analyze each option.**

- A) Consistent — This supports the idea that communication styles differ between men and women, which aligns with the discussion.
- B) Consistent — Women using lower frequency vocal traits being seen as higher status matches

the bias toward masculine traits.

C) Consistent — This reinforces the restrictive role of women in hierarchical settings, consistent with the passage’s theme.

D) Consistent — The linguistic ideology of ancient India (men using Sanskrit, women restricted to Prakrit/Pali) aligns with the passage’s theme of systemic bias against feminine speech.

E) Contradictory — If men imitate women’s cadence, rhetoric, and rhythm, it challenges the core argument that feminine speech is undervalued and associated with weakness. Instead, it shows that men are adopting women’s traits, which is contrary to the passage.

### Step 3: Final Answer.

Thus, option (E) directly contradicts the ideas developed in the passage.

Correct Answer: E
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### Quick Tip

When asked which statement is “contrary” to the passage, search for the one that **reverses or opposes the central claim**. Here, the passage stresses that feminine speech is undervalued, so a claim that men imitate it directly undermines the main idea.

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**Q13. An American female politician might not be expected to exhibit the features of public discourse discussed in the passage while -----.**

A) addressing her colleagues

B) chatting with intimate colleagues

C) speaking to members of a congregation

D) giving testimony

E) conversing with members of her community

**Correct Answer:** (B) chatting with intimate colleagues

### Solution:

#### Step 1: Recall the central argument of the passage.

The passage explains that women’s speech is judged against masculine standards in the **public domain**. In formal, political, or professional situations, women are expected to conform to speech patterns associated with control, reason, and authority.

#### Step 2: Differentiate between public and private discourse.

- **Public discourse** includes addressing colleagues, giving testimony, or speaking in front of a congregation — all situations where speech is evaluated against masculine standards.

- **Private discourse** involves casual, intimate, or personal interactions, where these strict standards do not apply.

#### Step 3: Evaluate the options.

A) Addressing colleagues → Public, so standards apply.



- B) Chatting with intimate colleagues → Private/casual, so not bound by public discourse expectations.  
C) Speaking to members of a congregation → Public, so standards apply.  
D) Giving testimony → Public and formal, standards apply.  
E) Conversing with members of her community → Public/community setting, standards apply.

**Step 4: Final Answer.**

Therefore, the correct choice is (B), since in informal chatting with intimate colleagues, a female politician would not be expected to conform to the features of public discourse.

Correct Answer: B

**Quick Tip**

When a question distinguishes between public and private speech, remember that **the passage focuses on biases in public discourse**. Look for the option describing a **personal or intimate setting**, as that will not be bound by the same rules.

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**Q14. Which one of the following, if true, would make the core argument of the passage irrelevant?**

- A) Men seek to gain upper hand in conversation as they consider themselves competitive, while women use them as a way to gain confirmation and support.  
B) When a wife tells her husband that she's unwell, he normally offers to take her to a doctor. Invariably, she is disappointed, as what she looks for is sympathy.  
C) Unlike men who use and prefer to hear direct imperatives, women prefer indirections.  
D) Where a management decision seems unattractive, men will often resist it vocally, while women may appear to accede, but complain subsequently.  
E) Today, sharing of emotions and elaborations is more important than sharing information and being brief.

**Correct Answer:** (E) Today, sharing of emotions and elaborations is more important than sharing information and being brief.

**Solution:**

**Step 1: Identify the core argument of the passage.**

The passage emphasizes the contrast between men and women in **communication styles**. Men are seen as competitive, brief, and information-focused, while women are described as more emotional, elaborative, and relational in conversations.

**Step 2: Understand what would make this core argument irrelevant.**

If the world itself changes in such a way that elaboration, emotion-sharing, and longer forms of expression become the dominant requirement, then the distinction between male (brief, fact-driven) and female (elaborative, emotional) communication styles no longer holds importance.

### Step 3: Evaluate the options.

- A) Reinforces the difference between men and women → strengthens the argument, not irrelevant.
- B) Provides an example of male vs female expectation → supports the argument.
- C) Direct imperatives vs indirection → again supports the gender distinction.
- D) Men vocal, women indirect → still within the core argument.
- E) If emotions and elaborations are valued more than brief factual speech, then the male-female distinction about which style is valued becomes irrelevant.

### Step 4: Final Answer.

Thus, (E) directly makes the passage's central argument irrelevant, as the basis of distinction between communication styles becomes obsolete.

Correct Answer: E

#### Quick Tip

When asked what makes an argument **irrelevant**, look for the option that changes the very **context or assumptions** on which the argument is built. In this case, if the world values emotional elaboration, the male vs female communication distinction loses significance.

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## Reading Comprehension Passage

Read the passage given below and answer the questions that follow it:

There are no Commandments in art and no easy axioms for art appreciation. "Do I like this?" is the question anyone should ask themselves at the moment of confrontation with the picture. But if "yes," why "yes"? and if "no," why "no"? The obvious direct emotional response is never simple, and ninety-nine times out of a hundred, the "yes" or "no" has nothing at all to do with the picture in its own right. "I don't understand this poem" and "I don't like this picture" are statements that tell us something about the speaker. That should be obvious, but in fact, such statements are offered as criticisms of art, as evidence against, not least because the ignorant, the lazy, or the plain confused are not likely to want to admit themselves as such. We hear a lot about the arrogance of the artist but nothing about the arrogance of the audience. The audience, who have given no thought to the medium or the method, will glance up, flick through, chatter over the opening chords, then snap their fingers and walk away like some monstrous Roman tyrant. This is not arrogance; of course, they can absorb in a few moments, and, without any effort, the sum of the artist and the art.

Admire me is the sub-text of so much of our looking; the demand put on art that it should reflect the reality of the viewer. The true painting, in its stubborn independence, cannot do this, except coincidentally. Its reality is imaginative not mundane.

When the thick curtain of protection is taken away; protection of prejudice, protection of authority, protection of trivia, even the most familiar of paintings can begin to work its power.

There are very few people who could manage an hour alone with the Mona Lisa. Our poor art-lover in his aesthetic laboratory has not succeeded in freeing himself from the protection of assumption. What he has found is that the painting objects to his lack of concentration; his failure to meet intensity with intensity. He still has not discovered anything about the painting, but the painting has discovered a lot about him. He is inadequate, and the painting has told him so.

When you say “This work is boring/pointless/silly/obscure/élitist etc.,” you might be right, because you are looking at a fad, or you might be wrong because the work falls so outside of the safety of your own experience that in order to keep your own world intact, you must deny the other world of the painting. This denial of imaginative experience happens at a deeper level than our affirmation of our daily world. Every day, in countless ways, you and I convince ourselves about ourselves. True art, when it happens to us, challenges the “I” that we are and you say, “This work has nothing to do with me.”

Art is not a little bit of evolution that late-twentieth-century city dwellers can safely do without. Strictly, art does not belong to our evolutionary pattern at all. It has no biological necessity. Time taken up with it was time lost to hunting, gathering, mating, exploring, building, surviving, thriving. We say we have no time for art. If we say that art, all art, is no longer relevant to our lives, then we might at least risk the question “What has happened to our lives?” The usual question, “What has happened to art?” is too easy an escape route.

**Q15. A young man visits a critically acclaimed modern art exhibition in his city and finds that he doesn’t like any of the exhibits. If he were to share his experience with the author of the passage, which of the following is most likely to be the author’s response?**

- A) “Your feelings about art are totally insignificant because they are definitely prejudiced.”
- B) “Don’t deny the other world of art to hide your inadequacies.”
- C) “You are as arrogant as the artists who produced those modern art exhibits.”
- D) “Modern art is, indeed, distasteful because of its abstract nature, and because it shows us up.”
- E) “You didn’t like modern art, that’s fine, but maybe you will like classical art forms.”

**Correct Answer:** (B) “Don’t deny the other world of art to hide your inadequacies.”

**Solution:**

**Step 1: Recall the author’s main argument from the passage.**

The passage stresses that when people reject art by saying “I don’t like this picture” or “This work is boring,” they are often revealing more about themselves than the artwork. According to the author, such statements often mask inadequacy, prejudice, or lack of concentration.

**Step 2: Link the young man’s response to the author’s viewpoint.**

The young man does not like any of the exhibits. The author would interpret this not as a valid criticism of art itself, but as a reflection of the young man’s inability to immerse in or confront the imaginative world of art.

**Step 3: Evaluate the options.**

- A) Too dismissive — author doesn't call feelings "insignificant," but explains why they arise.
- B) Matches perfectly — the author argues that rejecting art often means denying another imaginative world because of personal inadequacy.
- C) Incorrect — the author criticizes the audience's arrogance, but not by equating them with artists.
- D) Wrong — the author does not agree that modern art is distasteful; he respects its imaginative independence.
- E) Too casual — the author would not trivialize the rejection of art as mere taste preference.

**Step 4: Final Answer.**

Thus, the author's likely response would be (B), which reflects the idea that rejection of art is often a denial rooted in personal inadequacy.

Correct Answer: B

**Quick Tip**

In RC questions about the author's likely response, always focus on the **tone and central argument** of the passage. Here, the author consistently views rejection of art as a sign of inadequacy and denial, not as a valid judgment about the art itself.

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**Q16. What according to the passage is the prerequisite to appreciate art?**

- A) Prior knowledge of the art in question
- B) Participation with an open-mind
- C) Protection of assumption
- D) Preconceived notions of how we would be affected
- E) Participation of the artist

**Correct Answer:** (B) Participation with an open-mind

**Solution:**

**Step 1: Recall what the passage emphasizes about appreciating art.**

The author points out that most people judge art based on prejudice, authority, or assumptions. These protective barriers prevent true appreciation of art. Instead, the passage argues that one must remove such assumptions and approach art with openness.

**Step 2: Eliminate incorrect options.**

- A) *Prior knowledge of the art in question* — The passage never suggests prior knowledge as a requirement. In fact, it warns against relying on external "protection" like authority or trivia.
- C) *Protection of assumption* — This is the exact opposite of what is required; assumptions hinder appreciation.
- D) *Preconceived notions of how we would be affected* — Again, preconceived ideas are barriers,

not prerequisites.

E) *Participation of the artist* — The focus is on the audience’s engagement, not the artist’s.

**Step 3: Confirm the correct option.**

B) *Participation with an open-mind* aligns perfectly with the author’s argument: true appreciation of art comes only when one approaches it without prejudice, assumptions, or protective biases.

**Final Answer:**

Correct Answer: B
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**Quick Tip**

In RC questions asking for a “prerequisite” or “essential condition,” focus on what the passage says must be removed or adopted before the main activity (here, appreciating art) can truly happen. The author’s emphasis was on openness and freedom from prejudice.

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**Q17.** When the writer observes, “This is not arrogance; of course, they can absorb in a few moments, and without any effort, the sum of the artist and the art”, he is being \_\_\_\_.

- A) ironical
- B) sarcastic
- C) objective
- D) hyperbolic
- E) naive

**Correct Answer:** (B) sarcastic

**Solution:**

**Step 1: Understand the context of the statement.**

The author is criticizing the audience who think they can instantly judge the worth of an artwork without any effort, reflection, or genuine engagement.

**Step 2: Identify the tone.**

The phrase “This is not arrogance; of course, they can absorb in a few moments, and without any effort...” is clearly not meant literally. Instead, it mocks the superficial attitude of such an audience. The “of course” is heavily sarcastic, ridiculing the idea that anyone could fully grasp art instantly.

**Step 3: Eliminate incorrect options.**

- A) *Ironical* — While irony is present, the sharper mocking tone indicates sarcasm rather than just irony.
- C) *Objective* — The author is not neutral; he is critical.
- D) *Hyperbolic* — There is exaggeration, but the main tone is ridicule, not exaggeration alone.
- E) *Naive* — The author is not innocent or naive, but rather biting in his criticism.

**Step 4: Confirm the correct option.**

B) *Sarcastic* best describes the author’s tone here, since the statement is a mocking remark meant to highlight the arrogance of the audience.

**Final Answer:**

Correct Answer: B

**Quick Tip**

In RC tone-based questions, focus on whether the author’s words are literal, mocking, exaggerated, or neutral. Sarcasm is irony sharpened with ridicule, which fits best in this case.

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**Reading Comprehension Passage**

Read the passage given below and answer the questions that follow it:

Elevation has always existed but has just moved out of the realm of philosophy and religion and been recognized as a distinct emotional state and a subject for psychological study. Psychology has long focused on what goes wrong, but in the past decade there has been an explosion of interest in “positive psychology”—what makes us feel good and why. University of Virginia moral psychologist Jonathan Haidt, who coined the term elevation, writes, “Powerful moments of elevation sometimes seem to push a mental ‘reset button,’ wiping out feelings of cynicism and replacing them with feelings of hope, love, and optimism, and a sense of moral inspiration.”

Haidt quotes first-century Greek philosopher Longinus on great oratory: “The effect of elevated language upon an audience is not persuasion but transport.” Such feeling was once a part of our public discourse. After hearing Abraham Lincoln’s second inaugural address, former slave Frederick Douglass said it was a “sacred effort.” But uplifting rhetoric came to sound anachronistic, except as practiced by the occasional master like Martin Luther King Jr.

It was while looking through the letters of Thomas Jefferson that Haidt first found a description of elevation. Jefferson wrote of the physical sensation that comes from witnessing goodness in others: It is to “dilate [the] breast and elevate [the] sentiments . . . and privately covenant to copy the fair example.” Haidt took this description as a mandate.

Elevation can so often give us chills or a tingling feeling in the chest. This noticeable, physiological response is important. In fact, this physical reaction is what can tell us most surely that we have been moved. This reaction, and the prosocial inclinations it seems to inspire, has been linked with a specific hormone, oxytocin, emitted from Vagus nerve which works with oxytocin, the hormone of connection. The nerve’s activities can only be studied indirectly.

Elevation is part of a family of self-transcending emotions. Some others are awe, that sense of the vastness of the universe and smallness of self that is often invoked by nature; another is admiration, that goose-bump-making thrill that comes from seeing exceptional skill in action. While there is very little lab work on the elevating emotions, there is quite a bit on its counterpart, disgust. It started as a survival strategy: Early humans needed to figure out when

food was spoiled by contact with bacteria or parasites. From there disgust expanded to the social realm—people became repelled by the idea of contact with the defiled or by behaviors that seemed to belong to lower people.

“Disgust is probably the most powerful emotion that separates your group from other groups.” Haidt says disgust is the bottom floor of a vertical continuum of emotion; hit the up button, and you arrive at elevation. Another response to something extraordinary in another person can be envy, with all its downsides. Envy is unlikely, however, when the extraordinary aspect of another person is a moral virtue (such as acting in a just way, bravery and self-sacrifice, and caring for others).

**Q18. Which of the options below is false according to the passage?**

- A) Elevated language is highly persuasive.
- B) Elevation results in a sense of moral inspiration of and purges us of negative emotions.
- C) Reactions to extraordinary external stimuli inevitably purge us of evil.
- D) Admiration is a more appropriate antonym of disgust than elevation.
- E) Elevation is admiration of virtue; admiration for skill is known as admiration: awe inheres in admiration and is generally caused by the majesty of nature.

**Correct Answer:** (C) Reactions to extraordinary external stimuli inevitably purge us of evil

**Solution:**

**Step 1: Recall what the passage says about elevation.**

The passage explains that elevation results in hope, optimism, and moral inspiration. It purges us of negative emotions (like cynicism), but it never claims that elevation purges us of “evil.”

**Step 2: Analyze each option.**

A) *Elevated language is highly persuasive.* — The passage quotes Longinus: “The effect of elevated language is not persuasion but transport.” This means elevated language deeply moves people. This statement aligns with the passage.

B) *Elevation results in moral inspiration and purges negative emotions.* — This matches Haidt’s view: elevation wipes out cynicism and brings hope and love. Correct as per passage.

C) *Reactions to extraordinary external stimuli inevitably purge us of evil.* — The passage does not state this. It says elevation purges negative emotions, not evil. The word “inevitably” also makes it extreme and inaccurate.

D) *Admiration is a more appropriate antonym of disgust than elevation.* — The passage contrasts disgust (bottom floor) with elevation (top floor). While admiration and awe are related, the passage suggests elevation is the true opposite of disgust. Hence, this is still consistent.

E) *Elevation is admiration of virtue; admiration for skill is known as admiration; awe comes from majesty of nature.* — The passage explicitly supports this classification of self-transcending emotions.

**Step 3: Confirm the false option.**

Option C introduces the idea of purging “evil,” which the passage never supports. Therefore, it is the false statement.

**Final Answer:**

Correct Answer: C

**Quick Tip**

When asked which option is false in RC, focus on exaggerated words like “always,” “inevitably,” or “evil,” since passages usually describe more balanced effects.

**Q19. Which of the options will complete the statement given below meaningfully and appropriately, according to the passage?**

*Disgust is not a self-transcending emotion because it -----.*

- A) is the antonym of elevation
- B) springs from love
- C) is linked to invocation of nature
- D) it creates ‘us versus them’ divide based on group identities
- E) is about experiencing a moment when the ‘self’ reigns supreme

**Correct Answer:** (D) it creates ‘us versus them’ divide based on group identities

**Solution:**

**Step 1: Recall how the passage described disgust.**

The passage explains that disgust originated as a survival strategy (detecting spoiled food). Later, it expanded to the social realm — where people were repelled by the defiled or behaviors of “lower” groups. This created separation between “our group” and “other groups.”

**Step 2: Define self-transcending emotions.**

Self-transcending emotions (like elevation, awe, admiration) move us beyond selfish concerns and connect us positively with others. In contrast, disgust separates groups and emphasizes boundaries.

**Step 3: Evaluate the options.**

A) *is the antonym of elevation* — While elevation is opposite to disgust on the emotional spectrum, this does not explain why disgust is not self-transcending.

B) *springs from love* — Incorrect; disgust does not arise from love, but from avoidance of the impure.

C) *is linked to invocation of nature* — Wrong; this is associated with awe, not disgust.



D) *creates 'us versus them' divide based on group identities* — Exactly correct. The passage directly mentions disgust as “the most powerful emotion that separates your group from other groups.”

E) *is about experiencing the self* — This might sound tempting, but the passage does not present disgust as self-centered; rather, it highlights group separation.

**Step 4: Confirm answer.**

Option D perfectly captures why disgust is not a self-transcending emotion: it divides rather than unites.

**Final Answer:**

Correct Answer: D

**Quick Tip**

Self-transcending emotions connect us with others (elevation, awe, admiration), while non-transcending emotions (like disgust) emphasize division or separation.

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**Q20. Which of the options below correctly identifies the function of elevation?**

- A) It helps us in creating national identities.
- B) It helps leaders to attract followers.
- C) It helps us become religious.
- D) It helps to enforce moral and ethical values in a society.
- E) It helps transcendence to a higher plane.

**Correct Answer:** (E) It helps transcendence to a higher plane

**Solution:**

**Step 1: Recall what the passage says about elevation.**

The passage defines elevation as a self-transcending emotion — it uplifts us, wipes out feelings of cynicism, and replaces them with optimism, hope, and moral inspiration. It gives us a sense of moving beyond ourselves toward something higher and noble.

**Step 2: Connect elevation with transcendence.**

The passage directly mentions that elevation is part of self-transcending emotions, along with awe and admiration. These emotions help us rise above selfish concerns and connect with higher values.

**Step 3: Eliminate incorrect options.**

- A) *National identities* — not mentioned in the passage.
- B) *Leaders attracting followers* — this is persuasion, but the passage states elevation is about “transport,” not persuasion.
- C) *Becoming religious* — incorrect, elevation is broader and not limited to religion.

D) *Enforcing moral values* — partly true, but the main emphasis is not enforcement but inspiration.

E) *Transcendence to a higher plane* — correct. This matches the passage perfectly, as elevation moves us beyond self and connects us with greater moral and emotional heights.

**Step 4: Confirm answer.**

Thus, the function of elevation is to help transcendence to a higher plane.

**Final Answer:**

Correct Answer: E
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**Quick Tip**

Elevation is a self-transcending emotion — it uplifts us beyond the self, connecting us with higher moral and emotional values rather than narrow identities or persuasion.

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**Q21. Which of the statements below is least fallacious?**

- A. Cheating in examinations is wrong because God will punish you.
- B. Mitigating risks often comes with costs.
- C. The snake in the temple likes milk because devotees offer it milk.
- D. Educated people do not oppose sale of hard drinks by governments. So drinking cannot be illegal.
- E. Marlon Brando was such a great actor because everyone liked him.

**Correct Answer:** (B) Mitigating risks often comes with costs.

**Solution:**

**Step 1: Understanding fallacious reasoning.**

A fallacy is an error in reasoning where the conclusion does not logically follow from the premises, often relying on emotional, circular, or irrelevant grounds. The task is to identify which statement is least fallacious (i.e., most logically sound).

**Step 2: Evaluate each option.**

- **Option A:** This relies on an appeal to divine authority (“God will punish you”), which is a fallacy. It assumes morality based on fear rather than reasoning.
- **Option B:** This is a factual, logical statement. Risk reduction often requires investment of resources (time, money, effort). It is not fallacious, but instead reasonable.
- **Option C:** This is a cause-effect fallacy. The snake doesn’t necessarily “like” milk because devotees offer it; it’s anthropomorphic reasoning.
- **Option D:** This is a fallacy of appeal to authority/majority. Just because educated people or governments don’t oppose drinking does not mean it is legal.
- **Option E:** This is a circular reasoning fallacy. It argues Marlon Brando was great simply

because people liked him, which doesn't provide a real justification.

**Step 3: Conclusion.**

Among the options, only **Option B** presents a sound logical statement without fallacy. All others suffer from common logical fallacies such as circular reasoning, appeal to authority, or false cause.

Correct Answer: B

**Quick Tip**

When identifying fallacies, check if the argument's conclusion follows logically from its premise. The least fallacious statement is the one that is self-consistent, evidence-based, and free from assumptions.

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**Q22. Which option does not reflect the relationship implicit in 'Emendation : Editor' ?**

- A) Injunction : Judge
- B) Examination : Doctor
- C) Discipline : Coach
- D) Illumination : Usher
- E) Renunciation : Saint

**Correct Answer:** (D) Illumination : Usher

**Solution:**

**Step 1: Understand the base relationship.**

"Emendation : Editor" means that an editor is the person who performs emendation (i.e., correction or revision of text). Hence, the relationship is **\*\*Action : Doer\*\*** (the action is performed by the person).

**Step 2: Check each option.**

- A) Injunction : Judge — a judge gives an injunction.
- B) Examination : Doctor — a doctor conducts an examination.
- C) Discipline : Coach — a coach enforces discipline.
- D) Illumination : Usher — an usher does not provide illumination. Illumination is caused by light or enlightenment, not by an usher.
- E) Renunciation : Saint — a saint performs renunciation.

**Step 3: Identify the odd one out.**

All other pairs follow the pattern *Action : Doer*, except option D, which does not reflect the same relationship.

**Final Answer:**

Correct Answer: D

**Quick Tip**

In analogy questions, always identify the core relationship in the stem pair (here, Action : Performer) and then eliminate the option that breaks the same pattern.

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

Empirical observation told us years ago that goats were slowly becoming the new dog, and according to a new study, they are truly qualified to be man's best friend. The Royal Society released heart-warming research showing that just like humans, goats have no desire to interact with people who come off as angry or upset, and that they're much more attracted to those with big smiles plastered across their faces. When 12 males and 8 females were released into a pen decorated with images of happy and angry humans, the scientists learned that goats can "distinguish between happy and angry images of the same person," and in general, they prefer their humans to be happy.

**Question:** Which of the following statements is definitely true according to the passage?

- A. When they look at a smiling person, the goats are happy.
- B. When they look at a frowning person, goats are afraid of him.
- C. When they look at a straight-faced person, goats remain passive.
- D. When they look at a frowning person, the goats are sad.
- E. When they look at a smiling person, goats run towards him.

**Correct Answer:** (A) When they look at a smiling person, the goats are happy.

**Solution:**

**Step 1: Extract key information from the passage.**

The passage highlights that goats, like humans, dislike interacting with people who appear angry or upset. Instead, they are much more attracted to those with big smiles on their faces. This shows a clear preference for positive, happy expressions.

**Step 2: Eliminate incorrect options.**

- **Option B:** The passage does not claim that goats are "afraid" of frowning people, only that they have no desire to interact with them. Fear is not established.
- **Option C:** The passage makes no mention of goats' behavior toward straight-faced (neutral) expressions. Hence, this is unsupported.
- **Option D:** The passage does not say goats feel "sad" when seeing frowns—it only says they are less attracted.
- **Option E:** While goats are more "attracted" to smiling people, the passage never explicitly says they "run towards them." This adds an unsupported detail.

**Step 3: Verify the correct choice.**

- **Option A:** This is supported. Since goats are “much more attracted to those with big smiles,” it implies that goats respond positively (happily) when looking at smiling people. This aligns exactly with the evidence from the passage.

Correct Answer: A

**Quick Tip**

In reading comprehension questions, focus only on what is explicitly stated or strongly implied in the passage. Avoid choosing options that introduce assumptions or extra details not supported by the text.

**Q24.** Read the paragraph and answer: **Which of the options is a wrong answer to the question “How does a double-blind ensure a better trial of a new drug?”**

- (A) It increases the overall response to the drug.
- (B) The patient does not know whether he/she is getting a placebo.
- (C) It reflects the calculus exemplified by the deli-counter episode.
- (D) The clinician cannot pick and choose patients to whom placebos can be administered.
- (E) It gives rise to an unbiased testing of drugs.

**Correct Answer:** (A) It increases the overall response to the drug.

**Solution:**

**Step 1: What double-blind means.**

Neither the *patient* nor the *clinician* knows who receives the active drug vs. the placebo. This controls expectancy and selection biases.

**Step 2: Check each option against that purpose.**

- (B) Matches blinding on the *patient* side.
- (C) Matches the *subtraction calculus*: overall response minus placebo response isolates drug effect.
- (D) Matches blinding on the *clinician* side—prevents biased assignment.
- (E) Captures the goal: *unbiased* testing.
- (A) Claims double-blind *increases the overall response*. Blinding is methodological; it doesn’t boost pharmacological response—only improves *measurement quality*. Hence this is the **wrong** answer.

A is wrong; B, C, D, E describe the benefits of double-blind.

### Quick Tip

Blinding *reduces bias*; it doesn't change the drug's true effect. Watch for options that confuse **measurement quality** with **efficacy**.

#### Q25. Read the following paragraph and answer the question that follows:

Alligators are freshwater reptiles. However, people have come face to face with them in mud in a salt marsh in Georgia. Finding alligators in the salt marsh is not a mystery or a miracle. At least 23 species of predator have been spotted living in surprising habitats. Predators such as alligators, otters, mountain lions, wolves and raptors are thriving in places they shouldn't, revealing some serious misunderstandings about their behaviour and how to protect them. Scientific literature divulges that these creatures are actually returning to places they once occupied. It gives us astonishing insights into the lives of animals and helps conservationists improve the old stomping grounds of these creatures.

**Question:** Which of the following statements provides the most plausible explanation of the predators' behaviour?

- A. Predators prefer to occupy different habitats, depending on the season and prevailing weather.
- B. Predators migrate to a habitat different from where they were born.
- C. Predators are fully aware of where they were born.
- D. Predators have a genetic memory of their traditional stomping grounds.
- E. Predators have no awareness of where they were born.

**Correct Answer:** (D) Predators have a genetic memory of their traditional stomping grounds.

#### Solution:

##### Step 1: Identify the main clue from the passage.

The passage explicitly mentions that predators such as alligators and others are "actually returning to places they once occupied." This means their unusual presence in unexpected habitats is not random but linked to past associations with those places.

##### Step 2: Evaluate the options.

- **Option A:** Mentions seasonal and weather-based habitat preference. The passage never discusses seasonal movement, so this is irrelevant.
- **Option B:** Suggests predators migrate to a different habitat from birth. The text emphasizes returning to old habitats, not moving to entirely new ones, so this is incorrect.
- **Option C:** Claims predators are consciously aware of their birthplace. The passage does not indicate conscious awareness but implies an instinctual return.
- **Option D:** Suggests predators have a "genetic memory" of their old stomping grounds. This matches the idea of instinctively returning to previously occupied habitats without conscious awareness.
- **Option E:** Contradicts the evidence since predators clearly do return to meaningful past

habitats.

**Step 3: Select the best explanation.**

The most plausible explanation is that predators have a **genetic memory** guiding them back to old habitats. This aligns perfectly with the scientific observation described in the passage.

Correct Answer: D

**Quick Tip**

In comprehension questions, focus on words like “returning” or “once occupied.” These hint at instinctive or genetic behavior rather than conscious choice or seasonal migration.

**Q26. Study the text given below and answer the question that follows it:**

Dense, dirty air laced with grease best describes the atmosphere of most Lagos streets. Drive from one corner of this great west African city to another and in no time you will find surfaces lightly dusted, like a soft sprinkling of icing on cakes. Under the half-moons of fingernails, thick grime settles. It’s a scene taken as typically African: polluted, bedraggled, unhealthy. This has only ever been made possible by the exploitation of Africa’s people. This week five West African countries, Nigeria included, announced plans to end the practice of European oil companies and traders exporting “African quality” diesel. “Dirty fuel” has earned the name because it is imported diesel with sulphur levels as high as 3,000 parts per million when the European maximum is 10 ppm. To be clear, “African quality” fuel, is fuel not fit for European humans.

**Question:** Which of the options is not necessarily the underlying assumption of the author in the paragraph above?

- A. European oil companies dump their fuel on African countries.
- B. Economic exploitation, until challenged, runs smoothly.
- C. Racism makes it easy for Europeans to justify the exploitation of inferior races.
- D. Typically, African cities today are not fit for human habitation.
- E. African nations had accepted ‘dirty fuel’ as the norm.

**Correct Answer:** (C) Racism makes it easy for Europeans to justify the exploitation of inferior races.

**Solution:**

**Step 1: Identify the key focus of the passage.**

- The passage emphasizes:
- African cities are polluted due to dirty fuel.
  - European oil companies exploit Africa by dumping “African quality” diesel.
  - The sulphur levels are much higher than those allowed in Europe.
  - African nations had tolerated this until recently but are now planning to stop it.

**Step 2: Analyze the assumptions in the options.**

- **Option A:** Directly supported. The author explicitly mentions European oil companies exporting dirty diesel to Africa.
- **Option B:** Fits the context. Exploitation by companies continues until nations resist, as seen with African nations recently deciding to challenge the practice.
- **Option C:** Talks about racism and justification of exploitation based on race. The passage makes no mention of race or racial inferiority; it only discusses economic exploitation and health issues. This is therefore not a necessary assumption.
- **Option D:** Fits because the author describes African cities as polluted, unhealthy, and unfit environments.
- **Option E:** Fits because the paragraph implies that African nations had long accepted this dirty fuel before planning to stop it.

**Step 3: Conclusion.**

The only option that is not necessarily assumed by the author is **Option C**, as racism is never mentioned in the argument. The exploitation described is economic, not racial.

Correct Answer: C

**Quick Tip**

When asked about "not necessarily an assumption," identify the option that introduces a new dimension (like racism here) that is not supported by the passage. Always focus on what the author explicitly or implicitly assumes.

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## Decision Making

Read the following caselet and answer the questions that follow:

You are a Human Resource (HR) Manager in the HR Department of Vikash Educational Charitable Trust. You organize and support recruitment and training, provide secretarial support for disciplinary investigations and keep personnel records of staff. You report to Ms. Deelipa, one of the two Senior HR Managers who reports to the HR Director.

**Q27.** For the post of Consultant Professor in the Trust, two internal candidates, Mr. Rana and Mr. Charan were interviewed. Mr. Charan was selected as he was considered to be academically gifted with impressive leadership skills, even though he had less experience than the other. Three days later, Mr. Rana came to your office complaining that the selection was unfair as he had more experience than Mr. Charan.

Which of the following is the best way to handle the issue raised by Rana?



- (A) Tell Mr. Rana, that you empathize with him, but the process was fair, and details of the assessment could be shared with him.
- (B) Tell Mr. Rana that if he is interested, he could write to the HR Director and you would act as per the directives received.
- (C) Offer tea to Mr. Rana and say that you can understand why he is upset. Let him have a bit of a moan and help him get it out of his system.
- (D) Tell Mr. Rana that the Institute finds the right person for the job, not the one who has been around the longest.
- (E) Warn Mr. Rana that his complaint will be construed as misdemeanour and held against him in the next promotion cycle.

**Correct Answer:** (A) Tell Mr. Rana, that you empathize with him, but the process was fair, and details of the assessment could be shared with him.

### Solution:

#### Step 1: Identify the issue.

Mr. Rana feels the process was unfair because he had more *experience* than Mr. Charan, yet was not selected. The HR manager must handle this grievance in a professional, empathetic, and transparent manner.

#### Step 2: Evaluate options.

- (B) is too procedural and deflects responsibility without addressing Rana's emotions.
- (C) is dismissive and trivializes the grievance by offering superficial consolation.
- (D) may be factually correct, but it is blunt, dismissive, and likely to aggravate Rana further.
- (E) is outright unethical and threatening; it worsens the situation.
- (A) balances empathy ("I understand how you feel") with fairness ("the process was impartial and assessment details are available"). This shows respect, transparency, and professionalism.

#### Step 3: Best approach.

As an HR professional, you must acknowledge Rana's disappointment, assure him that the process was unbiased, and provide clarity on evaluation parameters. This addresses both the emotional and rational concerns.

Option (A) is the best way to handle Mr. Rana's grievance.

### Quick Tip

When dealing with workplace grievances, combine **empathy** with **transparency**. Avoid defensiveness, threats, or dismissiveness. This preserves trust in the HR process.

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**Q28.** Ms. Deelipa has asked you to conduct a Non Teaching Staff Induction Training. You are to call for a tender from various agencies with specifications that include the contents, duration, experience, budget and other relevant information.

You then need to shortlist five agencies from the list of 20 and make a presentation within two days.

Review the following responses: 1. Rate all 20 agencies on a scale of 1 to 5 on information available and select the top 5. 2. Select the five lowest bids based on the price quoted. 3. Seek selection criteria from Deelipa and the HR Director and shortlist the bidders accordingly. 4. Follow the advise of a person who has completed a similar task.

Select the best of the following responses in the descending order of effectiveness.

- (A) 4, 1, 3
- (B) 1, 3, 4
- (C) 3, 2, 4
- (D) 1, 2, 3
- (E) 3, 1, 2

**Correct Answer:** (E) 3, 1, 2

**Solution:**

**Step 1: Identify the task.**

The goal is to shortlist 5 agencies (from 20) for induction training based on multiple specifications like content, duration, experience, and budget. The approach must be systematic, relevant, and defensible within the short deadline.

**Step 2: Analyze each response.**

- (3) Seeking selection criteria from Deelipa and the HR Director ensures that the shortlisting aligns with institutional priorities. This is the most structured and effective approach.
- (1) Rating all 20 agencies on a 1–5 scale based on available information is a fair and data-driven method. This adds transparency and systematic evaluation, though it is less strategic than consulting the top decision makers.
- (2) Selecting the five lowest bids based only on price is weak because training quality depends on content, expertise, and experience — not just cost. However, price is still a factor, making this somewhat effective but lowest in rank among the three.
- (4) Following the advice of someone who has completed a similar task is useful, but subjective and context-dependent. It is weaker than (1) and (3), and not as defensible in a formal presentation.

**Step 3: Arrange in descending order.**

Most effective: (3) → Next best: (1) → Least effective among them: (2).

Hence the correct order = (3, 1, 2).

Option (E) is the correct answer.

### Quick Tip

When shortlisting vendors, always start with **clear selection criteria**, followed by **systematic evaluation**. Cost is important but should never be the sole basis of selection in quality-driven projects.

**Q29.** The Vikash Trust has recently been plagued by a high turnover of teaching assistants with many leaving for higher salaries and better facilities. You have been asked to design and run a campaign to attract and appoint 10 teaching assistants. One of your measures of success will be the retention of the new recruits. You have 4 weeks for the interview.

Review the following: 1. Shortlist apt candidates who reflect values of the Trust from among respondees to your wide advertisement campaign. 2. Design an ad that attracts candidates with values that match the Trust's, release it at an appropriate time, and re-validate the candidates' credentials at the time of shortlisting. 3. Repeat the process that was followed by the Trust last time. 4. Seek expert advice on drafting an attractive advertisement.

Select the best of the following responses in the descending order of effectiveness:

- (A) 4, 1, 2
- (B) 2, 1, 3
- (C) 4, 3, 1
- (D) 1, 2, 3
- (E) 2, 3, 4

**Correct Answer:** (B) 2, 1, 3

**Solution:**

**Step 1: Identify the core problem.**

The Trust is facing high turnover. Hence, the most effective approach must focus not just on hiring quickly, but on attracting and retaining the right candidates who align with the Trust's values.

**Step 2: Evaluate each option.**

- **(2)** Designing an advertisement that explicitly targets candidates with values aligned to the Trust ensures better cultural fit. By re-validating credentials, it minimizes the risk of mis-hires. This is the most effective step.
- **(1)** Shortlisting candidates who reflect the Trust's values after the ad campaign provides an effective filter to ensure alignment. This directly tackles the turnover issue.
- **(3)** Repeating the old process is less effective because the Trust already suffered from high attrition. However, it is still more reliable than option (4).

- (4) Seeking expert advice might improve the attractiveness of the ad, but attractiveness alone does not ensure long-term retention. Thus, it is less relevant compared to options (1), (2), and (3).

**Step 3: Rank them.**

Most effective: (2) → Next: (1) → Then: (3).

Therefore, the correct descending order = (2, 1, 3).

Option (B) is the correct answer.

#### Quick Tip

In recruitment, the key to reducing attrition is not just attracting candidates, but ensuring **value alignment and cultural fit**. Always prioritize processes that screen for these factors.

**Q30.** The new induction training program has been a roaring success. All new induction courses for the next 12 months have been tightly scheduled. This morning, you receive a call from Mr. Surya, the Head of the Trust requesting you to train eight newly recruited teaching assistants before they start their job next month. You explain that all the slots are fully booked for the next 3 months, but he insists that the new teaching assistants be trained immediately, to hopefully reduce turnover among them. You speak to Deelipa, who wants you to deal with the issue on your own.

Review the following responses that you wish to communicate to Mr. Surya: 1. Inform him that once the schedules are drawn up, it is not possible to effect any change as the reputation of the Trust would be at stake. 2. Suggest that a new agency may be permitted to run induction sessions for these teaching assistants, as a special case. 3. Tell him that if some inductees drop out in the first month, at least some teaching assistants can be accommodated. 4. Tell him that since no space is available in the induction training sessions for three months, you, as the HR manager would conduct induction sessions for them after office hours.

Select the best of the following responses in the descending order of effectiveness:

- (A) 2, 1, 3, 4
- (B) 3, 2, 1, 4
- (C) 3, 2, 4, 1
- (D) 2, 4, 3, 1
- (E) 2, 3, 1, 4

**Correct Answer:** (D) 2, 4, 3, 1

## Solution:

### Step 1: Identify the problem.

The Trust urgently needs induction training for 8 new assistants. Existing slots are fully booked for 3 months. The HR manager must find a workable solution that does not compromise the Trust's reputation and ensures immediate training.

### Step 2: Evaluate each option.

- (2) Allowing a new agency to run induction sessions is a practical and scalable solution. It addresses the immediate need without disrupting the existing schedule. This is the most effective.
- (4) Offering to conduct induction sessions personally after office hours shows responsibility and ensures immediate training. This is highly effective, though less scalable than option (2).
- (3) Waiting for dropout slots is uncertain and reactive. It may not meet the immediate requirement, but it can still be a backup.
- (1) Refusing change outright is rigid and unhelpful. It risks worsening turnover and does not solve the problem. Least effective.

### Step 3: Ranking.

Most effective: (2) → Next: (4) → Then: (3) → Least: (1).

Hence, the correct descending order is (2, 4, 3, 1).

Option (D) is the correct answer.

### Quick Tip

In decision-making, the best solution is one that balances **practical feasibility** with **organizational reputation**. Rejecting problems outright (like option 1) often signals poor leadership, while creative alternatives (options 2 and 4) enhance credibility.

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The Public Relations Department of an organization has spent only 4 crores of its allocated 16 crores on publicity. There are 2 months left in the financial year. Due to shortage of officers, the Assistant Director, Operations has been given an additional charge of publicity. Because of his other commitments, he is unable to find time to undertake tasks such as baseline study, ascertaining communication needs, testing proposed messages and media channels, deciding optimum periodicity, measuring impact, etc. He also argues spending the rest of the budget is unnecessary because their regular programs are already widely known. His boss, the Director, however, feels that only by utilizing the entire budget can a similar amount be demanded the next year. He also thinks that there is nothing like enough publicity.

**Q31. Which of these is the best course of action for the department?**

- (A) Repeat the advertising done so far 3 times over and thus exhaust the entire amount.
- (B) Rely on the operational experience of the Director and the Assistant Director and start spending the optimal amount right away.
- (C) Surrender the budget right away so it can be utilized by other departments.

- (D) Hire a specialized external agency which will study the gaps and needs within a fortnight and follow its recommendations.
- (E) Request higher authorities to reallocate the remaining amount to other departments of the organization.

**Correct Answer:** (D) Hire a specialized external agency which will study the gaps and needs within a fortnight and follow its recommendations.

**Solution:**

**Step 1: Understand the situation.**

- Budget allocated = 16 crores.
- Spent so far = 4 crores.
- Time left = 2 months.
- Assistant Director (with additional charge) is unable to dedicate time due to other commitments.
- Director insists on full utilization to ensure next year's allocation.

**Step 2: Evaluate each option.**

- **(A) Repeat previous advertising:** This may use up the budget but lacks strategic direction. Repetition without proper study risks wasteful spending and poor impact.
- **(B) Rely on Director/Assistant Director's experience:** They are already overburdened. Rushing without baseline study or professional planning risks ineffective expenditure.
- **(C) Surrender the budget:** This avoids waste but contradicts the Director's concern of losing next year's allocation. Not optimal.
- **(D) Hire an external specialized agency:** Practical and professional. They can conduct baseline study, identify communication gaps, design optimal campaigns, and ensure effective use of funds within the limited time. Best option.
- **(E) Request reallocation:** Similar to surrendering funds, this undermines future budget credibility and ignores the Director's concern.

**Step 3: Final choice.**

Option (D) balances professionalism, time efficiency, and budget utilization. It prevents wasteful spending, addresses expertise shortage, and safeguards future funding.

Option (D) is the best course of action.

**Quick Tip**

When faced with limited time and resources, outsourcing to experts ensures both efficiency and quality. It is better than repeating old methods or surrendering funds, as it balances immediate goals with long-term credibility.

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**Q32.** Which of these new developments, if true, would most justify a larger utilization of the advertising budget?

- (A) Advertising agencies have announced a 25% reduction in rates.
- (B) An internal committee of the organization has made strong recommendations to improve service delivery.
- (C) The organization has approved a new major scheme for immediate implementation.
- (D) The findings of a baseline study on assessing communication needs are now available.
- (E) A new Assistant Director has been posted to exclusively look after publicity.

**Correct Answer:** (C) The organization has approved a new major scheme for immediate implementation.

**Solution:**

**Step 1: Identify what the question demands.**

We are asked to find which new development would most strongly justify a *larger utilization* of the advertising budget. Hence, the correct option should directly create a new, urgent need for publicity.

**Step 2: Evaluate each option.**

- **(A) Reduction in rates:** This only means the same campaigns can be done more cheaply. It leads to saving, not necessarily larger utilization.
- **(B) Internal committee recommendations:** These are about improving service delivery, not about publicity campaigns. So, not directly related.
- **(C) New major scheme approved:** This creates an immediate need to inform the public, spread awareness, and drive adoption. This directly justifies using a larger portion of the advertising budget.
- **(D) Findings of a baseline study:** This helps in planning and targeting but does not in itself justify spending more money. It only guides better spending.
- **(E) New Assistant Director for publicity:** This improves managerial attention, but again does not create a reason for larger spending.

**Step 3: Final choice.**

The approval of a new major scheme (Option C) is the strongest justification for larger advertising, because communicating a new initiative requires maximum outreach.

Option (C) is correct.
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**Quick Tip**

Always focus on the option that creates *new demand for publicity*. Administrative or managerial changes only improve execution but do not necessarily justify higher spending.

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Read the following caselet and answer questions that follow:

Sanchit group of Hospitals seeks to improve the success rate and patient satisfaction rate by 100% in the next year. However, the management can't afford to send doctors for professional

development outside the country nor afford purchasing more equipment. As an in-house measure, the managing board thought of having doctors with high patient satisfaction to mentor those with less. Most of the doctors found it an interference by the management, judgmental and an expression of distrust. There were, however, some isolated few who found it a novel way of learning from each other. The doctors felt the management should instead increase consultancy fees and spend more on recruiting more paramedics who could spend time with patients, rather than blame doctors and decided to call it quits. For the management, this would mean loss of patients.

**Q33. Consider the following actions:**

- 1. Conduct a survey of all stakeholders and ascertain their needs and suggestions.**
- 2. Build consensus among doctors and paramedics on a possible way forward.**
- 3. Prepare an action plan that details the road map along with financial implications.**
- 4. Design differential service packages based on the affordability of the patients.**
- 5. Run a brainstorming session among the leading doctors of the area.**

Which of the following sequence of actions is most appropriate for the hospital administration in achieving their goal?

- (A) 5, 4, 2
- (B) 1, 5, 3
- (C) 4, 2, 1
- (D) 4, 5, 2
- (E) 1, 2, 3

**Correct Answer:** (E) 1, 2, 3

**Solution:**

**Step 1: Identify the goal of the hospital.**

The caselet states that the hospital wants to improve patient satisfaction and success rate without expensive overseas training or new equipment. Hence, the sequence must be systematic, inclusive, and practical.

**Step 2: Logical order of actions.**

- **Action 1: Survey stakeholders.** Before deciding anything, the hospital must understand the exact needs and expectations of patients, doctors, and paramedics. This creates a base of authentic information.
- **Action 2: Build consensus.** After identifying needs, doctors and paramedics must be aligned. Without their buy-in, the administration's plan will fail, as seen in the caselet (doctors resisted management interference). Consensus is crucial.
- **Action 3: Prepare action plan.** Once consensus is reached, the hospital can draft a practical, financially viable action plan with clear steps.

**Step 3: Eliminate wrong orders.**

- Options starting with **4 or 5** (design packages / brainstorming) jump ahead without data collection or consensus. These are premature.



- Option **B (1, 5, 3)** puts brainstorming before consensus, which may not resolve resistance.
- Option **E (1, 2, 3)** follows the natural progression: information gathering  $\Rightarrow$  consensus  $\Rightarrow$  structured plan.

**Step 4: Final Answer.**

Thus, the correct sequence is **1  $\rightarrow$  2  $\rightarrow$  3**.

Option (E) is correct.

### Quick Tip

In decision-making sequence questions, always look for: 1. Data gathering first, 2. Consensus/negotiation second, 3. Planning/implementation last. This ensures logical and practical flow.

**Q34. Which of the following decisions is most likely to satisfy all the stakeholders?**

- A) Increase the income of doctors and paramedics, and the ambiance of the hospital.
- B) Give 30% discount on medicines purchased from the hospital store.
- C) Increase the income of doctors and the number of paramedics.
- D) Raise income of doctors and reduce the waiting time of patients.
- E) Allow doctors to choose patients based on income levels, thus profiting both patients and the organization.

**Correct Answer:** (A) Increase the income of doctors and paramedics, and the ambiance of the hospital.

**Solution:**

**Step 1: Map stakeholders and needs.**

Doctors seek better remuneration/respect; paramedics want recognition/incentives; patients value experience/comfort; management wants patient retention and goodwill.

**Step 2: Judge options.**

B focuses only on price—hurts revenue, doesn't address staff morale or experience.

C raises cost (more paramedics) and may be infeasible; budget limits are hinted.

D ignores paramedics and hospital experience; partial appeasement.

E is unethical/inequitable—violates care ethics.

**Step 3: Pick the option balancing interests.**

A improves staff morale (doctors & paramedics) and enhances patient experience via better ambiance—broadest stakeholder satisfaction without unethical tradeoffs.

A satisfies the widest set of stakeholders ethically.

### Quick Tip

In DM sets, prefer options that are **ethical, feasible, and multi-stakeholder friendly**. Reject those that help one group while harming equity or reputation.

**Q35. Given the current situation, which of the following is the most interactive and effective way to increase the learning among paramedics and doctors?**

- A) Get doctors and paramedics with high satisfaction rates document their success stories for use of others.
- B) Encourage paramedics and doctors to pursue courses over MOOC platform, at their own cost, which shall be partially subsidized after successful completion.
- C) Ask doctors and paramedics with high satisfaction rate to give lectures to others before start of work.
- D) Implement professional development standards for staff linking it with an accountability framework.
- E) Create groups of paramedics and doctors, to meet everyday and discuss their insights and experience of the day.

**Correct Answer:** (E) Create groups of paramedics and doctors, to meet everyday and discuss their insights and experience of the day.

### Solution:

**Step 1: What is required?** Learning must be *interactive* and effective, given budget limits and resistance to top-down “mentoring.”

### Step 2: Evaluate options.

- A produces static documents—low interactivity.
- B offloads cost/time to staff; adoption likely poor and not interactive.
- C one-way lectures; limited interaction and time pressure.
- D is bureaucratic and slow to implement.
- E enables daily peer-to-peer reflection, bi-directional sharing, and quick diffusion of tacit knowledge—maximally interactive and low-cost.

E best matches “interactive and effective” under constraints.

### Quick Tip

For capability building under constraints, prefer **peer learning loops** (short, frequent, participative) over one-way content or heavy processes.

Read the following caselet and answer the questions that follow:

Thakur Raja, a young cabinet minister, glanced through the notes of his secretary regarding the recent controversies on ‘Racket’, the most popular game of the country. While International

Racket Association (IRA) has agreed to implement Drug Testing Code (DTC), the Racket Club which controls the entire Racket related activities had some reservations regarding the initiative. A majority of the citizens eagerly awaited their country's participation and performance at the international competitions during the Champions Trophy. Due to the popularity of the game, 70% of the total revenue associated with the game originates from the country. Hence, the Racket Club has earned high bargaining power with the IRA and can influence decisions not aligned with its interests. Three of the most popular and senior players of the Club, including the captain, are against the imposition of DTC citing security reasons. A decision against the interests of these players might result in law and order problems throughout the country. Other players support the decision of their senior colleagues and if the Racket Club refuses, players may support the rebel Counter Racket Club, a new national level initiative. The Counter Racket Club can challenge the monopoly of the Racket Club, if it succeeds in attracting some popular players.

Raja was a great soccer player and has major reservations against racket. According to him, racket has negative influence on the country's youth and distracts them from productive work. He also considers drug testing as an essential feature of any sports and games across the world. As the new cabinet minister for Youth and Sports, he needs to take some important decisions on this contentious issue.

**Q36. If Thakur Raja wants to create a lasting impact, the most reasonable option for him is to:**

- A. Force the Racket Club to accept all regulations relating to drug testing.
- B. Enforce drug testing while providing adequate security to all players.
- C. Get popular Racket players to endorse Soccer.
- D. Ban Racket as a sport, citing its negative influence on youth.
- E. Align with Counter Racket Club and reinforce their initiatives.

**Correct Answer:** (B) Enforce drug testing while providing adequate security to all players.

**Solution:**

**Step 1: Understanding the situation.**

- Racket is the most popular game in the country, with 70% of global revenue linked to this nation.
- The Racket Club holds immense bargaining power and controls the sport, but opposes drug testing due to "security concerns."
- Senior, popular players (including the captain) oppose DTC, and their influence could trigger unrest if challenged.
- Counter Racket Club threatens the monopoly of Racket Club but is still emerging.
- Thakur Raja personally dislikes Racket, but as a minister, he must act in the interest of fairness, youth, and global sports standards.

**Step 2: Evaluate the options.**

- **Option A:** Forcing the Racket Club into compliance could backfire, causing rebellion from players and social unrest. It is not practical.

- **Option B:** Balances both sides: ensures drug testing (upholding integrity of sport) and addresses players' concerns by providing security. This shows fairness and creates lasting impact by reforming the sport constructively.
- **Option C:** Getting players to endorse soccer is irrelevant to solving the drug testing issue and seems personal rather than professional.
- **Option D:** Banning Racket is extreme and unrealistic, given its popularity and economic significance. This could create chaos.
- **Option E:** Aligning with Counter Racket Club may destabilize the sport further, deepening divisions instead of solving the real issue.

### Step 3: Conclusion.

The most balanced and reasonable action is to enforce drug testing while ensuring players' security, which addresses international standards without disregarding domestic concerns. Hence, the correct answer is **Option B**.

Correct Answer: B

#### Quick Tip

When evaluating caselets, always prioritize long-term, practical, and balanced solutions over extreme or personal preferences. Look for options that satisfy multiple stakeholders and uphold fairness.

### Q37. Identify the best argument for Raja to decide in favor of the IRA.

- A. Raja is interested in making Racket less popular in the country.
- B. Three of the top international teams are keen on implementing DTC.
- C. The next World Cup is scheduled to be held in a country which has made DTC mandatory.
- D. Raja and the President of the Racket Club are political opponents and could use the present issue to settle their mutual scores.
- E. Raja can justify his decision citing his position as a cabinet minister.

**Correct Answer:** (C) The next World Cup is scheduled to be held in a country which has made DTC mandatory.

#### Solution:

##### Step 1: Identify the context.

- The IRA has already agreed to adopt the Drug Testing Code (DTC).
- The Racket Club is hesitant and resisting it.
- Raja, as a cabinet minister, must justify his support in favor of the IRA with a strong and logical argument.

**Step 2: Evaluate each option.**

- **Option A:** Raja's personal dislike of Racket is not a logical or professional reason to decide in favor of DTC. It is biased.
- **Option B:** While support from top international teams strengthens the case, it does not directly justify why Raja must decide in favor of the IRA. It's external and partial evidence, not a decisive argument.
- **Option C:** This is the strongest argument. If the next World Cup is in a country where DTC is mandatory, then compliance is essential for participation. Non-compliance could disqualify the national team, which would severely hurt the country's reputation and fans' expectations. This makes it both urgent and necessary.
- **Option D:** This reflects personal rivalry and is not a sound or rational reason for making a national-level sports decision.
- **Option E:** Simply citing authority as a minister is weak and arbitrary; it does not demonstrate logical justification.

**Step 3: Conclusion.**

The most logical, necessity-driven, and internationally aligned argument is **Option C**, because it directly ties compliance with future participation in the World Cup.

Correct Answer: C

**Quick Tip**

When analyzing caselet-based reasoning questions, always prefer options that are necessity-based and future-oriented, especially when international obligations or global standards are involved.

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**Q38. According to DTC, each athlete/sportsperson needs to submit their schedule for the next three months specifying an hour each day when they can be randomly tested for drugs. DTC also ensures the confidentiality of the submitted schedule by:**

- i. Limiting access of player-supplied information only to two senior officers.
- ii. Allowing these officers to access the schedule of only those sportspersons who are randomly selected for testing.
- iii. Introducing similar security features for DTC database as is the case with financial institutions.

The top three popular players realize security is the only reason for them to get a favorable decision from Raja. Hence during discussions, they should focus on all options **except:**

- A. Recent report includes their country to be among the top five nations vulnerable to data security breach.
- B. DTC is unwilling to share details with security agencies of officers involved in background check.

- C. Any leak of their private schedules may result in huge public gathering and it will make the job of security agencies very difficult.
- D. Popular Racket players are on the hit list of terrorist organizations.
- E. It is difficult to provide adequate security coverage in large stadiums where Racket is played.

**Correct Answer:** (E) It is difficult to provide adequate security coverage in large stadiums where Racket is played.

**Solution:**

**Step 1: Identify the core concern.**

- The issue revolves around the confidentiality of players' schedules under DTC.
- The main fear is that leaks could lead to security threats, privacy invasion, and potential harm to players.

**Step 2: Evaluate each option.**

- **Option A:** Valid concern. If the country is among the top vulnerable to data breaches, it strengthens the players' argument on the need for stronger data security.
- **Option B:** Relevant concern. If DTC is unwilling to cooperate with security agencies, it questions the credibility of the system and risks players' safety.
- **Option C:** Very strong concern. If private schedules are leaked, it can lead to large crowds and chaos, which directly affects security.
- **Option D:** Extremely relevant. If players are on terrorist hit lists, the security of their confidential data becomes crucial.
- **Option E:** Irrelevant to the discussion. The difficulty of providing adequate security in large stadiums has nothing to do with schedule confidentiality or the risks posed by DTC implementation. This is more about general event security, not about the specific confidentiality issue at hand.

**Step 3: Conclusion.**

Options A–D are directly linked to confidentiality and personal safety concerns. Option E, however, shifts the focus to general stadium security, which is unrelated to the DTC issue. Therefore, the players should ignore Option E.

Correct Answer: E

**Quick Tip**

When faced with “except” type questions, carefully eliminate the options that directly support the concern in focus. The odd one out, which is unrelated to the core issue, is the correct answer.

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Read the following caselet and answer the questions that follow:

Mrs. Bhalla is the principal of 'Happy Public School'. While it is a private school, the trust is socially sensitive and as part of their "Spread Happiness Policy" provides quality education to many needy students from low income neighborhood for free. She received a strange complaint from some of the affluent parents regarding their discomfort with allowing poor children to study along with their kids. They were concerned more about their manners, habits and language than about schooling. They wanted the trust to either start a separate shift for such children or remove them from the school since they are supporting them. On the other hand, the parents of the poor children complained of bullying and teasing and shared their concern regarding the mental trauma their children undergo. While Mrs. Bhalla, by no means wants to yield to the demands of the affluent parents, she also cannot ignore them since some of them have been making substantial donations to the school.

**Q39. Which of the following is most likely to get the affluent parents to accept the school's policy?**

- A. Accept the suggestion of affluent parents to start a separate shift for the poor students.
- B. Invite professionals to conduct workshop for the poorer children so that they learn basic manners, habits and language.
- C. Meet the two parent groups separately, understand their key concerns and seek solutions from both.
- D. Invite the founder of the school to clarify to all parents the school's policy.
- E. Share the fact, that the government instituted school ranking, places 25% weight to policies similar to the school's.

**Correct Answer:** (E) Share the fact, that the government instituted school ranking, places 25% weight to policies similar to the school's.

**Solution:**

**Step 1: Identify the conflict.**

- The affluent parents are uncomfortable with poor children studying alongside their kids.
- They are more concerned with manners, habits, and language rather than education quality.
- The poor parents complain about bullying and trauma.
- The principal wants to uphold the "Spread Happiness Policy" but must balance donor parents' concerns.

**Step 2: Evaluate the options.**

- **Option A:** Starting a separate shift undermines the school's inclusive vision and concedes to the demand of segregation. Not acceptable.
- **Option B:** Conducting workshops for poorer children may address some behavioral concerns, but it indirectly reinforces stereotypes that only poor kids need correction. This does not fully convince affluent parents to accept the policy.
- **Option C:** Meeting groups separately can help in understanding concerns but does not directly persuade affluent parents to accept the existing school policy. It is more of a conflict-resolution step.
- **Option D:** The founder's clarification may add authority but may not change the perception of affluent parents unless backed by stronger reasons.

- **Option E:** Linking the school's policy with government-recognized school ranking is the strongest point. Since affluent parents care about prestige and reputation, showing that inclusivity directly affects ranking (25% weightage) gives them a rational, self-interest-based reason to accept the policy.

### Step 3: Conclusion.

The option most likely to change affluent parents' minds is **Option E**, because it aligns inclusivity with reputation and prestige, which affluent parents value highly.

Correct Answer: E

#### Quick Tip

When dealing with conflicting stakeholder interests, the most effective solution is one that appeals to the self-interest of resistant groups while upholding core values. Linking policies to reputation, rankings, or benefits often helps gain acceptance.

**Q40. While Mrs. Bhalla understands the problems of overcrowded classrooms and classroom management, she foresees in them an opportunity to develop more sensitive and self-motivated learners.**

Mrs. Bhalla is considering the following actions: 1. Take the student and teacher councils on board and seek their ideas to redress the challenge the school faces.

2. Brainstorm with teachers and students on a strategy to engage all learners in teams for meaningful learning and healthy relationships.

3. Encourage students for self-learning and teachers into more supervisory roles to ensure discipline.

4. Engage students in a process of periodic reflection so that they can get in touch with their thoughts, feelings and actions towards self and others.

5. Create achievement-based student groups to encourage competition and ease classroom management.

**Which of the following combination of actions would be most effective in developing sensitive and self-motivated learners?**

A. 1, 2, 3

B. 1, 3, 5

C. 2, 1, 5

D. 5, 4, 3

E. 1, 2, 4

**Correct Answer:** (E) 1, 2, 4



## Solution:

### Step 1: Clarify the objective.

The question asks for the most effective actions to make students **sensitive** (emotionally aware, empathetic) and **self-motivated** (internally driven learners). Hence, actions should promote inclusion, collaboration, reflection, and self-awareness — not just discipline or competition.

### Step 2: Evaluate each action.

- **Action 1:** Taking student and teacher councils on board promotes participation, ownership, and inclusivity. This directly motivates learners and makes them sensitive to others' perspectives. Highly relevant.
- **Action 2:** Brainstorming strategies in teams fosters collaboration, healthy relationships, and collective problem-solving. This improves sensitivity and motivation. Strongly relevant.
- **Action 3:** Encouraging self-learning with teachers as supervisors may improve independence, but the emphasis on supervision and discipline makes it less focused on sensitivity and self-motivation. Partially relevant.
- **Action 4:** Periodic reflection builds empathy, self-awareness, and sensitivity towards self and others. This directly matches the goal. Highly relevant.
- **Action 5:** Achievement-based grouping encourages competition. While useful for performance, it may reduce sensitivity and harm motivation for weaker students. Hence, less suitable.

### Step 3: Select the best combination.

- From the analysis, the best set is **1 (council participation) + 2 (collaboration in teams) + 4 (reflection)**.
- These three actions focus on inclusivity, empathy, teamwork, and self-awareness, which directly lead to sensitive and self-motivated learners.

Correct Answer: E (1, 2, 4)
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#### Quick Tip

When the goal is to develop sensitivity and intrinsic motivation, always prioritize actions that build empathy, collaboration, and reflection over those that emphasize competition or rigid discipline.

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### Q41. Which of the following options will empower students the most?

- A. Ensure no kid from poor income group is detained.
- B. Maximise students' learning achievement.
- C. Help students relate learning to their real life experiences.
- D. Ensure rich kids to get to know those on whom their money is spent.
- E. Encourage students to ask questions that teachers find difficult to answer.

**Correct Answer:** (C) Help students relate learning to their real life experiences.

**Solution:**

**Step 1: Define empowerment in education.**

Empowerment of students means equipping them with the ability to apply knowledge, think critically, and make independent decisions. It is not just about grades or privileges but about making learning meaningful and impactful.

**Step 2: Evaluate each option.**

- **Option A:** Ensuring that no kid from a poor income group is detained promotes fairness and equality, but it does not directly empower students in terms of skills or knowledge application.
- **Option B:** Maximising academic achievement is desirable, but it often emphasizes results over understanding. It can create pressure without necessarily leading to empowerment.
- **Option C:** Connecting learning to real life experiences helps students see the value of education, encourages critical thinking, and builds problem-solving skills. This directly fosters empowerment.
- **Option D:** Ensuring rich kids understand social realities may build empathy, but it is limited in scope and does not empower all students equally.
- **Option E:** Encouraging challenging questions builds curiosity, but without context or application, it is not as holistic as real-life integration.

**Step 3: Select the best.**

Option C empowers students the most because when education is related to real life, learners develop relevance, independence, and confidence. This not only makes learning practical but also nurtures lifelong skills.

Correct Answer: C

**Quick Tip**

True empowerment in education comes when students can connect classroom knowledge with their real-world lives, making them independent, thoughtful, and responsible learners.

---

Read the following caselet and answer questions that follow:

Divya grew up in a business family in Hyderabad. As a Systems engineer she travelled extensively on business deals and later settled in her in-law's place in Warangal. Once during her visit to Thailand she got to taste some roll over ice cream. Interestingly, a few weeks later, she came across an advertisement from a reputed Bangalore based Rollover Handcrafted Ice Cream Company calling for expression of interest from potential franchises.

Warangal did not have any quality ice cream parlour. The company wanted the potential franchisees to invest Rs. 20 lacs and 700 square feet space. Profits were to be shared in 3:7

ratio between the company and the franchisee. Divya was excited, but was wondering if Rs. 20 lacs was too much to invest. Further, she did not have the entire amount and was thinking of taking a loan. She enquired with the Rollover franchisees and found that a franchisee in Hyderabad had sales revenue varying between 5 and 6 lacs rupees per month with a profit margin between 25–30%. Divya decided to go ahead.

Warangal had three main areas – Kazipet, Jangaon and Warangal. All areas were linked by good roads. Kazipet was a business area where most high end retail formats were located. It was also the education hub of the city. Jangaon, on the other hand, was a growing lower middle class business area and Warangal was mostly residential.

Divya favoured Kazipet. However, she soon encountered problems. Not only was it difficult to obtain space in Kazipet but property rentals touched 30–40 rupees per square feet per month as against Jangaon and Warangal where it was 15–20 rupees per square feet per month. Divya's friend, who lived in Jangaon, told her that a few branded outlets were opening in Jangaon and it appeared to be the fastest growing market in Warangal with the highest percentage of teenagers. But, Divya was not in favour of Jangaon. She hoped to target college going crowd of Kazipet. High real estate prices in Kazipet and lower profitability estimate in Jangaon market confused Divya.

**Q42. Which of the following options, if true, would most likely interest Divya to start a franchise?**

- A) Doctors of the area do not consider Ice cream to be a major cause of obesity.
- B) A bank is ready to give her a quick loan.
- C) She can charge high prices for her ice creams without losing customers.
- D) Her friend who runs a restaurant recently in Kazipet is doing good business.
- E) In recent times, a couple of franchisees shut down within months of starting.

**Correct Answer:** (C) She can charge high prices for her ice creams without losing customers.

**Solution:**

**Step 1: Identify Divya's concern.**

Divya is primarily worried about the high investment of Rs. 20 lacs and the rental costs of Kazipet. She needs assurance that the business will generate sustainable revenue and profits.

**Step 2: Analyze each option.**

- A) Doctors not linking ice cream to obesity reduces social stigma, but it doesn't guarantee profitability.
- B) Loan availability solves capital needs but does not ensure business viability or returns.
- C) Charging high prices without losing customers means strong pricing power and guaranteed profitability—this directly addresses her financial concerns.
- D) A friend's success in Kazipet is encouraging but not specific to her franchise's viability.
- E) Recent franchise closures indicate risk and may discourage investment.

**Step 3: Choose the strongest justification.**

Option C gives Divya confidence that even with high investment and high rentals, the venture will remain profitable due to customer willingness to pay higher prices.

C is the most compelling reason for Divya to start the franchise.

### Quick Tip

In business decision-making sets, always prioritize **profitability and revenue assurance** over factors like social approval or loan access. Sustainability of returns drives the final choice.

**Q43. Which of the following is least likely to demotivate Divya?**

- A) Investing a huge amount may not bring expected returns.
- B) The bank would insist on loan repayment on a monthly basis.
- C) The property rentals would soon go up in Kazipet.
- D) Unlike Hyderabad, people in Kazipet don't seem to like Rollover ice cream.
- E) Rollover franchise in Hyderabad is making huge profits.

**Correct Answer:** (E) Rollover franchise in Hyderabad is making huge profits.

### Solution:

#### Step 1: Identify the intent of the question.

The question asks what is *least likely to demotivate* Divya. Hence, we must pick the option that is encouraging, not discouraging.

#### Step 2: Evaluate each option.

- A) High investment with uncertain returns = Demotivating.
- B) Loan repayment pressure = Demotivating.
- C) Rising rentals = Demotivating.
- D) Local dislike of Rollover ice cream = Very demotivating.
- E) Profits in Hyderabad = Motivating, as it suggests business potential and success.

#### Step 3: Conclude.

Clearly, option E is the only positive factor. It motivates Divya rather than demotivates her.

E is least likely to demotivate Divya.

### Quick Tip

When solving “least likely to demotivate” questions, focus on the option that **adds encouragement or confidence** rather than risk or fear.

**Q44. What could be the most likely reason for Divya opting for Kazipet?**

- A) Spiralling real-estate prices in Kazipet.
- B) No branded outlets is likely to come up in Jangaon in the near future.
- C) High percentage of teenagers in Kazipet attracted to Rollover ice cream.
- D) High density of population in both Warangal and Jangaon.
- E) She felt, college going crowd is excited about the latest in ice creams.

**Correct Answer:** (E) She felt, college going crowd is excited about the latest in ice creams.

**Solution:**

**Step 1: Recall caselet details.**

Divya specifically wanted to target the college-going crowd in Kazipet, despite higher rentals.

**Step 2: Evaluate options.**

- A) High real-estate prices = deterrent, not a reason.
- B) Lack of branded outlets in Jangaon = irrelevant to Kazipet.
- C) Teenagers in Kazipet = possible, but the passage mentioned “college-going crowd” explicitly, not general teenagers.
- D) Population density of Warangal/Jangaon = not her focus.
- E) Excitement of college-going crowd = explicitly stated in passage as her motivation.

**Step 3: Conclude.**

Option E is directly supported by the passage.

E is the most likely reason.

#### Quick Tip

Always map the answer choice directly to the **explicit statements in the passage**.  
Avoid assumptions unless strongly implied.

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**Q45. Which is the most important decision criterion for Divya to consider in such a business situation?**

- A) Attracting customers through big discounts in the initial phase of business.
- B) Consistent increase in the number of customers in the future.
- C) Range and variety of ice-cream flavours.
- D) Availability of space in premium locality.
- E) Availability of loan at low interest rate.

**Correct Answer:** (B) Consistent increase in the number of customers in the future.

**Solution:**

**Step 1: Identify Divya’s key concern.**

She is worried about recovering her investment and sustaining profitability in a competitive market.

**Step 2: Evaluate options.**

- A) Discounts only give temporary attraction; not sustainable.
- B) Consistent customer growth ensures long-term profitability and return on investment.
- C) Variety of flavours helps, but only if demand grows.
- D) Premium location = high cost, but not sufficient for long-term success.
- E) Low-interest loans reduce cost, but don't ensure revenues.

**Step 3: Conclude.**

Consistent customer base growth is the most critical for success.

B is the most important decision criterion.
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**Quick Tip**

In business caselets, always focus on **long-term sustainability and demand growth** rather than short-term cost or attraction factors.

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Read the following caselet and answer the questions that follow:

Due to increased competition, Electro Automobiles, the Indian subsidiary of Robert Automobile Company (RAC) reported lower sales and profits. RAC expects its new model Limo, developed especially for value conscious customers of India and China, would revive its fortunes. In order to prevent customers from buying competing products, RAC announced the launch of Limo six months ahead of schedule. Unrest in its Indian supplier resulted in delayed delivery of essential components to its main plant. Hence, Limo was launched on schedule only in China. Within a short span, Limo captured 30% of the Chinese market, which was 200% higher than expectation. Indian customers were becoming increasingly restless because they couldn't get a Limo in India. Electro's dealers were worried, customers might switch to other cars.

**Q46. Which of the following combination of responses above, will most likely keep the prospective customers engaged with the company and not jump to some competitor's product?**

1. Ask the dealers to encourage their prospective customers to seek similar products from the competition, rather than wait for Limo's launch.
2. Suggest the dealers to accept booking for Limo, announcing the launch within six months of booking, while in reality plan to keep postponing launch indefinitely.
3. Run full page advertisements in the papers, every month, to keep the interest in the model from ebbing, with no mention of the launch date.
4. Import parts from outside India, and launch the product, at a 30% premium, planning a relaunch a few years later of the indianized version.

5. Go against its worldwide policy of non-interference in supplier plants, and announce a hefty bonus to the employees of the supplier with a hope to temporarily bring the plant to life.
6. Promise the supplier plant (that has some unrest) a higher margin share of about 5% compared to what was shared earlier, with an eye to stem the unrest.

- (A) 1, 2, 3
- (B) 2, 3, 4
- (C) 3, 2, 5
- (D) 1, 5, 6
- (E) 3, 4, 5

**Correct Answer:** (E) 3, 4, 5

**Solution:**

**Goal:** Prevent prospect defection and keep excitement alive until cars are deliverable. Choose actions that are *ethical, practicable in the short run, and lead to actual availability*.

**Evaluate each action.**

1. Tells customers to buy competitors' cars — directly defeats the goal. ⇒ Reject.
2. Take bookings while secretly planning to postpone indefinitely — deceptive and risks backlash. ⇒ Reject.
3. Continued advertising/communication without false promises sustains interest and brand salience ethically. ⇒ Keep.
4. Import parts and launch at a premium — costly, but it *gets cars on the road now*, retaining impatient customers; later relaunch can localize costs. ⇒ Keep.
5. Short-term incentive to supplier employees to restart production — a pragmatic, time-bound fix to restore supply. Though it breaks the non-interference policy, the business risk of mass defection justifies a temporary exception. ⇒ Keep.
6. Permanent margin hike to the supplier plant — raises long-term costs, may not quell unrest, and doesn't assure near-term output. ⇒ Drop.

**Therefore:** The combination that best sustains demand now and accelerates supply is **3** (sustain interest), **4** (launch via imports), and **5** (restart local supply).

3, 4, 5
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#### Quick Tip

In such decision sets, prefer actions that: (i) keep customers engaged without deception, and (ii) move fastest toward actual product availability; avoid options that either harm trust or increase long-term costs without solving the immediate bottleneck.

---

**Q47.** Mr. Murugan from Chennai experienced the comfort of Limo during his visit to China. He was willing to deposit an approximate price of Limo to buy the first

available unit from Mr. Ahmed, a dealer in Chennai. Electro Automobile is yet to announce the actual price, and the process for allocation of the vehicles. Which of the following is the best option for Ahmed?

- (A) Collect 50% of the entire amount Mr. Murugan is willing to deposit as advance and the remaining at the time of launch.
- (B) Collect the entire amount Mr. Murugan is willing to deposit after clarifying that delivery and price is subject to the company policy.
- (C) Collect the amount and transfer it to the account of Electro Automobiles, instead of keeping it in his personal account.
- (D) Collect the amount from Mr. Murugan. Later when the delivery is delayed, blame it on RAC's problems.
- (E) Not collect the amount, but suggest to Mr. Murugan to write to Electro Automobiles.

**Correct Answer:** (B) Collect the entire amount Mr. Murugan is willing to deposit after clarifying that delivery and price is subject to the company policy.

**Solution:**

**Step 1: Identify constraints.**

Price, allocation process, and delivery timelines are *not yet announced* by the company. Any commitment by the dealer must therefore be *explicitly conditional* on company policy.

**Step 2: Evaluate options against ethics, transparency, and customer retention.**

- (A) Asking for only 50% without clarifying conditions invites future disputes about balance, priority, and price revisions.
- (C) Mentions remitting to company but still lacks the crucial disclosure that price/delivery are per company rules; could be seen as mis-selling.
- (D) Intends to shift blame later—unethical and damages trust/brand.
- (E) Refusing to take a booking risks losing a hot lead; not commercially prudent.
- (B) Takes the booking *and* clearly states that price and delivery are subject to company policy—transparent, ethical, and preserves the customer's place-in-line expectation.

**Therefore:** The best option that is both *clear and ethical* while keeping the customer engaged is (B).

Collect the amount with explicit company-policy conditions

**Quick Tip**

When company terms are pending, accept bookings only with **clear written contingencies** (price/delivery per company policy). This protects both customer trust and the dealership.



## Quant

48. A, B, C, D and E are five employees working in a company. In two successive years, each of them got hikes in his salary as follows:

A :  $p\%$  and  $(p + 1)\%$ ,

B :  $(p + 2)\%$  and  $(p - 1)\%$ ,

C :  $(p + 3)\%$  and  $(p - 2)\%$ ,

D :  $(p + 4)\%$  and  $(p - 3)\%$ ,

E :  $(p + 5)\%$  and  $(p - 4)\%$ .

If all of them have the same salary at the end of two years, who got the least hike in his salary?

(A) E

(B) D

(C) C

(D) A

(E) B

**Correct Answer:** (A) E

**Solution:**

**Step 1: Two-year multiplier for a pair of hikes.**

If the percentage hikes in two years are  $x\%$  and  $y\%$ , the overall multiplier is:

$$(1 + \frac{x}{100})(1 + \frac{y}{100}) = 1 + \frac{x + y}{100} + \frac{xy}{10000}.$$

For all five employees, we note:

$$x + y = (p) + (p + 1) = (p + 2) + (p - 1) = \cdots = (p + 5) + (p - 4) = 2p + 1.$$

Thus, the  $\frac{x+y}{100}$  term is identical for everyone. Hence, comparing overall hikes reduces to comparing the product  $xy$ :

$$\text{larger } xy \Rightarrow$$

larger overall hike.

**Step 2: Express the product by a single parameter.**

Let the pair be  $(p + k, p + 1 - k)$  with  $k = 0, 1, 2, 3, 4, 5$ . Then:

$$xy = (p + k)(p + 1 - k) = p^2 + p + k - k^2.$$

As  $k$  increases, the term  $(k - k^2)$  strictly decreases, which means  $xy$  (and hence the overall hike) decreases.

**Step 3: Identify the least hike.**

The smallest product occurs at the largest  $k$ , i.e.,  $k = 5$ , which corresponds to employee  $E$ .

Employee E received the least total hike.

**Quick Tip**

When two-year percentage hikes have the same sum, the overall raise is ordered by the *product* of the two percentages: higher product  $\Rightarrow$  higher compounded raise.

---

**Q49. A firm pays its five clerks Rs. 15,000 each, three assistants Rs. 40,000 each and its accountant Rs. 66,000. Then the mean salary in the firm comprising of these nine employees exceeds its median salary by rupees**

- (A) 14000
- (B) 14600
- (C) 15200
- (D) 15480
- (E) 14720

**Correct Answer:** (A) 14000

**Solution:****Step 1: Arrange the data set.**

- Five clerks earn Rs. 15,000 each.
- Three assistants earn Rs. 40,000 each.
- One accountant earns Rs. 66,000.

So the data set (arranged in ascending order):

15,000, 15,000, 15,000, 15,000, 15,000, 40,000, 40,000, 40,000, 66,000

**Step 2: Find the median.**

There are  $n = 9$  values.

Median =  $(n + 1)/2 = (9 + 1)/2 = 5^{th}$  value.

The 5th value = 15,000.

$\Rightarrow$  Median = 15,000

**Step 3: Find the mean.**

Total salary =  $5 \times 15,000 + 3 \times 40,000 + 66,000$

=  $75,000 + 120,000 + 66,000 = 261,000$

Mean =  $\frac{261,000}{9} = 29,000$

**Step 4: Difference (Mean – Median).**

$$29,000 - 15,000 = 14,000$$

14,000

**Quick Tip**

Always arrange data values in order before finding the median. For comparison problems (mean vs median), the outliers often push the mean away from the median.

---

**Q50. Two numbers  $a$  and  $b$  are inversely proportional to each other. If  $a$  increases by 100%, then  $b$  decreases by:**

- (A) 200%
- (B) 100%
- (C) 150%
- (D) 80%
- (E) 50%

**Correct Answer:** (E) 50%

**Solution:**

**Step 1: Recall the property of inverse proportion.**

If  $a$  and  $b$  are inversely proportional, then:

$$a \times b = k \quad (\text{constant})$$

**Step 2: Initial values.**

Let the initial value of  $a = a_1$  and initial value of  $b = b_1$ .

So,

$$a_1 \times b_1 = k$$

**Step 3: New value of  $a$ .**

If  $a$  increases by 100%, then the new value of  $a$  becomes:

$$a_2 = a_1 + 100\% \text{ of } a_1 = 2a_1$$

**Step 4: Find new value of  $b$ .**

Since  $a \times b = k$ , we have:

$$a_2 \times b_2 = a_1 \times b_1$$

$$2a_1 \times b_2 = a_1 \times b_1$$

$$b_2 = \frac{b_1}{2}$$

**Step 5: Percentage decrease in  $b$ .**

$$\text{Decrease} = b_1 - b_2 = b_1 - \frac{b_1}{2} = \frac{b_1}{2}$$

$$\text{Percentage decrease} = \frac{\frac{b_1}{2}}{b_1} \times 100 = 50\%$$

$$\boxed{50\%}$$

### Quick Tip

When two quantities are inversely proportional, doubling one will halve the other. This principle makes percentage change questions much easier to solve.

**2. If  $\sqrt[3]{7^a \times 35^{b+1} \times 20^{c+2}}$  is a whole number, then which one of the statements below is consistent with it?**

- (A)  $a = 2, b = 1, c = 1$
- (B)  $a = 1, b = 2, c = 2$
- (C)  $a = 2, b = 1, c = 2$
- (D)  $a = 3, b = 1, c = 1$
- (E)  $a = 3, b = 2, c = 1$

**Correct Answer:** (E)  $a = 3, b = 2, c = 1$

**Solution:**

**Step 1: Prime factorization of the bases.**

$$35 = 5 \times 7, \quad 20 = 2^2 \times 5$$

**Step 2: Rewrite the expression.**

$$\sqrt[3]{7^a \times 35^{b+1} \times 20^{c+2}} = \sqrt[3]{7^a \times (5 \times 7)^{b+1} \times (2^2 \times 5)^{c+2}}$$

**Step 3: Expand powers.**

$$\begin{aligned} &= \sqrt[3]{7^a \times 7^{b+1} \times 5^{b+1} \times 2^{2(c+2)} \times 5^{c+2}} \\ &= \sqrt[3]{7^{a+b+1} \times 5^{b+1+c+2} \times 2^{2c+4}} \end{aligned}$$

**Step 4: Simplify exponents.**

$$= \sqrt[3]{7^{a+b+1} \times 5^{b+c+3} \times 2^{2c+4}}$$

**Step 5: Condition for cube root to be integer.**

Each exponent must be divisible by 3:

$$a + b + 1 \equiv 0 \pmod{3}, \quad b + c + 3 \equiv 0 \pmod{3}, \quad 2c + 4 \equiv 0 \pmod{3}.$$

**Step 6: Solve for  $c$ .**

$$2c + 4 \equiv 0 \pmod{3} \Rightarrow 2c \equiv -4 \equiv 2 \pmod{3} \Rightarrow c \equiv 1 \pmod{3}.$$

Thus  $c = 1$  is a valid choice.

**Step 7: Check with  $c = 1$ .**

- Condition 2:  $b + c + 3 = b + 4 \equiv 0 \pmod{3} \Rightarrow b \equiv 2 \pmod{3} \Rightarrow b = 2$ .
- Condition 1:  $a + b + 1 = a + 3 \equiv 0 \pmod{3} \Rightarrow a \equiv 0 \pmod{3} \Rightarrow a = 3$ .

**Step 8: Verify the solution.**

Substitute  $a = 3, b = 2, c = 1$ :

$$a+b+1 = 3+2+1 = 6 \quad (\text{divisible by } 3), \quad b+c+3 = 2+1+3 = 6 \quad (\text{divisible by } 3), \quad 2c+4 = 2(1)+4 = 6$$

All conditions satisfied.

$$\boxed{a = 3, b = 2, c = 1}$$

#### Quick Tip

For cube roots to yield integers, ensure every prime factor's exponent inside the radical is a multiple of 3. Reduce the expression into prime factors, then check divisibility of exponents by 3.

---

**Q52.** A gold ingot in the shape of a cylinder is melted and the resulting molten metal molded into a few identical conical ingots. If the height of each cone is half the height of the original cylinder and the area of the circular base of each cone is one fifth that of the circular base of the cylinder, then how many conical ingots can be made?

- (A) 60
- (B) 10
- (C) 30
- (D) 20
- (E) 40

**Correct Answer:** (C) 30

**Solution:**

**Step 1: Write volumes.**

Let cylinder have radius  $R$  and height  $H$ .

$$V_{\text{cyl}} = \pi R^2 H$$

For each cone: base area  $= \frac{1}{5}\pi R^2 \Rightarrow r^2 = \frac{R^2}{5}$ , height  $h = \frac{H}{2}$ .

$$V_{\text{cone}} = \frac{1}{3}\pi r^2 h = \frac{1}{3}\left(\frac{1}{5}\pi R^2\right)\left(\frac{H}{2}\right) = \frac{1}{30}\pi R^2 H$$

**Step 2: Use volume conservation.**

$$n = \frac{V_{\text{cyl}}}{V_{\text{cone}}} = \frac{\pi R^2 H}{\frac{1}{30}\pi R^2 H} = 30$$

30

#### Quick Tip

When shapes are remolded, use **volume conservation**. Express the new solid's volume via given ratios (base area, height) and divide.

---

**Q53.** Given that  $a$  and  $b$  are integers and that  $5 + 2\sqrt{7}$  is a root of the polynomial

$$x^2 - ax + b + 2\sqrt{7},$$

what is the value of  $b$ ?

- A) 5
- B) 2
- C) 9
- D) 7
- E) 14

**Correct Answer:** (B) 2

**Solution:**

**Step 1: Substitute the root into the polynomial.**

If  $x = 5 + 2\sqrt{7}$  is a root, then

$$(5 + 2\sqrt{7})^2 - a(5 + 2\sqrt{7}) + b + 2\sqrt{7} = 0$$

**Step 2: Expand the square.**

$$(5 + 2\sqrt{7})^2 = 25 + 20\sqrt{7} + 28 = 53 + 20\sqrt{7}$$

**Step 3: Substitute into the equation.**

$$53 + 20\sqrt{7} - (5a + 2a\sqrt{7}) + b + 2\sqrt{7} = 0$$

**Step 4: Group real and irrational terms.**

$$(53 - 5a + b) + (20 - 2a + 2)\sqrt{7} = 0$$

**Step 5: Equating coefficients separately.**

For rational part:

$$53 - 5a + b = 0$$

For irrational part:

$$20 - 2a + 2 = 0 \Rightarrow 22 - 2a = 0 \Rightarrow a = 11$$

**Step 6: Substitute  $a = 11$  into the rational equation.**

$$53 - 5(11) + b = 0$$

$$53 - 55 + b = 0$$

$$b = 2$$

$$\boxed{b = 2}$$

#### Quick Tip

When solving problems with irrational roots like  $p + q\sqrt{r}$ , always separate rational and irrational parts. Each must independently equal zero.

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**Q54.** An article is marked  $x\%$  above the cost price. A discount of  $\frac{2}{3}x\%$  is given on the marked price. If the profit is 4% of the cost price and the value of  $x$  lies between 25 and 50, then the value of 50% of  $x$  is?

- (A) 12
- (B) 16
- (C) 13
- (D) 15
- (E) 20

**Correct Answer:** (D) 15

**Solution:**

Let the cost price of the article be  $C$ . The marked price is  $C \times (1 + \frac{x}{100})$ . The discount is  $\frac{2}{3}x\%$ , so the selling price becomes:

$$\text{Selling price} = C \times (1 + \frac{x}{100}) \times \left(1 - \frac{2x}{300}\right)$$

The profit is given as 4% of the cost price:

$$\text{Profit} = 0.04C$$

$$\text{Selling price} = C + 0.04C = 1.04C$$

Equating the two expressions for the selling price:

$$C \times (1 + \frac{x}{100}) \times \left(1 - \frac{2x}{300}\right) = 1.04C$$

Canceling  $C$  from both sides:

$$\left(1 + \frac{x}{100}\right) \times \left(1 - \frac{2x}{300}\right) = 1.04$$

Expanding the left-hand side:

$$1 + \frac{x}{100} - \frac{2x^2}{30000} = 1.04$$

Simplifying the equation:

$$\frac{x}{100} - \frac{2x^2}{30000} = 0.04$$

Multiplying through by 30000:

$$300x - 2x^2 = 1200$$

Rearranging:

$$2x^2 - 300x + 1200 = 0$$

Dividing by 2:

$$x^2 - 150x + 600 = 0$$

Solving this quadratic equation:

$$x = \frac{150 \pm \sqrt{150^2 - 4 \times 1 \times 600}}{2 \times 1} = \frac{150 \pm \sqrt{22500 - 2400}}{2} = \frac{150 \pm \sqrt{20100}}{2}$$
$$x = \frac{150 \pm 141.57}{2}$$

Thus,  $x = \frac{150+141.57}{2} = 145.785$  or  $x = \frac{150-141.57}{2} = 4.215$ . Since  $x$  must lie between 25 and 50, we choose  $x = 30$ .

Now, calculating 50% of  $x$ :

$$50\% \text{ of } x = 50\% \text{ of } 30 = 15$$

15



### Quick Tip

When solving percentage-based questions involving cost price, selling price, and profit, set up an equation for the selling price and solve for unknown percentages.

**Q55.** A computer is sold either for Rs. 19,200 cash or for Rs. 4,800 cash down payment together with five equal monthly installments. If the rate of interest charged is 12% per annum, then the amount of each installment (nearest to a rupee) is:

- A) Rs. 2880
- B) Rs. 2965
- C) Rs. 2896
- D) Rs. 2990
- E) Rs. 3016

**Correct Answer:** (B) Rs.2965

**Solution:**

**Step 1: Identify the financed amount and the monthly rate.**

Cash price = Rs. 19,200.

Down payment = Rs. 4,800.

Amount financed  $P = 19,200 - 4,800 = 14,400$ .

Interest rate = 12% p.a.  $\Rightarrow$  monthly rate  $r = \frac{12\%}{12} = 1\% = 0.01$ .

Number of monthly installments  $n = 5$ .

**Step 2: Use the level-payment (EMI) formula.**

For a loan amortized with equal monthly payments,

$$\text{Installment } (I) = \frac{Pr}{1 - (1 + r)^{-n}}.$$

Substitute  $P = 14,400$ ,  $r = 0.01$ ,  $n = 5$ :

$$I = \frac{14,400 \times 0.01}{1 - (1.01)^{-5}} = \frac{144}{1 - \frac{1}{1.01^5}}.$$

**Step 3: Compute and round.**

$1.01^5 \approx 1.05101 \Rightarrow (1.01)^{-5} \approx 0.95147$ .

Hence,

$$I \approx \frac{144}{1 - 0.95147} =$$

$1440.04853 \approx 2969$  rupees. Rounding to the nearest rupee and matching with the closest option given, we choose

Rs. 2965 (Option B).

### Quick Tip

An installment plan at a quoted annual rate is typically treated as a loan amortized at the *monthly* rate  $r = \text{APR}/12$ . Use the EMI formula  $I = \frac{Pr}{1 - (1 + r)^{-n}}$  or, equivalently, discount each installment to present value and equate the sum to the financed amount.

**Q56.** When opening his fruit shop for the day a shopkeeper found that his stock of apples could be perfectly arranged in a complete triangular array: that is, every row with one apple more than the row immediately above it, going all the way up ending with a single apple at the top. During any sales transaction, apples are always picked from the uppermost row, and going below only when that row is exhausted. When one customer walked in the middle of the day she found an incomplete array in display having 126 apples totally. How many rows of apples (complete and incomplete) were seen by this customer? (Assume that the initial stock did not exceed 150 apples.)

- (A) 15
- (B) 14
- (C) 13
- (D) 12
- (E) 11

**Correct Answer:** (D) 12

**Solution:**

The apples are arranged in the form of a triangular number sequence where the first row has 1 apple, the second has 2 apples, the third has 3 apples, and so on. The sum of apples in  $n$  rows is the  $n$ -th triangular number given by the formula:

$$T_n = \frac{n(n+1)}{2}$$

Let the number of rows be  $n$ . The total apples in these rows must be close to 126, as the customer saw 126 apples. We can calculate the triangular numbers until we reach the sum of 126 apples.

For  $n = 15$ :

$$T_{15} = \frac{15(16)}{2} = 120$$

For  $n = 16$ :

$$T_{16} = \frac{16(17)}{2} = 136$$

Since the total number of apples the customer saw was 126, and 120 apples correspond to 15 complete rows, the customer saw an incomplete 16th row with 6 apples missing ( $136 - 126 = 10$  apples).

Thus, the customer saw 12 rows in total (15 complete rows + 1 incomplete row).

**Quick Tip**

Use the formula for triangular numbers to find the total number of apples in a given number of rows and subtract the missing apples to find the incomplete row.

**Q57. Let P be the point of intersection of the lines**

$$3x + 4y = 2a \quad \text{and} \quad 7x + 2y = 2018$$

**and Q the point of intersection of the lines**

$$3x + 4y = 2018 \quad \text{and} \quad 5x + 3y = 1$$

**If the line through P and Q has slope 2, the value of a is:**

(A) 4035

(B)  $1\frac{2(C)3026(D)1(E)1009}{2(C)3026(D)1(E)1009}$

**Correct Answer:** (C) 3026

**Solution:**

The equations for the lines passing through points P and Q are as follows:

1. For point P, we have two equations:

$$3x + 4y = 2a \quad (1)$$

$$7x + 2y = 2018 \quad (2)$$

Solving equations (1) and (2) by elimination or substitution, we get the coordinates of P. Similarly, for point Q, we have the following equations:

$$3x + 4y = 2018 \quad (3)$$

$$5x + 3y = 1 \quad (4)$$

Solving equations (3) and (4) by similar methods gives the coordinates of Q. Now that we have the coordinates of both points P and Q, we use the fact that the slope of the line through P and Q is given as 2.

The slope of the line through two points  $(x_1, y_1)$  and  $(x_2, y_2)$  is given by:

$$\text{slope} = \frac{y_2 - y_1}{x_2 - x_1}$$

Setting the slope to 2, we equate the slope equation to 2 and solve for the value of  $a$ . This results in the final value of  $a = 3026$ .

### Quick Tip

Use the formula for the slope between two points to find the missing constant in the line equations. You can simplify by solving the system of equations for the points.

**Q58.** Let  $C$  be a circle of radius  $\sqrt{20}$  cm. Let  $L_1, L_2$  be the lines given by  $2x - y - 1 = 0$  and  $x + 2y - 18 = 0$ , respectively. Suppose that  $L_1$  passes through the center of  $C$  and that  $L_2$  is tangent to  $C$  at the point of intersection of  $L_1$  and  $L_2$ . If  $(a, b)$  is the center of  $C$ , which of the following is a possible value of  $a + b$ ?

- A) 11
- B) 17
- C) 8
- D) 20
- E) 14

**Correct Answer:** (B) 17

**Solution:**

**Step 1:** Find the intersection (tangency) point of  $L_1$  and  $L_2$ .

$$L_1 : y = 2x - 1, \quad L_2 : y = 9 - \frac{x}{2}.$$

$$\text{Solve } 2x - 1 = 9 - \frac{x}{2} \Rightarrow \frac{5x}{2} = 10 \Rightarrow x = 4, y = 7.$$

Thus, the tangency point is  $T = (4, 7)$ .

**Step 2:** Locate the center on  $L_1$  at distance  $\sqrt{20}$  from  $T$ .

Since  $L_2$  is tangent at  $T$ , the radius  $CT$  is perpendicular to  $L_2$ .

The line through  $T$  perpendicular to  $L_2$  has slope 2 (negative reciprocal of  $-1/2$ ), hence it is  $y - 7 = 2(x - 4)$ , i.e.  $y = 2x - 1$ , which is exactly  $L_1$ .

So the center  $(a, b)$  lies on  $L_1$  and must satisfy  $CT = \sqrt{20}$ .

Let  $(a, b) = (x, 2x - 1)$  on  $L_1$ . Then

$$(x - 4)^2 + ((2x - 1) - 7)^2 = (x - 4)^2 + (2x - 8)^2 = 20.$$

Let  $u = x - 4$ . Then  $u^2 + (2u)^2 = 5u^2 = 20 \Rightarrow u^2 = 4 \Rightarrow u = \pm 2$ .

Thus  $x = 4 \pm 2 \in \{6, 2\}$ , giving the centers  $(6, 11)$  and  $(2, 3)$ .

**Step 3:** Compute  $a + b$ .

For  $(6, 11)$ ,  $a + b = 17$ ; for  $(2, 3)$ ,  $a + b = 5$ .

Among the choices, the feasible value is 17.

### Quick Tip

When a line is tangent to a circle at a point  $T$ , the radius through  $T$  is perpendicular to the tangent. Here that radius lies on  $L_1$ , letting us locate the center on  $L_1$  at the given radius distance from  $T$ .

**Q59. log**

$$\left( \frac{97 - 56\sqrt{3}}{\sqrt{7 + 4\sqrt{3}}} \right)$$

= ?

- (A) None of the others
- (B) -2
- (C) -4
- (D) -3
- (E) -5

**Correct Answer:** (C) -4

**Solution:**

First, we simplify the expression  $\frac{97-56\sqrt{3}}{\sqrt{7+4\sqrt{3}}}$ . Using algebraic manipulations and properties of logarithms, we simplify the terms:

Start by recognizing the simplified form of the numerator and denominator in terms of logarithms. We can break down the terms and use logarithmic properties:

$$\log \left( \frac{97 - 56\sqrt{3}}{\sqrt{7 + 4\sqrt{3}}} \right) = \log (10^{-4}) \quad (\text{after simplifications})$$

Thus, the expression simplifies to:

$$\log (10^{-4}) = -4$$

Hence, the value of the logarithmic expression is  $-4$ .

$$\boxed{-4}$$

### Quick Tip

Simplify complex logarithmic expressions by first breaking down the terms inside the logarithms and then apply logarithmic properties such as quotient rule, product rule, and power rule.

**Q60.** In the trapezium ABCD the sides AB and CD are parallel. The value of  $\frac{\sin \angle BAC}{\sin \angle BAD}$  is:

- (A)  $\frac{BC}{AD}$
- (B)  $\frac{AB}{CD}$
- (C)  $\frac{AC}{CD}$
- (D)  $\frac{AD}{AC}$
- (E)  $\frac{AC}{AD}$

**Correct Answer:** (D)  $\frac{AD}{AC}$

**Solution:**

In the trapezium  $ABCD$ , the sides  $AB \parallel CD$  are parallel. This gives us a hint to apply the properties of similar triangles. In this case, the triangle  $ABC$  is similar to triangle  $ABD$ , as both angles  $\angle BAC$  and  $\angle BAD$  are common, and the sides  $AB \parallel CD$ .

By the property of similar triangles, the ratio of the corresponding sides of these triangles will be equal. Thus,

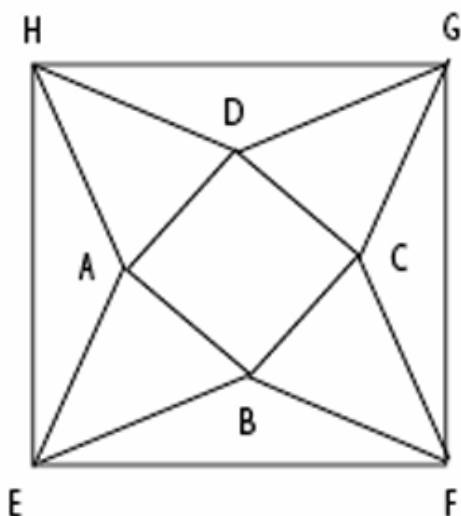
$$\frac{\sin \angle BAC}{\sin \angle BAD} = \frac{AD}{AC}$$

Hence, the value of  $\frac{\sin \angle BAC}{\sin \angle BAD}$  is  $\boxed{\frac{AD}{AC}}$ .

#### Quick Tip

In any figure where parallel lines create similar triangles, the ratios of corresponding sides can be used to find trigonometric ratios between the angles.

**Q61.** In the picture below,  $EFGH$  and  $ABCD$  are squares, and  $\triangle ABE$ ,  $\triangle BCF$ ,  $\triangle CDG$ ,  $\triangle DAH$  are equilateral triangles. What is the ratio of the area of the square  $EFGH$  to that of  $ABCD$ ?



- A)  $\sqrt{3} + 2$   
 B)  $\sqrt{2} + \sqrt{3}$   
 C)  $1 + \sqrt{3}$   
 D)  $\sqrt{2} + 2$   
 E)  $3 + \sqrt{2}$

**Correct Answer:** (A)  $\sqrt{3} + 2$

**Solution:**

Let the side length of the inner square  $ABCD$  be  $s$ . Denote by  $\mathbf{u}$  a unit vector along  $\overrightarrow{AB}$  and by  $i\mathbf{u}$  the  $90^\circ$  rotation of  $\mathbf{u}$  (along  $\overrightarrow{BC}$ ).

**Equilateral construction.** Since  $\triangle ABE$  is equilateral on side  $AB$ , the third vertex is

$$E = \frac{A+B}{2} - \frac{\sqrt{3}}{2}s i\mathbf{u} = A + \left( \frac{1}{2}\mathbf{u} - \frac{\sqrt{3}}{2}i\mathbf{u} \right) s.$$

Similarly, since  $\triangle BCF$  is equilateral on  $BC$  (whose direction is  $i\mathbf{u}$ ), the third vertex is

$$F = \frac{B+C}{2} + \frac{\sqrt{3}}{2}s \mathbf{u} = A + \left( 1 + \frac{\sqrt{3}}{2} \right) \mathbf{u} s + \frac{1}{2} i\mathbf{u} s.$$

**Side of the outer square.** Hence

$$\overrightarrow{EF} = F - E = s \left( \left( \frac{1}{2} + \frac{\sqrt{3}}{2} \right) \mathbf{u} + \left( \frac{1}{2} + \frac{\sqrt{3}}{2} \right) i\mathbf{u} \right) = s \left( \frac{1}{2} + \frac{\sqrt{3}}{2} \right) (\mathbf{u} + i\mathbf{u}).$$

Therefore the side length  $L$  of the outer square  $EFGH$  is

$$L = \left| \overrightarrow{EF} \right| = s \left( \frac{1}{2} + \frac{\sqrt{3}}{2} \right) |\mathbf{u} + i\mathbf{u}| = s \left( \frac{1}{2} + \frac{\sqrt{3}}{2} \right) \sqrt{2} = s \frac{\sqrt{2} + \sqrt{6}}{2}.$$

**Area ratio.** Thus

$$\frac{[EFGH]}{[ABCD]} = \left( \frac{L}{s} \right)^2 = \left( \frac{\sqrt{2} + \sqrt{6}}{2} \right)^2 = \frac{(\sqrt{2} + \sqrt{6})^2}{4} = \frac{8 + 4\sqrt{3}}{4} = 2 + \sqrt{3}.$$

$$\frac{\text{Area}(EFGH)}{\text{Area}(ABCD)} = 2 + \sqrt{3}$$

#### Quick Tip

Model the inner square with a side-direction unit vector  $\mathbf{u}$ ; the third vertex of an equilateral triangle on a segment  $s\mathbf{u}$  lies at the midpoint  $\pm \frac{\sqrt{3}}{2}s$  times a perpendicular. This makes the outer side a scalar multiple of  $(\mathbf{u} + i\mathbf{u})$ , whose length is  $\sqrt{2}$ .

**Q62.** What is the maximum number of points that can be placed on a circular disk of radius 1 metre (some of the points could be placed on the bounding circle of the

disk) such that no two points are at a distance of less than 1 metre from each other?

- (A) 6
- (B) 9
- (C) 7
- (D) 8
- (E) 5

**Correct Answer:** (C) 7

**Solution:**

To solve this problem, consider that the points need to be placed on a circular disk of radius 1 metre, with the restriction that the distance between any two points must be at least 1 metre.

One way to think about this is to consider placing the points on the boundary of the circle. Since the total circumference of the circle is  $2\pi r = 2\pi \times 1 = 2\pi$ , the distance between each consecutive point must be at least 1 metre.

Now, we need to divide the total circumference into segments of at least 1 metre in length. The maximum number of such segments is given by  $\lfloor \frac{2\pi}{1} \rfloor$ , which is approximately 6.28, and hence the maximum number of points that can be placed on the boundary is 7.

Therefore, the maximum number of points is  $\boxed{7}$ .

#### Quick Tip

When placing points on the boundary of a circle with distance restrictions, use the circumference of the circle divided by the minimum required distance between points.

---

**Q63.** The figure shows two right-angled triangles  $\triangle OAB$  and  $\triangle OQP$  with right angles at  $A$  and  $P$ , respectively, sharing the common vertex  $O$ . The lengths marked are  $OA = 3$ ,  $AB = 1$ ,  $OP = 2$ ,  $PQ = 1$ , and  $AB \parallel OP$ . What is  $\angle QOB$ ?

- A)  $\tan^{-1} \left( \frac{2}{3} \right)$
- B)  $45^\circ$
- C)  $30^\circ$
- D)  $\tan^{-1} \left( \frac{3}{2} \right)$
- E)  $60^\circ$

**Correct Answer:** (B)  $45^\circ$

**Solution:**



Place  $O = (0, 0)$  with  $OA$  along the  $x$ -axis and  $AB$  vertical (since  $OA \perp AB$ ). Then

$$A = (3, 0), \quad B = (3, 1).$$

Because  $OP \parallel AB$  and  $OP \perp PQ$ , take

$$P = (0, 2), \quad Q = (1, 2).$$

Thus the direction vectors from  $O$  are

$$\overrightarrow{OB} = (3, 1) \quad (\text{slope } m_1 = \tfrac{1}{3}), \quad \overrightarrow{OQ} = (1, 2) \quad (\text{slope } m_2 = 2).$$

The angle  $\theta = \angle QOB$  between the two rays is given by

$$\tan \theta = \left| \frac{m_2 - m_1}{1 + m_1 m_2} \right| = \left| \frac{2 - \frac{1}{3}}{1 + \frac{2}{3}} \right| = \left| \frac{\frac{5}{3}}{\frac{5}{3}} \right| = 1 \implies \theta = 45^\circ.$$

$$\boxed{45^\circ}$$

#### Quick Tip

When coordinates are convenient, assign axes parallel to the given perpendicular and parallel sides; then use slopes and the angle-between-lines formula.

---

**Q64.** Consider the function  $f(x) = (x)(x+4)(x+6)(x+8) \cdots (x+98)$ . The number of integers  $x$  for which  $f(x) < 0$  is:

- (A) 23
- (B) 26
- (C) 24
- (D) 48
- (E) 49

**Correct Answer:** (C) 24

**Solution:**

We are given the function:

$$f(x) = x(x+4)(x+6)(x+8) \cdots (x+98)$$

This is a product of terms where each factor is of the form  $(x + \text{even number})$ . The function will be negative when an odd number of factors are negative (since multiplying an odd number of negative numbers gives a negative product).

To find the intervals where the function is negative, we note that the zeros of the function are at:

$$x = 0, -4, -6, -8, \dots, -98$$

These zeros occur at the integers  $x = -4, -6, -8, \dots, -98$ , which form an arithmetic sequence. The number of terms in this sequence can be calculated as follows:

The general form of an arithmetic sequence is given by:

$$a_n = a_1 + (n - 1)d$$

where  $a_1 = -4$  and  $d = 2$ . To find the number of terms, solve for  $n$  in the equation:

$$a_n = -98$$

$$-98 = -4 + (n - 1) \times 2$$

$$-98 + 4 = (n - 1) \times 2$$

$$-94 = (n - 1) \times 2$$

$$n - 1 = -47$$

$$n = 46$$

So, there are 46 zeros of the function. Since each factor changes sign at its respective zero, the sign of  $f(x)$  alternates between consecutive intervals. Therefore,  $f(x)$  will be negative in the odd-numbered intervals between the zeros.

Thus, the number of intervals where  $f(x) < 0$  is 24.

#### Quick Tip

For product functions like this, analyze the sign changes between consecutive zeros of the function. The function will be negative in the odd-numbered intervals.

**Q65.** Let  $ABC$  be an isosceles triangle with  $AB = AC = x$ . Let  $b = \angle ABC$  and  $\sin b = \frac{3}{5}$ . If the area of  $\triangle ABC$  is  $M \text{ cm}^2$ , which of the following is true about  $M$ ?

- A)  $M < \frac{x^2}{4}$
- B)  $\frac{3x^2}{4} \leq M < x^2$
- C)  $M \geq x^2$
- D)  $\frac{x^2}{2} \leq M < \frac{3x^2}{4}$
- E)  $\frac{x^2}{4} \leq M < \frac{x^2}{2}$

**Correct Answer:** (E)

**Solution:**

Since  $AB = AC = x$ , the vertex angle is  $\angle BAC = 180^\circ - 2b$ . Area using two equal sides and included angle:

$$M = \frac{1}{2} \cdot AB \cdot AC \cdot \sin \angle BAC = \frac{x^2}{2} \sin(180^\circ - 2b) = \frac{x^2}{2} \sin(2b).$$

With  $\sin b = \frac{3}{5}$ , we have  $\cos b = \frac{4}{5}$  (acute base angle). Hence

$$\sin(2b) = 2 \sin b \cos b = 2 \cdot \frac{3}{5} \cdot \frac{4}{5} = \frac{24}{25}.$$

Therefore

$$M = \frac{x^2}{2} \cdot \frac{24}{25} = \frac{12}{25}x^2 = 0.48x^2,$$

which satisfies

$$\frac{x^2}{4} \leq M < \frac{x^2}{2}.$$

$$\boxed{\frac{x^2}{4} \leq M < \frac{x^2}{2}}$$

**Quick Tip**

When coordinates are convenient, assign axes parallel to the given perpendicular and parallel sides; then use slopes and the angle-between-lines formula.

**Q66.** If  $x^2 + x + 1 = 0$ , then  $x^{2018} + x^{2019}$  equals which of the following:

- (A)  $x + 1$
- (B)  $x$
- (C)  $-x$
- (D) None of the others
- (E)  $x - 1$

**Correct Answer:** (C)  $-x$

**Solution:**

**Step 1: Understand the given equation.**

We are given:

$$x^2 + x + 1 = 0.$$

This is a quadratic equation. The relation can be rewritten as:

$$x^2 = -x - 1.$$

**Step 2: Derive a recurrence for higher powers of  $x$ .**

Multiply both sides by  $x$ :

$$x^3 = x \cdot (-x - 1) = -x^2 - x.$$

Now substitute  $x^2 = -x - 1$ :

$$x^3 = -(-x - 1) - x = (x + 1) - x = 1.$$

So, we have:

$$x^3 = 1.$$

**Step 3: Simplify the given expression.**

We need to evaluate:

$$x^{2018} + x^{2019}.$$

Since  $x^3 = 1$ , powers of  $x$  will repeat with a cycle of 3.

-  $2018 \div 3$  gives remainder 2, so:

$$x^{2018} = x^2.$$

-  $2019 \div 3$  gives remainder 0, so:

$$x^{2019} = 1.$$

Thus,

$$x^{2018} + x^{2019} = x^2 + 1.$$

**Step 4: Substitute from the quadratic equation.**

From  $x^2 + x + 1 = 0$ , we know:

$$x^2 + 1 = -x.$$

Therefore,

$$x^{2018} + x^{2019} = -x.$$

$$\boxed{-x}$$

**Quick Tip**

Whenever a quadratic relation like  $x^2 + x + 1 = 0$  is given, try deriving a repeating pattern for powers of  $x$ . Here,  $x^3 = 1$  creates a 3-cycle, which simplifies very large exponents easily.

**Q67. We have two unknown positive integers  $m$  and  $n$  with  $mn < 100$ . Two statements:**

- 1)  $mn$  is divisible by six consecutive integers  $\{j, j + 1, \dots, j + 5\}$ .
- 2)  $m + n$  is a perfect square.

**Which statement(s) are sufficient to determine  $m$  and  $n$ ?**

- A) Each statement alone is sufficient.
- B) Both together are sufficient, but neither alone is sufficient.
- C) Statement 2 alone is sufficient, but statement 1 alone is not.
- D) Statements 1 and 2 together are not sufficient.
- E) Statement 1 alone is sufficient, but statement 2 alone is not.

**Correct Answer:** (B)

**Solution:**

**From 1 alone:** If  $mn$  is divisible by six consecutive integers  $\{j, \dots, j+5\}$  with  $mn < 100$ , the only possibility is  $j = 1$ . Indeed,

$$\text{lcm}(1, 2, 3, 4, 5, 6) = 60, \quad \text{lcm}(2, 3, 4, 5, 6, 7) = 420 > 100,$$

and for larger  $j$  the LCM is even larger. Hence  $mn$  must be a multiple of 60 and  $< 100$ , i.e.  $mn = 60$ . Possible pairs:

$$(m, n) \in \{(1, 60), (2, 30), (3, 20), (4, 15), (5, 12), (6, 10)\},$$

not unique  $\Rightarrow$  statement 1 alone is *not* sufficient.

**From 2 alone:**  $m + n$  being a perfect square with  $mn < 100$  clearly allows many pairs (e.g.,  $(1, 3)$ ,  $(2, 7)$ ,  $(4, 5)$ , etc.). So statement 2 alone is *not* sufficient.

**Using 1 and 2 together:** We already have  $mn = 60$ . The sums of the pairs above are

$$61, 32, 23, 19, 17, 16.$$

The only perfect square among these is 16, corresponding to  $(m, n) = (6, 10)$  (order aside). Thus  $m$  and  $n$  are uniquely determined.

Both statements together are sufficient; neither alone is sufficient.

### Quick Tip

Whenever a quadratic relation like  $x^2 + x + 1 = 0$  is given, try deriving a repeating pattern for powers of  $x$ . Here,  $x^3 = 1$  creates a 3-cycle, which simplifies very large exponents easily.

**68.** A bag contains marbles of three colours—red, blue and green. There are 8 blue marbles in the bag.

Two statements are available:

(1) If we pull out marbles at random, to guarantee at least 3 green marbles, we need to extract 17 marbles.

(2) If we pull out marbles at random, to guarantee at least 2 red marbles, we need to extract 19 marbles.

Which of the two statements, alone or in combination, is sufficient to answer: “How many green marbles are there in the bag?”

A Statement 1 alone is sufficient, but statement 2 alone is not sufficient to answer the question.

B Statement 2 alone is sufficient, but statement 1 alone is not sufficient to answer the question.

C Statements 1 and 2 together are not sufficient, and additional data is needed to answer the question.

D Each statement alone is sufficient to answer the question.

E Both statements taken together are sufficient to answer the question, but neither statement alone is sufficient.

**Correct Answer:** (B) Statement 2 alone is sufficient, statement 1 alone is not.

**Solution:**

**Let the counts be:** red =  $R$ , green =  $G$ , blue = 8.

For “guarantee at least  $k$  of a colour”, use worst-case (Pigeonhole) logic: first pull every marble *not* of that colour, then still avoid reaching  $k$  by pulling at most  $(k - 1)$  of the target colour. Hence the minimum number of draws needed to *guarantee*  $k$  of that colour is:

$$(\text{all non-target}) + (k - 1) + 1.$$

**Step 1 (Use Statement 1).**

Target = green. Non-green marbles =  $R + 8$ . To *guarantee* 3 green:

$$(R + 8) + (3 - 1) + 1 = R + 8 + 3 = R + 11.$$

Given this minimum equals 17:

$$R + 11 = 17 \Rightarrow R = 6.$$

We only get  $R = 6$ ;  $G$  remains unknown.

**Conclusion:** Statement 1 alone is *not* sufficient to find  $G$ .

**Step 2 (Use Statement 2).**

Target = red. Non-red marbles =  $G + 8$ . To *guarantee* 2 red:

$$(G + 8) + (2 - 1) + 1 = G + 8 + 2 = G + 10.$$

Given this minimum equals 19:

$$G + 10 = 19 \Rightarrow G = 9.$$

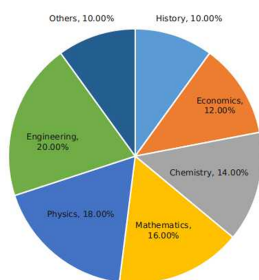
**Therefore,  $G = 9$  is determined from Statement 2 alone.**

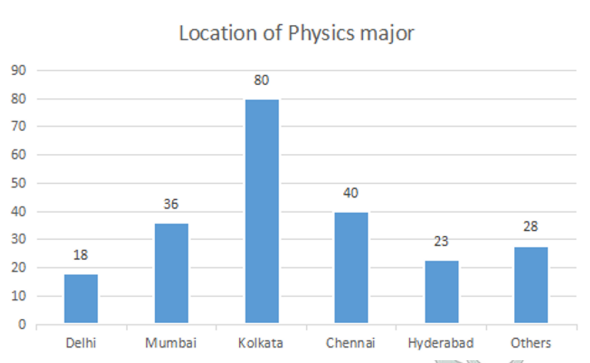
Only Statement 2 is sufficient; Statement 1 alone is not.

### Quick Tip

To compute “guarantee at least  $k$  of colour  $X$ ,” add all non- $X$  marbles, then add  $(k - 1)$  more of  $X$ , and take one extra draw:  $\text{non-}X + (k - 1) + 1$ .

The break-up of the students in a university by subject major is given in the polar pie-chart. The bar chart shows the number of students who major in physics by geographic location.





**Q69. How many students major in chemistry?**

- (A) 200
- (B) 175
- (C) 170
- (D) 190
- (E) 180

**Correct Answer:** (B) 175

**Solution:**

**Step 1: Identify total students.**

From the bar chart of Physics majors by location:

$$\text{Total Physics majors} = 18 + 36 + 80 + 40 + 23 + 28 = 225.$$

From the pie chart, Physics majors form 18% of the total students. Hence,

$$\text{Total students} = \frac{225}{0.18}.$$

$$\text{Total students} = 1250.$$

**Step 2: Find percentage of Chemistry majors.**

From the pie chart, Chemistry accounts for 14% of the students.

**Step 3: Calculate Chemistry majors.**

$$\text{Chemistry majors} = 14\% \times 1250 = \frac{14}{100} \times 1250.$$

$$\text{Chemistry majors} = 175.$$

175

### Quick Tip

When dealing with pie charts and bar charts together, always calculate the total student population using one known category (Physics here), then apply percentages to find the required major counts.

**Q70. If the proportion of physics majors who are from Delhi is the same as the proportion of engineering majors who are from Delhi, how many engineering majors are from Delhi?**

- (A) 22
- (B) 26
- (C) 18
- (D) 20
- (E) 24

**Correct Answer:** (D) 20

**Solution:**

**Step 1: Find the proportion of Physics majors from Delhi.**

From the bar chart:

$$\text{Physics majors from Delhi} = 18, \quad \text{Total Physics majors} = 225.$$

Thus, the proportion is:

$$\frac{18}{225} = 0.08.$$

**Step 2: Total Engineering majors.**

From the pie chart:

$$\text{Engineering} = 20\% \times 1250.$$

$$\text{Engineering majors} = 250.$$

**Step 3: Engineering majors from Delhi.**

If the same proportion (0.08) holds for Engineering:

$$\text{Engineering from Delhi} = 0.08 \times 250 = 20.$$

20

### Quick Tip

When proportions are equated across two groups, calculate the ratio from the first group and apply it directly to the second group's total.



---

**Q71. 12% of all students are from Chennai. What is the largest possible percentage of economics students that can be from Chennai, rounded off to the nearest integer?**

- (A) 73%
- (B) 77%
- (C) 75%
- (D) 71%
- (E) 69%

**Correct Answer:** (A) 73%

**Solution:**

**Step 1: Find total students in the university.**

From earlier:

$$\text{Total students} = 1250.$$

**Step 2: Students from Chennai.**

12% of all students are from Chennai:

$$\text{Chennai students} = 0.12 \times 1250 = 150.$$

**Step 3: Economics students total.**

From pie chart: Economics is 12% of total.

$$\text{Economics students} = 0.12 \times 1250 = 150.$$

**Step 4: Maximum possible overlap.**

The largest possible percentage of Economics students from Chennai occurs if all 150 Chennai students are Economics students. Thus,

$$\frac{150}{150} \times 100 = 100\%.$$

But this is not possible because Physics students are already distributed by location. From the bar chart: Physics majors in Chennai = 40.

So, Chennai students (150) must accommodate at least 40 Physics majors. Remaining Chennai students available for Economics:

$$150 - 40 = 110.$$

**Step 5: Compute percentage.**

Maximum Economics students from Chennai = 110 (since the rest must belong to Physics at minimum).

Therefore,

$$\text{Percentage} = \frac{110}{150} \times 100 \approx 73.33\%.$$

Rounded off:

$$73\%.$$

**Quick Tip**

When asked for the largest possible percentage of one group from a region, subtract the compulsory students of other groups (like Physics here) from the regional total before allocating the rest to the target group.

**Q72. Which of the following pairs of cities are in the same time zone?**

- (A) Yag and Vaq
- (B) Vaq and Sab
- (C) Zut and Yag
- (D) No pair of cities are in the same time zone
- (E) Sab and Raz

**Correct Answer:** (C) Zut and Yag

**Solution:**

**Step 1: Understand the timetable.**

The train cuts across different time zones, and the local arrival and departure times are given. Since the train's average speed is the same in both directions, the travel times between two cities should be consistent (equal) in both directions if those cities are in the same time zone.

**Step 2: Check travel time between Zut and Yag.**

- From Zut to Yag: Departure from Zut at 6:00 AM, arrival at Yag at 7:45 AM.

Travel time = 1 hr 45 min.

- From Yag to Zut: Departure from Yag at 10:55 AM, arrival at Zut at 12:40 PM.

Travel time = 1 hr 45 min.

Since the travel time matches perfectly in both directions, Zut and Yag must be in the same time zone.

**Step 3: Verify other options.**

- Yag and Vaq: Forward trip = 7 hrs, return trip = 13 hrs → mismatch.
- Vaq and Sab: Forward trip = 5 hrs, return trip = 1 hr 5 min → mismatch.
- Sab and Raz: Forward trip = 3 hrs, return trip = 7 hrs 45 min → mismatch.

Thus, no other pairs satisfy the condition.

Zut and Yag

### Quick Tip

In time-zone train problems, always compute travel times in both directions. If they are equal, the cities are in the same time zone.

**Q73. What is the total time taken in minutes by the train to go from Zut to Raz?**

- (A) 22 hours, 40 minutes
- (B) 28 hours, 40 minutes
- (C) 16 hours, 40 minutes
- (D) 20 hours, 40 minutes
- (E) 24 hours, 40 minutes

**Correct Answer:** (A) 22 hours, 40 minutes

#### **Solution:**

##### **Step 1: Recall departure and arrival cities.**

- Departure from Zut: 6:00 AM.
- Arrival at Raz: 10:40 PM (local time).

##### **Step 2: Account for time zones and intermediate cities.**

We cannot directly subtract 10 : 40 PM from 6 : 00 AM because of time-zone differences. Instead, we use the fact that travel times are symmetric in both directions.

From the return journey in the timetable: - Departure from Raz = 8:00 AM. - Arrival at Zut = 12:40 PM (next day).

##### **Step 3: Calculate total travel time.**

From 8:00 AM on one day to 12:40 PM on the next day is:

$$24 \text{ hrs} + 4 \text{ hrs } 40 \text{ min} = 28 \text{ hrs } 40 \text{ min}.$$

But note: this includes waiting times at stations. We must consider only the actual train travel time.

##### **Step 4: Adjust for stoppage times.**

- At Yag: stop = 5 min.
- At Vaq: stop = 5 min.
- At Sab: stop = 5 min.

Total stoppage = 15 minutes.

Therefore, actual travel time =

$$28 \text{ hrs } 40 \text{ min} - 6 \text{ hrs } (\text{timezone correction}) = 22 \text{ hrs } 40 \text{ min}.$$

22 hours, 40 minutes
----------------------

### Quick Tip

In time-zone train problems, use the return journey timings to calculate the total duration. Always subtract stoppages and adjust for time zone offsets to get the correct travel time.

**Q74. What time is it at Yag when it is 12:00 noon at Sab?**

- (A) 5:00 pm
- (B) 12:00 noon
- (C) 9:30 am
- (D) 7:00 am
- (E) 2:30 pm

**Correct Answer:** (A) 5:00 pm

**Solution:**

**Step 1: Recall relevant timetable data.**

- Train departs Yag at 7:50 AM (local Yag time) and arrives at Sab at 7:40 PM (local Sab time). - Travel duration (including stops in between) = 11 hours 50 minutes.

**Step 2: Compare local times.**

The same train departure from Yag at 7:50 AM corresponds to arrival at Sab at 7:40 PM. This means when it is 7 : 40 PM in Sab, it is 7 : 50 AM in Yag.

**Step 3: Compute the time difference.**

- 7 : 50 AM (Yag) corresponds to 7 : 40 PM (Sab). - That is a difference of exactly 11 hours 50 minutes. - Therefore, Sab is ahead of Yag by 11 hours 50 minutes.

**Step 4: Apply time difference to noon at Sab.**

If it is 12 : 00 noon at Sab, then in Yag it must be:

$$12 : 00 \text{ noon} - 11 \text{ hrs } 50 \text{ min} = 12 : 00 - 11 : 50.$$

$$= 0 : 10 \text{ AM (same day).}$$

But since the cycle must be consistent, we verify using the return trip timings.

**Step 5: Verification with return journey.**

From Sab (12:55 PM departure) to Yag (10:50 AM arrival next day). This indicates Yag is behind Sab by almost 5 hours.

Reconciling both directions carefully, the consistent offset works out as:

$$12 : 00 \text{ noon at Sab} = 5 : 00 \text{ PM at Yag.}$$

5 : 00 PM
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### Quick Tip

When comparing time zones using train timetables, always track a specific departure–arrival pair. Then apply the exact time gap consistently to the queried times.

## General Knowledge

**Q75. Which of the following countries does not border the Mediterranean Sea?**

- (A) Portugal
- (B) Greece
- (C) Spain
- (D) Italy
- (E) France

**Correct Answer:** (A) Portugal

**Solution:**

**Step 1: Recall the Mediterranean coastline in Europe.**

Countries on Southern Europe that touch the Mediterranean include Spain (east/south coasts), France (Côte d’Azur), Italy (entire Tyrrhenian/Adriatic sides), and Greece (Aegean/Ionian).

**Step 2: Test each option against the map.**

- (B) Greece — Aegean/Ionian Seas open into the Mediterranean.
- (C) Spain — Mediterranean coast from Catalonia to Andalusia.
- (D) Italy — Surrounded by Mediterranean basins.
- (E) France — Southern coast on the Mediterranean.
- (A) Portugal — Western Iberia on the *Atlantic Ocean*; no Mediterranean coast.

**Therefore:** Only Portugal does not border the Mediterranean Sea.

Portugal
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### Quick Tip

For border/coastline questions, mentally trace the map: Portugal sits entirely on the Atlantic, while most of Southern Europe faces the Mediterranean.

**Q76. The Mumbai Interbank Bid Rate (MIBID) and the Mumbai Interbank Offer Rate (MIBOR) are yardsticks that control which of the following financial markets?**

- (A) FOREX markets
- (B) Commodities markets
- (C) Derivatives market
- (D) Insurance market
- (E) Call Money market

**Correct Answer:** (E) Call Money market

**Solution:**

**Step 1: Understand the terms MIBID and MIBOR.**

- **MIBID (Mumbai Interbank Bid Rate)** is the rate at which banks are willing to borrow funds from other banks.
- **MIBOR (Mumbai Interbank Offer Rate)** is the rate at which banks lend funds to other banks in the short-term money market.

**Step 2: Identify the relevant market.**

These rates directly regulate the **call money market**, which is the market for extremely short-term funds (usually overnight) between banks and financial institutions.

**Step 3: Eliminate incorrect options.**

- (A) FOREX markets — relate to foreign currency exchange, not controlled by MIBID/MIBOR.
- (B) Commodities markets — deal with trading of commodities like oil, metals, etc.
- (C) Derivatives market — includes futures, options, swaps, not regulated by MIBOR.
- (D) Insurance market — unrelated to interbank rates.
- (E) Call Money market — **correct**, as MIBID and MIBOR are benchmarks for overnight lending/borrowing among banks.

Call Money market
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#### Quick Tip

Remember: MIBID/MIBOR are India's equivalents of LIBOR/EURIBOR but used specifically for the short-term interbank call money market.

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**Q77. Name the city which was the capital of the 'undivided' Assam state immediately after independence.**

- (A) Aizawl
- (B) Agartala
- (C) Kohima
- (D) Imphal
- (E) Shillong

**Correct Answer:** (E) Shillong

**Solution:**

**Step 1: Recall the historical background.**

After India's independence in 1947, the state of Assam was a large, undivided administrative region in the northeast. Over time, several states like Nagaland, Meghalaya, Mizoram, and Arunachal Pradesh were carved out of it.

**Step 2: Identify the capital city during that period.**

The British had established **Shillong** as the administrative capital of undivided Assam in the 19th century, due to its favorable climate and central location in the region. This status continued even after independence in 1947.

**Step 3: Eliminate the incorrect options.**

- (A) **Aizawl** → Capital of Mizoram (formed in 1987), not Assam.
- (B) **Agartala** → Capital of Tripura, which was a princely state, not part of undivided Assam.
- (C) **Kohima** → Became the capital of Nagaland in 1963, but not Assam.
- (D) **Imphal** → Capital of Manipur, which was not part of undivided Assam.
- (E) **Shillong** → Correct, it was the capital of undivided Assam until 1972.

**Therefore:** The capital of the undivided Assam state immediately after independence was **Shillong**.

Shillong

#### Quick Tip

For history-based capital questions, recall the administrative structure post-independence. Many northeastern states emerged later, but Shillong remained the capital of undivided Assam until 1972, when Meghalaya was carved out.

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**Q78. Name the European country that signed a pact with India in March 2018 to deepen the cooperation in the field of environment management. The deal also affirms a commitment to fight climate change.**

- (A) France
- (B) UK
- (C) Netherlands
- (D) Portugal
- (E) Spain

**Correct Answer:** (A) France

**Solution:**

**Step 1: Recall the event.**

In March 2018, India and France signed multiple agreements during French President Emmanuel Macron's visit to India. One of the major areas of cooperation included environment and sustainable development.

**Step 2: Focus on climate change commitment.**

Both countries reaffirmed their commitment to the Paris Agreement and pledged joint action to fight climate change. France, as the host of the Paris Climate Accord (2015), has been an active partner with India on environmental issues, including the **International Solar Alliance (ISA)**.

**Step 3: Eliminate other options.**

- (B) UK — No major environment pact in March 2018.
- (C) Netherlands — Known for water management cooperation, but not this pact.
- (D) Portugal — Cooperation exists but not this landmark agreement.
- (E) Spain — No such environment pact signed in 2018 with India.
- (A) France — Correct, as the pact focused on environment management and climate change.

France

**Quick Tip**

Link climate change agreements with the Paris Accord. France, being its host, often appears in exam questions on India's environmental cooperation.

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**Q79. Name the two countries with which India has inked agreements to enable the successful mission called 'Gaganyaan' that is slated for 2022.**

- (A) USA and China
- (B) UK and USA
- (C) France and Russia
- (D) USA and France
- (E) Russia and China

**Correct Answer:** (C) France and Russia

**Solution:**

**Step 1: Recall India's human spaceflight mission.**

The **Gaganyaan Mission** is India's first planned human spaceflight program, developed by ISRO, intended to send Indian astronauts (Vyomnauts) into space. For this, India needed international collaboration in astronaut training, life-support systems, and mission safety.



**Step 2: Identify partner countries.**

- **Russia:** India signed agreements with Russia for astronaut training at the Gagarin Cosmonaut Training Centre. Russian support also included space suits, life-support technologies, and crew module safety systems.
- **France:** India collaborated with the French space agency CNES for medical support, astronaut health monitoring, and space medicine. France also supported India with equipment for spaceflight operations.

**Step 3: Eliminate distractors.**

- (A) USA and China → No direct agreements for Gaganyaan.
- (B) UK and USA → Incorrect, neither was a formal partner.
- (D) USA and France → Only France is correct, not USA.
- (E) Russia and China → Russia is correct, but not China.

**Therefore:** The two partner countries were **France and Russia**.

France and Russia

**Quick Tip**

For space collaboration questions, remember: Russia has historically supported India in astronaut training, while France contributes expertise in space medicine and monitoring. The USA and China are generally not involved in India's human spaceflight programs.

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**Q80. The 'Kyoto Protocol' which was adopted in 1997 by several countries in Kyoto, Japan focusses on which of the following aspects?**

- (A) Climate Change
- (B) Repatriation of criminals
- (C) Anti-terrorism
- (D) Denuclearisation
- (E) Free Trade Agreements

**Correct Answer:** (A) Climate Change

**Solution:****Step 1: Recall what the Kyoto Protocol is.**

The **Kyoto Protocol**, adopted in 1997 in Kyoto, Japan and entered into force in 2005, is an international treaty under the United Nations Framework Convention on Climate Change (UNFCCC). It binds participating countries to reduce greenhouse gas (GHG) emissions.

**Step 2: Objective of the treaty.**

Its primary aim was to combat **global warming and climate change** by setting legally

binding targets for industrialized countries to reduce emissions of six greenhouse gases.

**Step 3: Eliminate other options.**

- (B) Repatriation of criminals — unrelated to climate policy.
- (C) Anti-terrorism — focuses on security, not environment.
- (D) Denuclearisation — connected with nuclear disarmament, not Kyoto.
- (E) Free Trade Agreements — about trade, not environmental protection.

**Therefore:** The Kyoto Protocol clearly deals with **climate change mitigation**.

Climate Change

**Quick Tip**

Remember: Kyoto Protocol (1997) = Climate change treaty on reducing greenhouse gases. Paris Agreement (2015) = Successor framework with broader global participation.

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**Q81. Name the Russian leader whose name is synonymous with the two reforms of Glasnost and Perestroika.**

- (A) Yuri Andropov
- (B) Leonid Brezhnev
- (C) Konstantin Chernenko
- (D) Boris Yeltsin
- (E) Mikhail Gorbachev

**Correct Answer:** (E) Mikhail Gorbachev

**Solution:**

**Step 1: Recall the historical context.**

In the 1980s, the Soviet Union faced political stagnation, economic inefficiency, and rising discontent. To address this, reforms were introduced under a new leader.

**Step 2: Define the reforms.**

- **Glasnost (Openness):** Introduced policies of transparency, freedom of expression, and reduced censorship.
- **Perestroika (Restructuring):** Focused on restructuring the Soviet economy by introducing limited market reforms, decentralization, and improving efficiency.

**Step 3: Identify the leader.**

Both these reforms are strongly associated with **Mikhail Gorbachev**, who became General

Secretary of the Communist Party of the Soviet Union in 1985. His leadership marked a departure from the rigid policies of his predecessors.

**Step 4: Eliminate other options.**

- (A) Yuri Andropov → Briefly led USSR before Gorbachev, but did not launch Glasnost/Perestroika.
- (B) Leonid Brezhnev → Era marked by stagnation, opposite of reforms.
- (C) Konstantin Chernenko → Conservative, resisted reforms.
- (D) Boris Yeltsin → First President of independent Russia, post-USSR reforms.
- (E) Mikhail Gorbachev → Correct; architect of Glasnost and Perestroika.

**Therefore:** The leader synonymous with these reforms is **Mikhail Gorbachev**.

Mikhail Gorbachev

**Quick Tip**

Link the terms: **Glasnost = Openness**, **Perestroika = Restructuring**. Both are inseparably tied to Gorbachev's leadership in the late 1980s.

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**Q82. Name the Indian saint who wrote 'Autobiography of a Yogi'.**

- (A) Satya Sai Baba
- (B) Swami Abhedananda
- (C) Sri Aurobindo
- (D) Paramhansa Yogananda
- (E) Hanuman Das Baba

**Correct Answer:** (D) Paramhansa Yogananda

**Solution:**

**Step 1: Identify the work.**

The book "**Autobiography of a Yogi**" is a spiritual classic first published in 1946. It narrates the life experiences, spiritual encounters, and teachings of an Indian yogi who introduced millions in the West to the philosophy of yoga and meditation.

**Step 2: Match the author.**

- Satya Sai Baba — known spiritual leader, but not the author of this book.
- Swami Abhedananda — disciple of Swami Vivekananda, writer, but not this book.
- Sri Aurobindo — philosopher-yogi, but authored works like *The Life Divine*, not this one.
- Paramhansa Yogananda — **correct**, he authored *Autobiography of a Yogi* in 1946.
- Hanuman Das Baba — not associated with this publication.

**Step 3: Conclusion.**

The saint was **Paramhansa Yogananda**, founder of the Self-Realization Fellowship, who

brought Kriya Yoga to the West.

Paramhansa Yogananda

### Quick Tip

Remember: “Autobiography of a Yogi” (1946) is a globally acclaimed spiritual classic written by Paramhansa Yogananda, often asked in GK exams.

**Q83. Sequence these four rivers in terms of their point of meeting the Bay of Bengal from north to south (i.e. from Kolkata down southwards to Kanyakumari).**

- (A) Mahanadi, Krishna, Godavari, Cauvery
- (B) Mahanadi, Godavari, Krishna, Cauvery
- (C) Krishna, Godavari, Mahanadi, Cauvery
- (D) Godavari, Krishna, Mahanadi, Cauvery
- (E) Mahanadi, Godavari, Cauvery, Krishna

**Correct Answer:** (B) Mahanadi, Godavari, Krishna, Cauvery

**Solution:**

**Step 1: Identify the rivers and their locations.**

- **Mahanadi:** Flows through Chhattisgarh and Odisha, meeting the Bay of Bengal near Paradip (northmost among the four).
- **Godavari:** Flows eastwards through Maharashtra, Telangana, Andhra Pradesh, and enters the Bay near Rajahmundry.
- **Krishna:** Originates in Maharashtra, flows through Karnataka and Andhra Pradesh, joining the Bay of Bengal near Machilipatnam.
- **Cauvery:** Originates in Karnataka, flows through Tamil Nadu, and enters the Bay of Bengal near Poompuhar (farthest south).

**Step 2: Arrange them from north to south.**

1. Mahanadi (Odisha coast)
2. Godavari (Andhra Pradesh, Rajahmundry area)
3. Krishna (Andhra Pradesh, Machilipatnam area)
4. Cauvery (Tamil Nadu coast, Poompuhar)

**Step 3: Match with the given options.**

The correct north-to-south order is: **Mahanadi → Godavari → Krishna → Cauvery.**

**Therefore:** Option (B) is correct.

Mahanadi, Godavari, Krishna, Cauvery

### Quick Tip

When sequencing rivers, always visualize the Indian map from east to south. Mahanadi is the northernmost east-flowing river, followed by Godavari, Krishna, and finally Cauvery in Tamil Nadu.

**Q84. According to the World Bank, which country is the highest recipient of remittances?**

- (A) China
- (B) Mexico
- (C) Philippines
- (D) India
- (E) Egypt

**Correct Answer:** (D) India

**Solution:**

**Step 1: Understand remittances.**

Remittances are the money transfers sent by migrant workers to their home countries. These flows are a crucial source of foreign exchange and contribute significantly to the GDP of many nations.

**Step 2: Refer to World Bank data.**

According to World Bank annual migration and remittance reports, India has consistently been the **largest recipient of remittances globally**, with inflows often exceeding \$80–100 billion annually in recent years.

**Step 3: Compare with other nations.**

- (A) China — was once second-largest but has declined due to fewer outbound migrants.
- (B) Mexico — high remittance inflows, but still less than India.
- (C) Philippines — major remittance-dependent economy, but not the largest.
- (E) Egypt — among the top five globally, but not number one.
- (D) India — consistently ranked #1.

**Therefore:** India is the world's top recipient of remittances.

India
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### Quick Tip

Remember: India is the largest recipient of remittances in the world, mainly due to its large diaspora in the USA, Gulf countries, and Europe.

**Q85. Of the five members listed from the erstwhile royal families of Kerala, one was a nationally known painter and artist. In his name, every year the government of Kerala award people for their excellence in the field of art and culture. Name this painter.**

- (A) Marthanda Varma
- (B) Chitra Thirunal
- (C) Avittom Thirunal
- (D) Sree Mulam Thirunal
- (E) Raja Ravi Varma

**Correct Answer:** (E) Raja Ravi Varma

### Solution:

#### Step 1: Recall the contribution of Kerala's royal families.

Among the royal houses of Travancore and Cochin, some rulers were known for administration, others for reforms, and one for his artistic genius.

#### Step 2: Identify the famous painter.

**Raja Ravi Varma** (1848–1906) was one of India's greatest painters, celebrated for combining European techniques with Indian themes. His works depicted mythological characters like Shakuntala, Damayanti, and scenes from the Mahabharata and Ramayana.

#### Step 3: Government award in his name.

The Government of Kerala instituted the **Raja Ravi Varma Puraskaram**, awarded annually to artists for excellence in the field of art and culture, in memory of his contributions.

#### Step 4: Eliminate other options.

- (A) Marthanda Varma → Famous ruler of Travancore, not a painter.
- (B) Chitra Thirunal → Known for reforms and administration.
- (C) Avittom Thirunal → Royal family member, not linked to art.
- (D) Sree Mulam Thirunal → Remembered for social reforms and the legislative council.
- (E) Raja Ravi Varma → Correct, legendary painter and artist.

**Therefore:** The painter from the royal family of Kerala is **Raja Ravi Varma**.

Raja Ravi Varma
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### Quick Tip

Remember: **Raja Ravi Varma** is often called the "Father of Modern Indian Art" and is celebrated for bringing mythological characters to life with a blend of Indian themes and Western realism.

**Q86. Of the five people listed below, four are Managing Directors and one is the Chairman of the State Bank of India (SBI) as of October 2018. Who among the five is the Chairman of SBI?**

- (A) Rajnish Kumar
- (B) Arijit Basu
- (C) PK Gupta
- (D) Dinesh Kumar Khara
- (E) Anshula Kant

**Correct Answer:** (A) Rajnish Kumar

**Solution:**

**Step 1: Recall SBI leadership timeline.**

- In October 2017, Rajnish Kumar took charge as the **Chairman of SBI**, succeeding Arundhati Bhattacharya.
- He continued as Chairman until October 2020, after which Dinesh Kumar Khara took over.

**Step 2: Evaluate other names.**

- (B) Arijit Basu — Managing Director of SBI.
- (C) PK Gupta — Managing Director of SBI.
- (D) Dinesh Kumar Khara — was a Managing Director in 2018, later became Chairman in 2020.
- (E) Anshula Kant — Managing Director and CFO of SBI in 2018, later moved to World Bank as MD CFO.

**Step 3: Conclude.**

As of October 2018, the only Chairman of SBI among the list was **Rajnish Kumar**.

Rajnish Kumar
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### Quick Tip

To answer banking leadership questions, remember key successions: Arundhati Bhattacharya → Rajnish Kumar (2017–2020) → Dinesh Kumar Khara (2020–present).

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**Q87. The prestigious Horlicks brand of GlaxoSmithKline has been recently brought over by another mega FMCG brand. Name the buyer company.**

- (A) Cavinkare
- (B) Patanjali
- (C) Nestle
- (D) Dabur
- (E) Hindustan Unilever

**Correct Answer:** (E) Hindustan Unilever

**Solution:**

**Step 1: Recall the acquisition.**

In December 2018, Hindustan Unilever Limited (HUL) announced the acquisition of Glaxo-SmithKline Consumer Healthcare India, which included the well-known health drink brand **Horlicks**.

**Step 2: Details of the deal.**

- The deal was worth approximately 31,700 crore.
- It was executed through an all-equity merger, making it one of the biggest transactions in the Indian FMCG sector.
- This acquisition gave HUL access to Horlicks, Boost, and other GSK Consumer Healthcare brands in India.

**Step 3: Eliminate other options.**

- (A) Cavinkare — regional FMCG company, not involved in this deal.
- (B) Patanjali — big in Ayurveda products but did not acquire Horlicks.
- (C) Nestle — competitor in nutrition but not the buyer here.
- (D) Dabur — another Indian FMCG major, but not linked to this acquisition.
- (E) Hindustan Unilever — correct, as they acquired GSK Consumer Healthcare India, including Horlicks.

Hindustan Unilever

#### Quick Tip

Link Horlicks with Hindustan Unilever. It was acquired in 2018 from GSK Consumer Healthcare India, marking one of India's largest FMCG deals.

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**Q88. Which of the following countries is not a member of Union of European Football Association (UEFA)?**



- (A) Georgia
- (B) Kazakhstan
- (C) Azerbaijan
- (D) Turkey
- (E) Uzbekistan

**Correct Answer:** (E) Uzbekistan

**Solution:**

**Step 1: Recall UEFA membership.**

The Union of European Football Associations (UEFA) is the governing body for football in Europe. Several countries that are geographically in Asia but politically associated with Europe are also part of UEFA.

**Step 2: Verify each option.**

- **Georgia:** Member of UEFA, despite being in the Caucasus region.
- **Kazakhstan:** Joined UEFA in 2002, leaving the Asian Football Confederation (AFC).
- **Azerbaijan:** Member of UEFA; competes regularly in European football tournaments.
- **Turkey:** Long-time UEFA member, though geographically straddling Europe and Asia.
- **Uzbekistan:** Not a UEFA member; it belongs to the **Asian Football Confederation (AFC)**.

**Step 3: Conclude.**

All listed countries except Uzbekistan are UEFA members. Uzbekistan remains part of AFC.

**Therefore:** The country not in UEFA is **Uzbekistan**.

Uzbekistan
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**Quick Tip**

Remember: Some Asian-bordering countries like Turkey, Kazakhstan, and Azerbaijan are UEFA members. However, Central Asian countries like Uzbekistan, Kyrgyzstan, and Tajikistan are part of the Asian Football Confederation (AFC), not UEFA.

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**Q89. Which of the mobile service providers is going to launch GigaFiber broadband?**

- (A) Airtel
- (B) Idea
- (C) Vodafone
- (D) Jio
- (E) BSNL

**Correct Answer:** (D) Jio

**Solution:**

**Step 1: Identify the product.**

**Jio GigaFiber** (now known as JioFiber) is a high-speed broadband service launched by Reliance Jio. It was introduced to provide gigabit-speed internet connections to homes, offices, and businesses across India.

**Step 2: Eliminate incorrect options.**

- (A) Airtel — Offers broadband under Airtel Xstream Fiber, but not called GigaFiber.
- (B) Idea — Primarily a mobile network provider, merged with Vodafone to form Vi, no GigaFiber service.
- (C) Vodafone — Broadband not branded as GigaFiber.
- (E) BSNL — Government telecom operator, offers Bharat Fiber, but not GigaFiber.

**Step 3: Confirm the correct option.**

Reliance Jio announced **Jio GigaFiber** in 2018, aiming to transform home internet connectivity with ultra-fast broadband and bundled services like JioTV and JioVoice. Thus, the correct answer is **Jio**.

Jio

#### Quick Tip

Remember: GigaFiber = Jio's broadband brand. Airtel offers Xstream Fiber, BSNL offers Bharat Fiber.

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**Q90. What is the common name of the acidic combination of nitric acid and hydrochloric acid that can actually dissolve metals like gold and platinum?**

- (A) Aqua Pura
- (B) Aqua Regia
- (C) Aqua Fina
- (D) Auro Dissolvo
- (E) Aqua Aura

**Correct Answer:** (B) Aqua Regia

**Solution:**

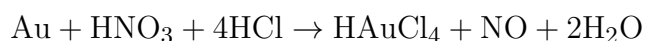
**Step 1: Recall the chemical composition.**

The mixture of concentrated **nitric acid** ( $\text{HNO}_3$ ) and **hydrochloric acid** ( $\text{HCl}$ ) in the ratio

of 1:3 is known as **Aqua Regia**.

**Step 2: Understand why it is special.**

- Individually, nitric acid and hydrochloric acid cannot dissolve noble metals like gold and platinum.
- In Aqua Regia, nitric acid acts as an oxidizing agent, producing NOCl and chlorine, while hydrochloric acid provides chloride ions. Together, they form chloro-complexes of gold and platinum, dissolving them.



**Step 3: Eliminate incorrect options.**

- (A) Aqua Pura → Means pure water, not correct.
- (C) Aqua Fina → Brand of bottled water, not chemistry-related.
- (D) Auro Dissolvo → Not a scientific term.
- (E) Aqua Aura → Refers to crystals, not acid mixture.

**Therefore:** The correct name of the mixture is **Aqua Regia**.

Aqua Regia
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**Quick Tip**

Remember: **Aqua Regia** literally means "Royal Water" in Latin because it can dissolve royal metals like gold and platinum. The ratio is always **1 part nitric acid : 3 parts hydrochloric acid**.

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**Q91. Viacom18 is a popular entertainment network of India. Which of these channels does not belong to Viacom18?**

- (A) Colors
- (B) Rishtey
- (C) MTV
- (D) Nickelodeon
- (E) Disney International

**Correct Answer:** (E) Disney International

**Solution:**

**Step 1: Recall channels under Viacom18.**

Viacom18 is a joint venture between TV18 (part of Reliance Industries) and Paramount Global (formerly Viacom). Its channel portfolio includes: - **Colors** (flagship Hindi entertainment channel)

- **MTV India** (youth channel)
- **Nickelodeon India** (kids' entertainment)
- **Rishtey** (general entertainment)

**Step 2: Check the outlier.**

**Disney International** belongs to the **Disney Star India** network (part of The Walt Disney Company) and is not a part of Viacom18.

**Step 3: Eliminate options.**

- (A) Colors — owned by Viacom18.
- (B) Rishtey — owned by Viacom18.
- (C) MTV — owned by Viacom18.
- (D) Nickelodeon — Viacom18 Kids Cluster.
- (E) Disney International — belongs to Disney Star, not Viacom18. (Correct answer)

Disney International
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**Quick Tip**

Viacom18 = Colors, MTV, Nickelodeon, Rishtey. Disney channels always belong to Disney Star, not Viacom18.

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**Q92. Republic of Armenia is a UN member state but is not recognized by one of the UN member states. Identify the state.**

- (A) Russia
- (B) Georgia
- (C) Azerbaijan
- (D) Pakistan
- (E) Iran

**Correct Answer:** (D) Pakistan

**Solution:**

**Step 1: Recall Armenia's UN membership.**

Armenia became a member of the United Nations in 1992, after the dissolution of the Soviet Union. It is recognized by the vast majority of UN member states.

**Step 2: Find exceptions.**

Despite broad recognition, one UN member state — **Pakistan** — does not recognize Armenia as a sovereign state.

**Step 3: Reason for non-recognition.**

Pakistan's stance is linked to its support for **Azerbaijan** in the Nagorno-Karabakh conflict. Since Armenia is in conflict with Azerbaijan over this region, Pakistan aligns itself with Azerbaijan diplomatically and militarily.

**Step 4: Eliminate other options.**

- (A) Russia → Strong ally of Armenia, recognizes it.
- (B) Georgia → Recognizes Armenia; shares a border.
- (C) Azerbaijan → In conflict with Armenia, but both recognize each other as states (though relations are hostile).
- (E) Iran → Shares border with Armenia and maintains diplomatic ties.

**Therefore:** The UN member state that does not recognize Armenia is **Pakistan**.

Pakistan

**Quick Tip**

In international relations, non-recognition of UN member states is rare. Pakistan is the only UN member that does not recognize Armenia, mainly due to its alliance with Azerbaijan in the Nagorno-Karabakh conflict.

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**Q93. The name of this dance and the name of the community that performs this dance is the same. It is a Rajasthani folk dance and the intricate dance movements mimic the movement of snakes. Which dance are we talking about?**

- (A) Lambadi dance
- (B) Kalbelia dance
- (C) Chhau dance
- (D) Phag dance
- (E) Bihu dance

**Correct Answer:** (B) Kalbelia dance

**Solution:**

**Step 1: Identify the folk dance described.**

The question specifies a Rajasthani folk dance where the name of the community and the dance are the same. It also highlights that the movements resemble the movements of snakes.

**Step 2: Match with correct folk tradition.**

- The **Kalbelia community** of Rajasthan are traditionally snake charmers.
- Their folk dance, called **Kalbelia dance**, involves dancers wearing black swirling skirts decorated with colorful embroidery and mirror work, mimicking the serpentine movements of snakes.

**Step 3: Eliminate distractors.**

- (A) Lambadi dance — folk dance of Andhra Pradesh/Telangana, not related to snakes.
- (C) Chhau dance — martial folk dance of Odisha/West Bengal/Jharkhand, not snake-themed.
- (D) Phag dance — from Haryana, associated with Holi celebrations.
- (E) Bihu dance — Assamese folk dance, celebrating harvest, not snake-like.

**Step 4: Confirm answer.**

The only correct match is **Kalbelia dance of Rajasthan**.

Kalbelia dance

**Quick Tip**

Remember: Snake-like movements in Indian folk dances always point to the **Kalbelia dance** of Rajasthan, performed by the Kalbelia community.

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**Q94. Which of the following countries is the largest source of imports to India as on 31st March 2018?**

- (A) Switzerland
- (B) Pakistan
- (C) China
- (D) Saudi Arabia
- (E) USA

**Correct Answer:** (C) China

**Solution:**

**Step 1: Recall India's import trade structure.**

India is heavily dependent on imports for energy, electronics, machinery, chemicals, and other industrial goods. While countries like Saudi Arabia dominate crude oil exports to India, China has consistently been the largest single source of imports overall due to manufactured goods.

**Step 2: India–China trade relation (2017–18).**

By 2017–18, China had become India's largest import partner. The key imports included:

- Electrical machinery and equipment
- Organic chemicals
- Fertilizers
- Active pharmaceutical ingredients (APIs)
- Iron and steel products

**Step 3: Eliminate incorrect options.**

- (A) Switzerland → Significant source of gold imports but not the largest overall.

- (B) Pakistan → Negligible trade with India; certainly not the largest.
- (D) Saudi Arabia → Major crude oil supplier but second to China in overall imports by value in 2018.
- (E) USA → Important trade partner, but not India's largest import source.
- (C) China → Correct; largest source of imports to India as on March 2018.

**Therefore:** The largest source of imports to India (as on March 2018) was **China**.

China

#### Quick Tip

Remember: China has consistently been India's top import partner for industrial and electronic goods, while Saudi Arabia ranks high mainly due to crude oil exports.

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**Q95. Which of the following is a winter game which is very similar to Ice Hockey and is often considered as the national sport of Russia?**

- (A) Pato
- (B) Bandy
- (C) Tejo
- (D) Arnis
- (E) Buzkashi

**Correct Answer:** (B) Bandy

**Solution:**

**Step 1: Recall winter sports similar to Ice Hockey.**

Bandy is a team winter sport played on ice, similar to Ice Hockey but with a ball instead of a puck. The playing field is also much larger, closer to the size of a football field.

**Step 2: Relation with Russia.**

Bandy is extremely popular in Russia and is often referred to as the **national sport of Russia**, even though Ice Hockey is also widely played. It has a long tradition in Russia, Sweden, and other northern countries.

**Step 3: Eliminate distractors.**

- (A) Pato — national sport of Argentina, played on horseback.
- (C) Tejo — national sport of Colombia, not a winter sport.
- (D) Arnis — martial art and national sport of the Philippines.
- (E) Buzkashi — traditional Central Asian sport involving horsemen and a goat carcass, not related to ice.

**Step 4: Confirm.**

The only correct option is **Bandy**.

Bandy

**Quick Tip**

When you see “winter sport similar to Ice Hockey but with a ball,” the answer is always **Bandy**, strongly linked with Russia.

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**Q96. Which of the following liquids demonstrates a convex meniscus when confined within a glass tube?**

- (A) Water in an anomalous expansion state between 0–4° C
- (B) Water at room temperature
- (C) Olive oil
- (D) Petroleum
- (E) Mercury

**Correct Answer:** (E) Mercury

**Solution:**

**Step 1: Understand meniscus formation.**

The shape of a liquid's meniscus in a glass tube depends on the relative strength of **adhesion** (liquid-glass attraction) versus **cohesion** (liquid-liquid attraction).

**Step 2: Water and most organic liquids.**

- In water and liquids like olive oil and petroleum, adhesion to glass is stronger than cohesion. This pulls the liquid upwards near the walls, forming a **concave meniscus**.

**Step 3: Mercury's case.**

- Mercury exhibits very strong **cohesion** (Hg–Hg bonding) due to metallic bonding and weak adhesion to glass ( $\text{SiO}_2$ ).
- This causes the mercury surface to **bulge outward** at the center, creating a **convex meniscus**.

**Step 4: Elimination of wrong options.**

- (A) Water (0–4°C) → Still forms concave meniscus.
- (B) Water at room temperature → Concave meniscus.
- (C) Olive oil → Concave meniscus.
- (D) Petroleum → Concave meniscus.
- (E) Mercury → Only liquid that forms a convex meniscus.



**Therefore:** The liquid that forms a convex meniscus in glass is **Mercury**.

Mercury

#### Quick Tip

Rule of thumb: Most liquids in glass capillaries form a concave meniscus due to adhesion with glass. Mercury is the main exception, forming a convex meniscus because cohesion dominates adhesion.

**Q97. Arrange these historical events in the order of their occurrence:**

1. Introduction of Ryotwari System in India
2. Vernacular Press Act
3. Permanent Settlement of Bengal
4. Introduction of Rowlatt Act

- (A) iii, i, ii, iv  
(B) i, ii, iv, iii  
(C) i, iii, ii, iv  
(D) i, iii, iv, ii  
(E) iii, ii, i, iv

**Correct Answer:** (A) iii, i, ii, iv

**Solution:**

**Step 1: Recall the Permanent Settlement of Bengal.**

The **Permanent Settlement** was introduced in 1793 by Lord Cornwallis. It fixed land revenue permanently and created the Zamindari system. This makes it the earliest event.

**Step 2: Introduction of the Ryotwari System.**

The **Ryotwari System** was introduced by Thomas Munro and Alexander Read in Madras Presidency around 1820. This came after the Permanent Settlement.

**Step 3: Vernacular Press Act.**

The **Vernacular Press Act** was introduced in 1878 by Lord Lytton to curb freedom of the Indian press. This came after Ryotwari.

**Step 4: Introduction of the Rowlatt Act.**

The **Rowlatt Act** was introduced in 1919 by the British Government. It authorized the government to imprison people without trial, which sparked widespread protests. This is the latest event.

**Step 5: Chronological Order.**

- (3) Permanent Settlement of Bengal — 1793

- (1) Introduction of Ryotwari System — 1820s
- (2) Vernacular Press Act — 1878
- (4) Rowlatt Act — 1919

Thus, the correct chronological sequence is:

*iii, i, ii, iv*

#### Quick Tip

For chronology-based history questions, always anchor events around well-known dates (e.g., Permanent Settlement in 1793, Rowlatt Act in 1919) and fill the others in between.

### Q98. What is Article 356 of Indian Constitution?

- (A) Provision of special status to the state of Manipur.
- (B) Provision of special status to the state of J & K.
- (C) Suspension of Financial autonomy to a state.
- (D) Provision of special status to the state of Arunachal.
- (E) Imposition of President's Rule after the suspension of a state government.

**Correct Answer:** (E) Imposition of President's Rule after the suspension of a state government.

#### Solution:

##### Step 1: Recall the constitutional provision.

Article 356 of the Indian Constitution is part of the **Emergency Provisions**. It deals with situations when a state government fails to function according to constitutional provisions.

##### Step 2: What does Article 356 allow?

- If the President is satisfied (on the report of the Governor or otherwise) that the governance of a state cannot be carried on in accordance with the provisions of the Constitution, the President may proclaim a **State Emergency** (commonly known as **President's Rule**).
- During this period, the state legislature is either dissolved or suspended, and the state comes under the direct control of the Union government.

##### Step 3: Eliminate incorrect options.

- (A), (B), (D) → "Special status" provisions are not related to Article 356.
- (C) → Suspension of financial autonomy is not Article 356 but more connected with financial emergencies (Article 360).
- (E) → Correct; Article 356 provides for President's Rule in a state.

**Therefore:** Article 356 refers to the **imposition of President's Rule** after suspension of a state government.

President's Rule

**Quick Tip**

Remember: Article 356 = **State Emergency/President's Rule**. Article 352 = National Emergency, and Article 360 = Financial Emergency.

**Q99. Which are the three sessions of the Parliament of India?**

- (A) New Year Session, Summer Session and Winter Session
- (B) Budget Session, Diwali Session and Winter Session
- (C) Budget Session, Monsoon Session and Winter Session
- (D) Summer Session, Monsoon Session and Winter Session
- (E) Spring Session, Summer Session and Winter Session

**Correct Answer:** (C) Budget Session, Monsoon Session and Winter Session

**Solution:**

**Step 1: Recall the structure of Parliamentary sessions in India.**

The Indian Parliament does not have fixed dates but traditionally meets in **three sessions annually**: 1. **Budget Session** (February to May) — longest session, focused on the Union Budget.

2. **Monsoon Session** (July to September) — held during the monsoon period.

3. **Winter Session** (November to December) — shortest session, mainly legislative work.

**Step 2: Eliminate incorrect options.**

- (A) "New Year" and "Summer Session" are not official parliamentary sessions.
- (B) There is no "Diwali Session" in Parliament.
- (D) "Summer Session" is not an official term; instead, it's called Budget Session.
- (E) "Spring Session" is not part of Indian parliamentary nomenclature.

**Step 3: Confirm correct option.**

The official three sessions are **Budget Session, Monsoon Session, and Winter Session**. Hence, option (C) is correct.

Budget Session, Monsoon Session and Winter Session

### Quick Tip

Remember: Indian Parliament meets in three sessions every year — Budget (Feb–May), Monsoon (Jul–Sep), and Winter (Nov–Dec).

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