aspiration.ai

Flexi Mock CAT - 08 (2020)

Scorecard (procreview.jsp?sid=aaaMOZkcBdOx9eisMWSExWed Feb 17 13:11:51 IST 2021&qsetId=bwBXvFxHhYQ=&qsetName=Flexi Mock CAT - 08 (2020))

Accuracy (AccSelectGraph.jsp?sid=aaaMOZkcBdOx9eisMWSExWed Feb 17 13:11:51 IST 2021&qsetId=bwBXvFxHhYQ=&qsetName=Flexi Mock CAT - 08 (2020))

Qs Analysis (QsAnalysis.jsp?sid=aaaMOZkcBdOx9eisMWSExWed Feb 17 13:11:51 IST 2021&qsetId=bwBXvFxHhYQ=&qsetName=Flexi Mock CAT - 08 (2020))

Video Attempt (VideoAnalysis.jsp?sid=aaaMOZkcBdOx9eisMWSExWed Feb 17 13:11:51 IST 2021&qsetId=bwBXvFxHhYQ=&qsetName=Flexi Mock CAT - 08 (2020))

Solutions (Solution.jsp?sid=aaaMOZkcBdOx9eisMWSExWed Feb 17 13:11:51 IST 2021&qsetId=bwBXvFxHhYQ=&qsetName=Flexi Mock CAT - 08 (2020))

Bookmarks (Bookmarks.jsp?sid=aaaMOZkcBdOx9eisMWSExWed Feb 17 13:11:51 IST 2021&qsetId=bwBXvFxHhYQ=&qsetName=Flexi Mock CAT - 08 (2020))

VARC

DILR

QA

Sec 1

Direction for questions (1-4): Read the given passage and answer the questions that follow.

In the 19th century, the British, soon after occupying Delhi faced an unusual problem. Uncomfortable with too many cobras in Delhi, they announced monetary reward for anyone who would bring a dead cobra. Consequently, there was a rush to kill cobras and collect the reward. Soon enough, the cobra population dwindled, but to keep their income source going, people started importing cobras from other states and even started breeding them. The British realised something wasn't right as too many payments were being made. One fine day, they announced no more payments for dead cobras. The obvious followed; all the cobras brought to Delhi were left alone. Delhi ended up having more cobras than earlier.

Similarly, a lockdown that is announced to maintain social distancing, must not see thousands of individuals packed in train stations, bus stations, buses and trucks.

For the lockdown to be successful the most crucial issue must be answered – how does one create the economic and social safety net for millions of individuals who stay home? Ninety percent of the labour force that is engaged in the informal sector without any formal employment contract or any social security benefit, whose economic plight if we do not address, will be desperately looking for economic activities for sustenance. The lockdown will be successful only if this population finds it secure to stay indoors.

The fact that there are no successful case studies till date could be to our advantage. Too many times, in the past, we have tried to replicate solutions that have worked elsewhere and hoped it will address our problems too. Perhaps, without a success story to emulate, we may be able to better. Our economy and society is different from most, and hence we can propose solutions that doesn't have to live up to the standards of empirical validation from elsewhere. To get there, it is urgent that we define the problem well, remain focused and not get into rhetoric. Being in a 'war like situation' is one such rhetoric we must immediately avoid.

A war-like situation would imply among other things, two important disruptions – suspension of civil liberties as well as economic liberties. Suspension of civil liberties during war is often justified as criticisms may have demoralizing effect on our forces while acing as a morale booster for the enemy. SARS-CoV-2 is not a strategic thinker who will prey on our criticisms. Therefore, ideas about what can be done as well as what is unlikely to work need to be encouraged. Individuals, NGOs, data analysts as well as a large army of AI ML experts can help the Government with innovative ideas that can have better outcomes than traditional policy responses.

Q.1 [11594329]

Which of the following most aptly describes the lesson from the story narrated in Para 1?

1 ○ A monetary reward cannot provide the solution to every problem and can even backfire.

2 ○ The inability to think through a proposed solution can aggravate a problem.

3 ○ Long-term solutions are better than short-term solutions that provide only temporary relief.

4 ○ A dead cobra is worth the money only if it comes from Delhi.

✔

Solution:
Correct Answer : 2
Your Answer : 2

Answer key/Solution

The reason for the British plan's backfiring was that they hadn't anticipated in advance that a monetary reward may induce the import and breeding of cobras. It was a case of not thinking through the solution and it further increased the cobras rather than decreasing them. Hence 2. 1 is rejected because a monetary reward could have worked in this case if checks and balances could be built against import and breeding of cobras. 3 is rejected because the problem was not the time horizon of the solution, but the short-sightedness of the solution. 4 is irrelevant.

Bookmark FeedBack

Direction for questions (1-4): Read the given passage and answer the questions that follow.

In the 19th century, the British, soon after occupying Delhi faced an unusual problem. Uncomfortable with too many cobras in Delhi, they announced monetary reward for anyone who would bring a dead cobra. Consequently, there was a rush to kill cobras and collect the reward. Soon enough, the cobra population dwindled, but to keep their income source going, people started importing cobras from other states and even started breeding them. The British realised something wasn't right as too many payments were being made. One fine day, they announced no more payments for dead cobras. The obvious followed; all the cobras brought to Delhi were left alone. Delhi ended up having more cobras than earlier.

Similarly, a lockdown that is announced to maintain social distancing, must not see thousands of individuals packed in train stations, bus stations, buses and trucks.

For the lockdown to be successful the most crucial issue must be answered – how does one create the economic and social safety net for millions of individuals who stay home? Ninety percent of the labour force that is engaged in the informal sector without any formal employment contract or any social security benefit, whose economic plight if we do not address, will be desperately looking for economic activities for sustenance. The lockdown will be successful only if this population finds it secure to stay indoors.

The fact that there are no successful case studies till date could be to our advantage. Too many times, in the past, we have tried to replicate solutions that have worked elsewhere and hoped it will address our problems too. Perhaps, without a success story to emulate, we may be able to better. Our economy and society is different from most, and hence we can propose solutions that doesn't have to live up to the standards of empirical validation from elsewhere. To get there, it is urgent that we define the problem well, remain focused and not get into rhetoric. Being in a 'war like situation' is one such rhetoric we must immediately avoid.

A war-like situation would imply among other things, two important disruptions – suspension of civil liberties as well as economic liberties. Suspension of civil liberties during war is often justified as criticisms may have demoralizing effect on our forces while acing as a morale booster for the enemy. SARS-CoV-2 is not a strategic thinker who will prey on our criticisms. Therefore, ideas about what can be done as well as what is unlikely to work need to be encouraged. Individuals, NGOs, data analysts as well as a large army of AI ML experts can help the Government with innovative ideas that can have better outcomes than traditional policy responses.

Q.2 [11594329]

Which of the following, if true, would most weaken the argument of the author “The fact that there are no successful case studies till date could be to our advantage…” as elaborated in Para 3?

1 ○ In proposing solutions about economic and social safety, existing successful case studies of other societies provide valuable lessons that can be incorporated in current case studies.

2 ○ Some successful case studies regarding providing economic and social safety to a population already exist.

3 ○ Contrary to popular perception, replication of solutions to a problem is not always disadvantageous.

4 ○ When it comes to the area of economic and social security, case studies on whole populations are considered to be a weak form of research and theoretical methods are more effective.

✖

Answer key/Solution

Solution:
Correct Answer : 1
Your Answer : 4
2 is a tempting answer to mark but it merely denies the truth of the premise of the author. In weakening arguments, we do not simply falsify a claim of the author, rather we question the reasoning used by the author in reaching from the premise to the conclusion. The author’s conclusion is that the non-existence of successful case studies “could be to our advantage”. We have to attack this idea by showing how this situation is not to our advantage. Hence 1. 3 says that it is “not always disadvantageous” but does not say whether it is advantageous or disadvantageous for the present situation. 4 talks about case study as a method of research and calls it weak, thus in a way supporting the author’s assertion.

Bookmark FeedBack

Direction for questions (1-4): Read the given passage and answer the questions that follow.

In the 19th century, the British, soon after occupying Delhi faced an unusual problem. Uncomfortable with too many cobras in Delhi, they announced monetary reward for anyone who would bring a dead cobra. Consequently, there was a rush to kill cobras and collect the reward. Soon enough, the cobra population dwindled, but to keep their income source going, people started importing cobras from other states and even started breeding them. The British realised something wasn't right as too many payments were being made. One fine day, they announced no more payments for dead cobras. The obvious followed; all the cobras brought to Delhi were left alone. Delhi ended up having more cobras than earlier.

Similarly, a lockdown that is announced to maintain social distancing, must not see thousands of individuals packed in train stations, bus stations, buses and trucks.

For the lockdown to be successful the most crucial issue must be answered – how does one create the economic and social safety net for millions of individuals who stay home? Ninety percent of the labour force that is engaged in the informal sector without any formal employment contract or any social security benefit, whose economic plight if we do not address, will be desperately looking for economic activities for sustenance. The lockdown will be successful only if this population finds it secure to stay indoors.

The fact that there are no successful case studies till date could be to our advantage. Too many times, in the past, we have tried to replicate solutions that have worked elsewhere and hoped it will address our problems too. Perhaps, without a success story to emulate, we may be able to better. Our economy and society is different from most, and hence we can propose solutions that doesn't have to live up to the standards of empirical validation from elsewhere. To get there, it is urgent that we define the problem well, remain focused and not get into rhetoric. Being in a 'war like situation' is one such rhetoric we must immediately avoid.

A war-like situation would imply among other things, two important disruptions – suspension of civil liberties as well as economic liberties. Suspension of civil liberties during war is often justified as criticisms may have demoralizing effect on our forces while acing as a morale booster for the enemy. SARS-CoV-2 is not a strategic thinker who will prey on our criticisms. Therefore, ideas about what can be done as well as what is unlikely to work need to be encouraged. Individuals, NGOs, data analysts as well as a large army of AI ML experts can help the Government with innovative ideas that can have better outcomes than traditional policy responses.

Q.3 [11594329]

As stated in the passage, which section of population will suffer the most in the absence of an economic and social safety net?

1 ○ Migrant labourers employed in the informal sector

2 ○ Stay-at-home parents

3 ○ Labourers employed in both the formal and informal sectors

4 ○ Labourers employed in the informal sector

✔

Solution:
Correct Answer : 4
Your Answer : 4
Para 2 talks about option 4 and not specifically about option 1. Others are not mentioned.

Answer key/Solution

Bookmark FeedBack

Direction for questions (1-4): Read the given passage and answer the questions that follow.

In the 19th century, the British, soon after occupying Delhi faced an unusual problem. Uncomfortable with too many cobras in Delhi, they announced monetary reward for anyone who would bring a dead cobra. Consequently, there was a rush to kill cobras and collect the reward. Soon enough, the cobra population dwindled, but to keep their income source going, people started importing cobras from other states and even started breeding them. The British realised something wasn't right as too many payments were being made. One fine day, they announced no more payments for dead cobras. The obvious followed; all the cobras brought to Delhi were left alone. Delhi ended up having more cobras than earlier.

Similarly, a lockdown that is announced to maintain social distancing, must not see thousands of individuals packed in train stations, bus stations, buses and trucks.

For the lockdown to be successful the most crucial issue must be answered – how does one create the economic and social safety net for millions of individuals who stay home? Ninety percent of the labour force that is engaged in the informal sector without any formal employment contract or any social security benefit, whose economic plight if we do not address, will be desperately looking for economic activities for sustenance. The lockdown will be successful only if this population finds it secure to stay indoors.

The fact that there are no successful case studies till date could be to our advantage. Too many times, in the past, we have tried to replicate solutions that have worked elsewhere and hoped it will address our problems too. Perhaps, without a success story to emulate, we may be able to better. Our economy and society is different from most, and hence we can propose solutions that doesn't have to live up to the standards of empirical validation from elsewhere. To get there, it is urgent that we define the problem well, remain focused and not get into rhetoric. Being in a 'war like situation' is one such rhetoric we must immediately avoid.

A war-like situation would imply among other things, two important disruptions – suspension of civil liberties as well as economic liberties. Suspension of civil liberties during war is often justified as criticisms may have demoralizing effect on our forces while acing as a morale booster for the enemy. SARS-CoV-2 is not a strategic thinker who will prey on our criticisms. Therefore, ideas about what can be done as well as what is unlikely to work need to be encouraged. Individuals, NGOs, data analysts as well as a large army of AI ML experts can help the Government with innovative ideas that can have better outcomes than traditional policy responses.

Q.4 [11594329]
Which of the following will the next paragraph most likely talk about?

1 ○ Author's argument for the suspension of economic liberties during SARS-CoV-2.

2 ○ Author's suggestions regarding ways to come up with innovative ideas to deal with SARS-CoV-2.

3 ○ Author's argument that the suspension of economic liberties during SARS-Cov-2 is not justified.

4 ○ Author's suggestions regarding the implementation of innovative ideas to deal with SARS-CoV-2.

✖

Answer key/Solution

Solution:
Correct Answer : 3
Your Answer : 2
The organisation of the passage provides a clue about this. The last sentence of the second last paragraph states that we must avoid the rhetoric of 'war-like situation'. The last paragraph then states why—because a war-like situation sees two important disruptions—suspension of civil liberties and economic liberties. The author then devotes the rest of the paragraph to explaining why a suspension of civil liberties is not justified during Covid-19. So, the next paragraph will most likely be devoted to making a case against suspension of economic liberties. That would complete the author's argument of why the rhetoric of 'war-like situation' must be avoided. 1 goes against the author's argument. 2 has already been discussed partly in Para 3. 4 interrupts the flow of the author's argument regarding avoiding the war-like situation rhetoric.

Bookmark FeedBack

Direction for questions (5-9): Read the given passage and answer the questions that follow.

Plenty of venerated CEOs, from Oracle's Larry Ellison to Tesla's Elon Musk to the late Steve Jobs at Apple, have been described as narcissists. Success for such leaders is often attributed to their bold vision, extreme self-confidence, and determination to win at all costs. Less palatable qualities of the narcissistic personality type — including entitlement, hostility when challenged, and a willingness to manipulate — are seen as part of the package.

But just hailing the 10% successful narcissistic leaders while ignoring the harm that a majority of them can cause is perilous, argues Charles A. O'Reilly III, the Frank E. Buck Professor of Management at Stanford Graduate School of Business.

In a new paper called "When 'Me' Trumps 'We,'" O'Reilly and two researchers from the University of California, Berkeley, Haas School of Business, Jennifer Chatman and Bernadette Doerr, examine the kind of company culture that narcissists inspire. Through a series of field tests and surveys, they show that narcissistic managers tend to prefer and create organizational cultures with less collaboration and lower integrity, and that their subordinates are more likely to act accordingly.

"If you deal with a narcissist, it can be unpleasant—they can lie, cheat, steal. If you're married to one, it can be damaging. But fundamentally, individuals can choose to walk away," O'Reilly says. "When narcissists assume positions of power, their effects become hugely magnified."

O'Reilly and his colleagues studied the sort of corporate culture narcissists are likely to cultivate through a series of surveys of over 700 adults through Amazon's Mechanical Turk. In each case, they assessed participants' level of narcissism — by asking them to rate themselves on associated traits like arrogance, self-centeredness, and a lack of empathy — and leadership style. The researchers found that people who were more narcissistic were significantly less likely to value integrity and collaboration. For example, they were less prone to agree with statements such as, "I treat people with care and respect," "I practice what I preach," and "It is important to maintain harmony in the team."

The study authors also found that more narcissistic people were likelier to support policies and behaviors that reduced collaboration and integrity, such as being willing to look the other way on violations of company policy or promote people who were less ethical. Finally, they concluded that people hypothetically working for a more narcissistic CEO would make recommendations that reflected less collaboration and integrity, such as being less likely to suggest policies or promotion of candidates who embodied these qualities.

Based on these findings, O'Reilly urges boards to distinguish carefully between true visionaries and harmful personality types when hiring executives. "Because the prototypic visionary leader profile is so similar to that of a narcissist, if boards aren't careful, they're going to end up choosing people who are narcissistic as CEOs," he says.

That doesn't mean boards need to start administering personality tests: "A more direct way is not to hire anyone unless you have lots of data from previous subordinates about how they were treated. If the person stole people's ideas, abused people, or was impulsive, those are all earmarks of narcissists."

Q.5 [11594329]

According to the passage, all of the following are true of narcissists EXCEPT:

1 ○ They are often arrogant, self-centred, and lack empathy.

2 ○ They have a bold vision and extreme self-confidence.

3 ○ They have an excessive need of praise and admiration.

4 ○ They are willing to manipulate, abuse, and steal people's ideas.

✔

Answer key/Solution

Solution:
Correct Answer : 3
Your Answer : 3
1 is mentioned in Para 4. 2 is mentioned in Para 1. 4 is mentioned in the last para.
3 is not mentioned in the passage.

Bookmark FeedBack

Direction for questions (5-9): Read the given passage and answer the questions that follow.

Plenty of venerated CEOs, from Oracle's Larry Ellison to Tesla's Elon Musk to the late Steve Jobs at Apple, have been described as narcissists. Success for such leaders is often attributed to their bold vision, extreme self-confidence, and determination to win at all costs. Less palatable qualities of the narcissistic personality type — including entitlement, hostility when challenged, and a willingness to manipulate — are seen as part of the package.

But just hailing the 10% successful narcissistic leaders while ignoring the harm that a majority of them can cause is perilous, argues Charles A. O'Reilly III, the Frank E. Buck Professor of Management at Stanford Graduate School of Business.

In a new paper called "When 'Me' Trumps 'We,'" O'Reilly and two researchers from the University of California, Berkeley, Haas School of Business, Jennifer Chatman and Bernadette Doerr, examine the kind of company culture that narcissists inspire. Through a series of field tests and surveys, they show that narcissistic managers tend to prefer and create organizational cultures with less collaboration and lower integrity, and that their subordinates are more likely to act accordingly.

"If you deal with a narcissist, it can be unpleasant—they can lie, cheat, steal. If you're married to one, it can be damaging. But fundamentally, individuals can choose to walk away," O'Reilly says. "When narcissists assume positions of power, their effects become hugely magnified."

O'Reilly and his colleagues studied the sort of corporate culture narcissists are likely to cultivate through a series of surveys of over 700 adults through Amazon's Mechanical Turk. In each case, they assessed participants' level of narcissism — by asking them to rate themselves on associated traits like arrogance, self-centeredness, and a lack of empathy — and leadership style. The researchers found that people who were more narcissistic were significantly less likely to value integrity and collaboration. For example, they were less prone to agree with statements such as, "I treat people with care and respect," "I practice what I preach," and "It is important to maintain harmony in the team."

The study authors also found that more narcissistic people were likelier to support policies and behaviors that reduced collaboration and integrity, such as being willing to look the other way on violations of company policy or promote people who were less ethical. Finally, they concluded that people hypothetically working for a more narcissistic CEO would make recommendations that reflected less collaboration and integrity, such as being less likely to suggest policies or promotion of candidates who embodied these qualities.

Based on these findings, O'Reilly urges boards to distinguish carefully between true visionaries and harmful personality types when hiring executives. "Because the prototypic visionary leader profile is so similar to that of a narcissist, if boards aren't careful, they're going to end up choosing people who are narcissistic as CEOs," he says.

That doesn't mean boards need to start administering personality tests: "A more direct way is not to hire anyone unless you have lots of data from previous subordinates about how they were treated. If the person stole people's ideas, abused people, or was impulsive, those are all earmarks of narcissists."

Q.6 [11594329]

Which of the following, if true, would cast the most doubt on the results of the study cited in the passage?

1 ○ There are instances of CEOs who are not narcissistic and yet don't value integrity and collaboration.

2 ○ Not everyone working for a narcissistic CEO will be concerned with acting in line with what such a CEO supports and likes.

3 ○ There are many factors that affect decisions such as promoting less ethical people or decisions such as looking the other way on company violations.

4 ○ Many people view themselves in an over-critical light when asked to assess themselves regarding negative personality traits.

✖

Answer key/Solution

Solution:
Correct Answer : 4
Your Answer : 1
1 does not weaken the results of the study because the study just says that narcissistic CEOs are significantly less likely to value integrity and collaboration. It does not state that CEOs who are not narcissistic will always value integrity and collaboration. So instances cited in 1 can very well exist. 2 by stating 'not everyone' points to the fact that there may be exceptions. This may not, however, go against the trend, and does not weaken the argument to a great extent. 3 just states that 'there are many factors…', it does not state that narcissism of a CEO is not one of them. 4, by attacking the data of the argument, weakens the basis of its results. If people tend to be over-critical, they may be much less narcissistic than they have reported themselves to be. This would put the various relationships derived in the study under question.

Bookmark FeedBack

Direction for questions (5-9): Read the given passage and answer the questions that follow.

Plenty of venerated CEOs, from Oracle's Larry Ellison to Tesla's Elon Musk to the late Steve Jobs at Apple, have been described as narcissists. Success for such leaders is often attributed to their bold vision, extreme self-confidence, and determination to win at all costs. Less palatable qualities of the narcissistic personality type — including entitlement, hostility when challenged, and a willingness to manipulate — are seen as part of the package.

But just hailing the 10% successful narcissistic leaders while ignoring the harm that a majority of them can cause is perilous, argues Charles A. O'Reilly III, the Frank E. Buck Professor of Management at Stanford Graduate School of Business.

In a new paper called "When 'Me' Trumps 'We,'" O'Reilly and two researchers from the University of California, Berkeley, Haas School of Business, Jennifer Chatman and Bernadette Doerr, examine the kind of company culture that narcissists inspire. Through a series of field tests and surveys, they show that narcissistic managers tend to prefer and create organizational cultures with less collaboration and lower integrity, and that their subordinates are more likely to act accordingly.

"If you deal with a narcissist, it can be unpleasant—they can lie, cheat, steal. If you're married to one, it can be damaging. But fundamentally, individuals can choose to walk away," O'Reilly says. "When narcissists assume positions of power, their effects become hugely magnified."

O'Reilly and his colleagues studied the sort of corporate culture narcissists are likely to cultivate through a series of surveys of over 700 adults through Amazon's Mechanical Turk. In each case, they assessed participants' level of narcissism — by asking them to rate themselves on associated traits like arrogance, self-centeredness, and a lack of empathy — and leadership style. The researchers found that people who were more narcissistic were significantly less likely to value integrity and collaboration. For example, they were less prone to agree with statements such as, "I treat people with care and respect," "I practice what I preach," and "It is important to maintain harmony in the team."

The study authors also found that more narcissistic people were likelier to support policies and behaviors that reduced collaboration and integrity, such as being willing to look the other way on violations of company policy or promote people who were less ethical. Finally, they concluded that people hypothetically working for a more narcissistic CEO would make recommendations that reflected less collaboration and integrity, such as being less likely to suggest policies or promotion of candidates who embodied these qualities.

Based on these findings, O'Reilly urges boards to distinguish carefully between true visionaries and harmful personality types when hiring executives. "Because the prototypic visionary leader profile is so similar to that of a narcissist, if boards aren't careful, they're going to end up choosing people who are narcissistic as CEOs," he says.

That doesn't mean boards need to start administering personality tests: "A more direct way is not to hire anyone unless you have lots of data from previous subordinates about how they were treated. If the person stole people's ideas, abused people, or was impulsive, those are all earmarks of narcissists."

Q.7 [11594329]

What does the author mean by "prototypic visionary leader profile" as cited in Para 6 of the passage?

1 ○ The psychological and behavioural traits of visionary leaders.

2 ○ The age, experience, education, etc. of visionary leaders that matches with that of narcissists.

3 ○ The typical personality traits possessed by visionary leaders.

4 ○ The personality traits that hirers assume the visionary leaders to possess.

✔

Answer key/Solution

Solution:
Correct Answer : 3
Your Answer : 3
Prototypic means typical here. Hence, 3. 1 is incomplete as it doesn't mention typical. 2 doesn't talk about personality traits. Also, the phrase itself doesn't talk about narcissists at all. 4 is rejected because of the phrase 'hirers assume'; that makes these traits more stereotypical than prototypic.

Bookmark FeedBack

Direction for questions (5-9): Read the given passage and answer the questions that follow.

Plenty of venerated CEOs, from Oracle's Larry Ellison to Tesla's Elon Musk to the late Steve Jobs at Apple, have been described as narcissists. Success for such leaders is often attributed to their bold vision, extreme self-confidence, and determination to win at all costs. Less palatable qualities of the narcissistic personality type — including entitlement, hostility when challenged, and a willingness to manipulate — are seen as part of the package.

But just hailing the 10% successful narcissistic leaders while ignoring the harm that a majority of them can cause is perilous, argues Charles A. O'Reilly III, the Frank E. Buck Professor of Management at Stanford Graduate School of Business.

In a new paper called "When 'Me' Trumps 'We,'" O'Reilly and two researchers from the University of California, Berkeley, Haas School of Business, Jennifer Chatman and Bernadette Doerr, examine the kind of company culture that narcissists inspire. Through a series of field tests and surveys, they show that narcissistic managers tend to prefer and create organizational cultures with less collaboration and lower integrity, and that their subordinates are more likely to act accordingly.

"If you deal with a narcissist, it can be unpleasant—they can lie, cheat, steal. If you're married to one, it can be damaging. But fundamentally, individuals can choose to walk away," O'Reilly says. "When narcissists assume positions of power, their effects become hugely magnified."

O'Reilly and his colleagues studied the sort of corporate culture narcissists are likely to cultivate through a series of surveys of over 700 adults through Amazon's Mechanical Turk. In each case, they assessed participants' level of narcissism — by asking them to rate themselves on associated traits like arrogance, self-centeredness, and a lack of empathy — and leadership style. The researchers found that people who were more narcissistic were significantly less likely to value integrity and collaboration. For example, they were less prone to agree with statements such as, "I treat people with care and respect," "I practice what I preach," and "It is important to maintain harmony in the team."

The study authors also found that more narcissistic people were likelier to support policies and behaviors that reduced collaboration and integrity, such as being willing to look the other way on violations of company policy or promote people who were less ethical. Finally, they concluded that people hypothetically working for a more narcissistic CEO would make recommendations that reflected less collaboration and integrity, such as being less likely to suggest policies or promotion of candidates who embodied these qualities.

Based on these findings, O'Reilly urges boards to distinguish carefully between true visionaries and harmful personality types when hiring executives. "Because the prototypic visionary leader profile is so similar to that of a narcissist, if boards aren't careful, they're going to end up choosing people who are narcissistic as CEOs," he says.

That doesn't mean boards need to start administering personality tests: "A more direct way is not to hire anyone unless you have lots of data from previous subordinates about how they were treated. If the person stole people's ideas, abused people, or was impulsive, those are all earmarks of narcissists."

Q.8 [11594329]

Based on your understanding of the passage, which of the following candidates is most likely to be promoted by a narcissistic CEO?

1 ○ Riya, a hard-working, meritorious and ethical employee, who believes team effort is the key to success.

2 ○ Neha, an unscrupulous, manipulative, bigoted employee who is a one-person army and has won many contracts for the company.

3 ○ Ronit, a flamboyant, high-performing, extremely self-confident employee willing to bend the rules for the larger good.

4 ○ Nihaal, an introverted, innovative, eccentric employee who simply can't function in a team, but never goes without fulfilling his work responsibilities.

✔

Answer key/Solution

Solution:
Correct Answer : 2
Your Answer : 2
Neha will be most likely promoted by a narcissistic CEO because she is unethical, has low integrity, functions well alone, doesn't care about or respect some people, and has a successful record. The passage states that narcissists want to win at every cost. 4 is eliminated because even though Nihal does not collaborate with others, he hasn't been shown to be unethical. On the other hand, he exhibits a strong work ethic. 3 is eliminated because Ronit is willing to bend the rules "for the larger good", but he is not shown to be manipulative or unscrupulous like Neha. Riya is the least likely to be promoted by a narcissist. So 1 is rejected.

Bookmark FeedBack

Direction for questions (5-9): Read the given passage and answer the questions that follow.

Plenty of venerated CEOs, from Oracle's Larry Ellison to Tesla's Elon Musk to the late Steve Jobs at Apple, have been described as narcissists. Success for such leaders is often attributed to their bold vision, extreme self-confidence, and determination to win at all costs. Less palatable qualities of the narcissistic personality type — including entitlement, hostility when challenged, and a willingness to manipulate — are seen as part of the package.

But just hailing the 10% successful narcissistic leaders while ignoring the harm that a majority of them can cause is perilous, argues Charles A. O'Reilly III, the Frank E. Buck Professor of Management at Stanford Graduate School of Business.

In a new paper called "When 'Me' Trumps 'We,'" O'Reilly and two researchers from the University of California, Berkeley, Haas School of Business, Jennifer Chatman and Bernadette Doerr, examine the kind of company culture that narcissists inspire. Through a series of field tests and surveys, they show that narcissistic managers tend to prefer and create organizational cultures with less collaboration and lower integrity, and that their subordinates are more likely to act accordingly.

"If you deal with a narcissist, it can be unpleasant—they can lie, cheat, steal. If you're married to one, it can be damaging. But fundamentally, individuals can choose to walk away," O'Reilly says. "When narcissists assume positions of power, their effects become hugely magnified."

O'Reilly and his colleagues studied the sort of corporate culture narcissists are likely to cultivate through a series of surveys of over 700 adults through Amazon's Mechanical Turk. In each case, they assessed participants' level of narcissism — by asking them to rate themselves on associated traits like arrogance, self-centeredness, and a lack of empathy — and leadership style. The researchers found that people who were more narcissistic were significantly less likely to value integrity and collaboration. For example, they were less prone to agree with statements such as, "I treat people with care and respect," "I practice what I preach," and "It is important to maintain harmony in the team."

The study authors also found that more narcissistic people were likelier to support policies and behaviors that reduced collaboration and integrity, such as being willing to look the other way on violations of company policy or promote people who were less ethical. Finally, they concluded that people hypothetically working for a more narcissistic CEO would make recommendations that reflected less collaboration and integrity, such as being less likely to suggest policies or promotion of candidates who embodied these qualities.

Based on these findings, O'Reilly urges boards to distinguish carefully between true visionaries and harmful personality types when hiring executives. "Because the prototypic visionary leader profile is so similar to that of a narcissist, if boards aren't careful, they're going to end up choosing people who are narcissistic as CEOs," he says.

That doesn't mean boards need to start administering personality tests: "A more direct way is not to hire anyone unless you have lots of data from previous subordinates about how they were treated. If the person stole people's ideas, abused people, or was impulsive, those are all earmarks of narcissists."

Q.9 [11594329]

Assuming the study cited in the passage to be sound, which of the following can be inferred from it?

1 ○ Narcissism makes people support policies that reduce integrity and collaboration.

2 ○ Because of working for a narcissistic CEO, people in-charge of promotions prefer employees who do not value integrity and collaboration.

3 ○ More narcissistic CEOs look the other way on violations of company policy and promote unethical people.

4 ○ People's level of narcissism bears a correlation to their leadership style.

✖

Answer key/Solution

Solution:
Correct Answer : 4
Your Answer : 1
Only 4 is definitely true based on the study. The study's results just show correlations between narcissism and the likelihood of valuing integrity and collaboration and between working for a narcissistic CEO and the likelihood of recommending promotions for employees valuing integrity and collaboration. They do not establish causation as done by options 1 and 2 respectively. 3 is again rejected because the passage says that more narcissistic people were "likelier" to support policies and behaviors that reduced collaboration and integrity, and then company policy violation and unethicalness have been presented as examples. So 3 is a possibility, not a certainty.

Bookmark FeedBack

Direction for questions (10-13): Read the given passage and answer the questions that follow.

Astronaut Colonel Hurley's lift-off to ISS in a Dragon space capsule made by SpaceX raises the curtain on a new era. Assuming all goes off without a hitch, this flight will be the biggest feather yet to grace SpaceX's well-festooned cap.

It will also, however, be something else—the biggest endorsement so far of the new approach to procurement that NASA embarked on a decade and a half ago. For it will be the first time anywhere in the world that astronauts have reached orbit in a craft operated by a private company rather than a government agency.

For NASA, SpaceX's rockets have many selling points. One is simply their Americanness. Since the last flight of Atlantis, America has had to pay Russia to fly its astronauts to the ISS. That has been an embarrassment. Dragon is also more capable than Russia's veteran Soyuz system, in that it can carry seven people to Soyuz's three. And, even were that not so, the aphorism "don't put all your eggs in one basket" argues the advantages of having a second means of reaching the space station.

The third selling point, and the most transformative, is cost. The Space Shuttle programme was ruinously expensive. Definitive numbers are hard to come by (space-flight accounting sometimes seems far more complex than mere rocket science). But using NASA's own figures, the Planetary Society, a spaceexploration advocacy group, reckons that the total cost of developing the Shuttle orbiter—just the spaceplane itself, in other words, ignoring the booster rockets that helped it into orbit—was $27.4bn in 2019 dollars. By the society's reckoning the Dragon programme cost NASA just $1.7bn, making it the cheapest human-rated spaceship ever developed in America.

Dragon is cheap for two reasons. One is that SpaceX's focus has always been on driving costs down. The firm was founded to pursue Mr Musk's desire to establish a colony on Mars. Cheap access to space is the sine qua non of that ambition.

The firm takes an iterative approach to design, learning from each launch and making appropriate tweaks— but has also made radical, money-saving innovations. In particular, other firms' rockets are discarded after they have done their job. SpaceX's Falcon machines are partly reusable. Their first stages are designed to fly back to Earth and land on ships at sea, whence they can be returned to shore and flown again.

The second reason Dragon is cheap is NASA's procurement shake-up. The old method was to award tightly specified contracts to build rockets and spacecraft to incumbent aerospace giants, who were then guaranteed by those contracts a profit on top of the costs they accrued (called cost plus profit contracts). There was little competition involved in these arrangements, and few incentives to keep costs down. In the mid-2000s Mike Griffin, one of Mr Bridenstine's predecessors, began experimenting with a new approach. The agency started to award fixed-price contracts, and to include ambitious, unproven startups, as SpaceX then was, in the list of competitors. Instead of specifying what a rocket would look like, NASA stated what it wanted it to do (take cargo to the ISS, for instance) and then left the competitors to work out the details for themselves.

Q.10 [11594329]

According to the passage, all of the following are the selling points of SpaceX's rockets EXCEPT

1 ○ Their cheap cost

2 ○ Their Americanness

3 ○ Their diversification

4 ○ Their astronaut-carrying capacity

✔

Answer key/Solution

Solution:
Correct Answer : 3
Your Answer : 3
It is not mentioned in the passage that SpaceX's rockets are diversifying or have multiple variants. They are rather helping NASA to reduce its risk of relying on just Russia by providing a second means of reaching the space station. All the other are mentioned in the passage.

Bookmark FeedBack

Direction for questions (10-13): Read the given passage and answer the questions that follow.

Astronaut Colonel Hurley's lift-off to ISS in a Dragon space capsule made by SpaceX raises the curtain on a new era. Assuming all goes off without a hitch, this flight will be the biggest feather yet to grace SpaceX's well-festooned cap.

It will also, however, be something else—the biggest endorsement so far of the new approach to procurement that NASA embarked on a decade and a half ago. For it will be the first time anywhere in the world that astronauts have reached orbit in a craft operated by a private company rather than a government agency.

For NASA, SpaceX's rockets have many selling points. One is simply their Americanness. Since the last flight of Atlantis, America has had to pay Russia to fly its astronauts to the ISS. That has been an embarrassment. Dragon is also more capable than Russia's veteran Soyuz system, in that it can carry seven people to Soyuz's three. And, even were that not so, the aphorism "don't put all your eggs in one basket" argues the advantages of having a second means of reaching the space station.

The third selling point, and the most transformative, is cost. The Space Shuttle programme was ruinously expensive. Definitive numbers are hard to come by (space-flight accounting sometimes seems far more complex than mere rocket science). But using NASA's own figures, the Planetary Society, a spaceexploration advocacy group, reckons that the total cost of developing the Shuttle orbiter—just the spaceplane itself, in other words, ignoring the booster rockets that helped it into orbit—was $27.4bn in 2019 dollars. By the society's reckoning the Dragon programme cost NASA just $1.7bn, making it the cheapest human-rated spaceship ever developed in America.

Dragon is cheap for two reasons. One is that SpaceX's focus has always been on driving costs down. The firm was founded to pursue Mr Musk's desire to establish a colony on Mars. Cheap access to space is the sine qua non of that ambition.

The firm takes an iterative approach to design, learning from each launch and making appropriate tweaks— but has also made radical, money-saving innovations. In particular, other firms' rockets are discarded after they have done their job. SpaceX's Falcon machines are partly reusable. Their first stages are designed to fly back to Earth and land on ships at sea, whence they can be returned to shore and flown again.

The second reason Dragon is cheap is NASA's procurement shake-up. The old method was to award tightly specified contracts to build rockets and spacecraft to incumbent aerospace giants, who were then guaranteed by those contracts a profit on top of the costs they accrued (called cost plus profit contracts). There was little competition involved in these arrangements, and few incentives to keep costs down. In the mid-2000s Mike Griffin, one of Mr Bridenstine's predecessors, began experimenting with a new approach. The agency started to award fixed-price contracts, and to include ambitious, unproven startups, as SpaceX then was, in the list of competitors. Instead of specifying what a rocket would look like, NASA stated what it wanted it to do (take cargo to the ISS, for instance) and then left the competitors to work out the details for themselves.

Q.11 [11594329]

Which of the following best captures the nature of the statement "space-flight accounting sometimes seems far more complex than mere rocket science" as mentioned in Para 4?

1 ○ It is a witty remark by the author which employs downplaying the complexity of rocket science to highlight the complexity of space-flight accounting.

2 ○ It is a statement made by the author to highlight her difficulty in grappling with space-flight accounting as compared to her expertise in rocket science.

3 ○ It is a mocking remark meant to poke fun at the complexity of rocket science when compared to that of space-flight accounting.

4 ○ It is a sarcastic remark made by the author intended to mock the accounting practices of space flight accountants who make it more complicated than even rocket science.

Answer key/Solution

Solution:
Correct Answer : 1
The author, through this statement, is trying to genuinely highlight the complexity of space-flight accounting. So, the statement is not sarcastic in nature. Hence 4 is rejected. 2 is not the answer because the author's expertise in rocket science is neither stated nor implied. 3 is not the answer because the author is not trying to poke fun at the complexity of rocket science. Her focus is not rocket science, but space-flight accounting.

Bookmark FeedBack

Direction for questions (10-13): Read the given passage and answer the questions that follow.

Astronaut Colonel Hurley's lift-off to ISS in a Dragon space capsule made by SpaceX raises the curtain on a new era. Assuming all goes off without a hitch, this flight will be the biggest feather yet to grace SpaceX's well-festooned cap.

It will also, however, be something else—the biggest endorsement so far of the new approach to procurement that NASA embarked on a decade and a half ago. For it will be the first time anywhere in the world that astronauts have reached orbit in a craft operated by a private company rather than a government agency.

For NASA, SpaceX's rockets have many selling points. One is simply their Americanness. Since the last flight of Atlantis, America has had to pay Russia to fly its astronauts to the ISS. That has been an embarrassment. Dragon is also more capable than Russia's veteran Soyuz system, in that it can carry seven people to Soyuz's three. And, even were that not so, the aphorism "don't put all your eggs in one basket" argues the advantages of having a second means of reaching the space station.

The third selling point, and the most transformative, is cost. The Space Shuttle programme was ruinously expensive. Definitive numbers are hard to come by (space-flight accounting sometimes seems far more complex than mere rocket science). But using NASA's own figures, the Planetary Society, a spaceexploration advocacy group, reckons that the total cost of developing the Shuttle orbiter—just the spaceplane itself, in other words, ignoring the booster rockets that helped it into orbit—was $27.4bn in 2019 dollars. By the society's reckoning the Dragon programme cost NASA just $1.7bn, making it the cheapest human-rated spaceship ever developed in America.

Dragon is cheap for two reasons. One is that SpaceX's focus has always been on driving costs down. The firm was founded to pursue Mr Musk's desire to establish a colony on Mars. Cheap access to space is the sine qua non of that ambition.

The firm takes an iterative approach to design, learning from each launch and making appropriate tweaks— but has also made radical, money-saving innovations. In particular, other firms' rockets are discarded after they have done their job. SpaceX's Falcon machines are partly reusable. Their first stages are designed to fly back to Earth and land on ships at sea, whence they can be returned to shore and flown again.

The second reason Dragon is cheap is NASA's procurement shake-up. The old method was to award tightly specified contracts to build rockets and spacecraft to incumbent aerospace giants, who were then guaranteed by those contracts a profit on top of the costs they accrued (called cost plus profit contracts). There was little competition involved in these arrangements, and few incentives to keep costs down. In the mid-2000s Mike Griffin, one of Mr Bridenstine's predecessors, began experimenting with a new approach. The agency started to award fixed-price contracts, and to include ambitious, unproven startups, as SpaceX then was, in the list of competitors. Instead of specifying what a rocket would look like, NASA stated what it wanted it to do (take cargo to the ISS, for instance) and then left the competitors to work out the details for themselves.

Q.12 [11594329]

Which of the following is consistent with the last paragraph of the passage?

1 ○ Contracts allowing discretion to the vendors to work out the details are preferable to tightlyspecified contracts.

2 ○ In the absence of much competition, cost plus profit contracts can stifle extending cost-saving innovation to the customer.

3 ○ Giving fixed price contracts can attract competing vendors to bid for the contract.

4 ○ Goal-based fixed price contracts are preferable to tightly specified cost plus profit contracts.

Answer key/Solution

Solution:
Correct Answer : 2
1 can't be inferred from the last para as this would vary depending on the nature of the product. 2 can be reasonably inferred from the experience of NASA prior to the procurement shake-up. In the absence of much competition, the vendor doesn't have an incentive to keep the cost down, hence not giving the benefit of innovation to the customer. 3 is not necessarily true based on the para. 4 generalizes what turned to be a good strategy for NASA and is hence eliminated.

Bookmark FeedBack

Direction for questions (10-13): Read the given passage and answer the questions that follow.

Astronaut Colonel Hurley's lift-off to ISS in a Dragon space capsule made by SpaceX raises the curtain on a new era. Assuming all goes off without a hitch, this flight will be the biggest feather yet to grace SpaceX's well-festooned cap.

It will also, however, be something else—the biggest endorsement so far of the new approach to procurement that NASA embarked on a decade and a half ago. For it will be the first time anywhere in the world that astronauts have reached orbit in a craft operated by a private company rather than a government agency.

For NASA, SpaceX's rockets have many selling points. One is simply their Americanness. Since the last flight of Atlantis, America has had to pay Russia to fly its astronauts to the ISS. That has been an embarrassment. Dragon is also more capable than Russia's veteran Soyuz system, in that it can carry seven people to Soyuz's three. And, even were that not so, the aphorism "don't put all your eggs in one basket" argues the advantages of having a second means of reaching the space station.

The third selling point, and the most transformative, is cost. The Space Shuttle programme was ruinously expensive. Definitive numbers are hard to come by (space-flight accounting sometimes seems far more complex than mere rocket science). But using NASA's own figures, the Planetary Society, a spaceexploration advocacy group, reckons that the total cost of developing the Shuttle orbiter—just the spaceplane itself, in other words, ignoring the booster rockets that helped it into orbit—was $27.4bn in 2019 dollars. By the society's reckoning the Dragon programme cost NASA just $1.7bn, making it the cheapest human-rated spaceship ever developed in America.

Dragon is cheap for two reasons. One is that SpaceX's focus has always been on driving costs down. The firm was founded to pursue Mr Musk's desire to establish a colony on Mars. Cheap access to space is the sine qua non of that ambition.

The firm takes an iterative approach to design, learning from each launch and making appropriate tweaks— but has also made radical, money-saving innovations. In particular, other firms' rockets are discarded after they have done their job. SpaceX's Falcon machines are partly reusable. Their first stages are designed to fly back to Earth and land on ships at sea, whence they can be returned to shore and flown again.

The second reason Dragon is cheap is NASA's procurement shake-up. The old method was to award tightly specified contracts to build rockets and spacecraft to incumbent aerospace giants, who were then guaranteed by those contracts a profit on top of the costs they accrued (called cost plus profit contracts). There was little competition involved in these arrangements, and few incentives to keep costs down. In the mid-2000s Mike Griffin, one of Mr Bridenstine's predecessors, began experimenting with a new approach. The agency started to award fixed-price contracts, and to include ambitious, unproven startups, as SpaceX then was, in the list of competitors. Instead of specifying what a rocket would look like, NASA stated what it wanted it to do (take cargo to the ISS, for instance) and then left the competitors to work out the details for themselves.

Q.13 [11594329]

Which of the following, if true, would most attack NASA's decision to use SpaceX's rockets?

1 ○ SpaceX is a relatively new company in the field of spacecrafts and rockets as compared to the incumbent aerospace giants.

2 ○ SpaceX is known to employ used parts in some of its rockets.

3 ○ Because of its intense focus on costs, SpaceX is unlikely to experiment with expensive yet path-breaking technologies.

4 ○ Hiring a private company for a national space program may not go down well with the national pride of the people.

Solution:
Correct Answer : 3
1 is not really a criticism, unless it is shown how this 'newness' is in some way harmful for NASA. 2 is again not a criticism unless it is shown that the used parts are not in good condition or are inefficient. 3 shows that NASA is likely to lose out on some path-breaking technological innovations by hiring SpaceX. 4 is not that big a criticism when compared to 3 because there are many bigger concerns when launching a space program than just the national pride of the people.

Answer key/Solution

Bookmark FeedBack

Direction for questions (14-18): Read the given passage and answer the questions that follow.

Cricket, it has famously been said, is an Indian game accidentally invented by the English.

By a curious historical irony, a sport that was the exclusive preserve of colonial elite is now the national passion of the formerly colonised. What is equally extraordinary is that India has become world cricket's sole superpower.

It is a status much savoured by contemporary Indians, for whom their cricket team is the nation. They regard "team India" as a symbol of national unity, and its players a reflection of the country's diversity.

"In this last decade," former cricketer Rahul Dravid noted in 2011, "the Indian team represents, more than ever before, the country we come from - of people from vastly different cultures, who speak different languages, follow different religions, belong to different classes."

But the link between cricket and the nation was neither natural nor inevitable.

It took 12 years and three aborted attempts before the first composite Indian team took to the cricket field in the summer of 1911. And contrary to popular perception - fostered by the hugely successful Hindi film Lagaan - this "national team" was constituted by - and not against - empire.

A diverse coalition of Indian businessmen, princely aristocrats and publicists, working in tandem with British governors, civil servants, journalists, soldiers, and professional coaches made possible the idea of India on the cricket pitch.

The project to construct an "Indian" cricket team had a long and tortuous history. The idea was first floated in 1898, following the stunning rise of Kumar Shri Ranjitsinhji or Ranji, an Indian prince who bewitched Britain and the wider imperial world with his sublime batting.

Indian cricket promoters sought to capitalise on Ranji's celebrity in putting together a team. But Ranji, who used his cricketing prestige to become the ruler of Nawanagar, was wary of a project that might raise questions about his nationality and, in particular, his right to represent England on the cricket field. There were some in the English establishment - notably, Lord Harris, the ex-Governor of what was then Bombay - who had never reconciled themselves to Ranji's astonishing cricketing success and continued to regard him as a mere "bird of passage".

Four years later, a different imperative was at work. Now, Europeans in colonial India, who sought to attract teams from home, collaborated with powerful local elites to create an Indian team that would showcase the country's potential as a cricketing destination.

But the venture failed because of fierce divisions between Hindus, Parsis and Muslims over the question of their representation in the proposed team.

A subsequent attempt in 1906 met with the same fate as previous failed ventures.

The years between 1907 and 1909 saw a wave of "revolutionary" violence by young Indians who targeted British officials and their local collaborators. And there were strident calls in Britain to prevent the free movement of Indians into the country.

Dismayed by the negative publicity generated by these acts, leading businessmen and public figures, along with prominent Indian princes, sought to revive the project of sending an Indian cricket team to London. This was the historical context within which the first "all-India" cricket team took shape.

Q.14 [11594329]

On what basis does the author say that the link between cricket and the nation was neither natural nor inevitable?

1 ○ The Indian cricket team was formed after three motivated, failed attempts by different groups.

2 ○ The Indian cricket team was a product of the Empire and was formed after three fractured attempts carrying different motivations.

3 ○ Rather than being created by independent Indians, the Indian cricket team was created dictatorially by the British Empire.

4 ○ Rather than being created for the sake of cricket, the Indian cricket team had different motivations behind it every time an attempt to form it was made.

Answer key/Solution

Solution:
Correct Answer : 2
Refer Para 6. It provides the context to the author's assertion about the link between cricket and the nation. One of the main reasons given by the author is that it was formed 'by' the Empire and not by Indians 'against' the empire. Also, its formation wasn't smooth, but marked by 3 failed attempts, each having a different motivation. All this is captured in 2. 1 and 4 are rejected because they don't mention The Empire, which is a key point. 3 is rejected because of 'dictatorially'.

Bookmark FeedBack

Direction for questions (14-18): Read the given passage and answer the questions that follow.

Cricket, it has famously been said, is an Indian game accidentally invented by the English.

By a curious historical irony, a sport that was the exclusive preserve of colonial elite is now the national passion of the formerly colonised. What is equally extraordinary is that India has become world cricket's sole superpower.

It is a status much savoured by contemporary Indians, for whom their cricket team is the nation. They regard "team India" as a symbol of national unity, and its players a reflection of the country's diversity.

"In this last decade," former cricketer Rahul Dravid noted in 2011, "the Indian team represents, more than ever before, the country we come from - of people from vastly different cultures, who speak different languages, follow different religions, belong to different classes."

But the link between cricket and the nation was neither natural nor inevitable.

It took 12 years and three aborted attempts before the first composite Indian team took to the cricket field in the summer of 1911. And contrary to popular perception - fostered by the hugely successful Hindi film Lagaan - this "national team" was constituted by - and not against - empire.

A diverse coalition of Indian businessmen, princely aristocrats and publicists, working in tandem with British governors, civil servants, journalists, soldiers, and professional coaches made possible the idea of India on the cricket pitch.

The project to construct an "Indian" cricket team had a long and tortuous history. The idea was first floated in 1898, following the stunning rise of Kumar Shri Ranjitsinhji or Ranji, an Indian prince who bewitched Britain and the wider imperial world with his sublime batting.

Indian cricket promoters sought to capitalise on Ranji's celebrity in putting together a team. But Ranji, who used his cricketing prestige to become the ruler of Nawanagar, was wary of a project that might raise questions about his nationality and, in particular, his right to represent England on the cricket field. There were some in the English establishment - notably, Lord Harris, the ex-Governor of what was then Bombay - who had never reconciled themselves to Ranji's astonishing cricketing success and continued to regard him as a mere "bird of passage".

Four years later, a different imperative was at work. Now, Europeans in colonial India, who sought to attract teams from home, collaborated with powerful local elites to create an Indian team that would showcase the country's potential as a cricketing destination.

But the venture failed because of fierce divisions between Hindus, Parsis and Muslims over the question of their representation in the proposed team.

A subsequent attempt in 1906 met with the same fate as previous failed ventures.

The years between 1907 and 1909 saw a wave of "revolutionary" violence by young Indians who targeted British officials and their local collaborators. And there were strident calls in Britain to prevent the free movement of

Indians into the country.

Dismayed by the negative publicity generated by these acts, leading businessmen and public figures, along with prominent Indian princes, sought to revive the project of sending an Indian cricket team to London. This was the historical context within which the first “all-India” cricket team took shape.

Q.15 [11594329]

According to the passage, which of the following helped in the attempts to create the Indian cricket team?

1 ○ Hindus, Muslims, and Parsis

2 ○ Kumar Shri Ranjitsinhji

3 ○ British professional coaches

4 ○ The British ex-governor of Bombay

Solution:
Correct Answer : 3
Refer Para 7 “A diverse coalition…”. This mentions British professional coaches.
The other 3 did not help.

Answer key/Solution

Bookmark FeedBack

Direction for questions (14-18): Read the given passage and answer the questions that follow.

Cricket, it has famously been said, is an Indian game accidentally invented by the English.

By a curious historical irony, a sport that was the exclusive preserve of colonial elite is now the national passion of the formerly colonised. What is equally extraordinary is that India has become world cricket’s sole superpower.

It is a status much savoured by contemporary Indians, for whom their cricket team is the nation. They regard “team India” as a symbol of national unity, and its players a reflection of the country’s diversity.

“In this last decade,” former cricketer Rahul Dravid noted in 2011, “the Indian team represents, more than ever before, the country we come from - of people from vastly different cultures, who speak different languages, follow different religions, belong to different classes.”

But the link between cricket and the nation was neither natural nor inevitable.

It took 12 years and three aborted attempts before the first composite Indian team took to the cricket field in the summer of 1911. And contrary to popular perception - fostered by the hugely successful Hindi film Lagaan - this “national team” was constituted by - and not against - empire.

A diverse coalition of Indian businessmen, princely aristocrats and publicists, working in tandem with British governors, civil servants, journalists, soldiers, and professional coaches made possible the idea of India on the

cricket pitch.

The project to construct an “Indian” cricket team had a long and tortuous history. The idea was first floated in 1898, following the stunning rise of Kumar Shri Ranjitsinhji or Ranji, an Indian prince who bewitched Britain and the wider imperial world with his sublime batting.

Indian cricket promoters sought to capitalise on Ranji’s celebrity in putting together a team. But Ranji, who used his cricketing prestige to become the ruler of Nawanagar, was wary of a project that might raise questions about his nationality and, in particular, his right to represent England on the cricket field. There were some in the English establishment - notably, Lord Harris, the ex-Governor of what was then Bombay - who had never reconciled themselves to Ranji’s astonishing cricketing success and continued to regard him as a mere “bird of passage”.

Four years later, a different imperative was at work. Now, Europeans in colonial India, who sought to attract teams from home, collaborated with powerful local elites to create an Indian team that would showcase the country’s potential as a cricketing destination.

But the venture failed because of fierce divisions between Hindus, Parsis and Muslims over the question of their representation in the proposed team.

A subsequent attempt in 1906 met with the same fate as previous failed ventures.

The years between 1907 and 1909 saw a wave of “revolutionary” violence by young Indians who targeted British officials and their local collaborators. And there were strident calls in Britain to prevent the free movement of Indians into the country.

Dismayed by the negative publicity generated by these acts, leading businessmen and public figures, along with prominent Indian princes, sought to revive the project of sending an Indian cricket team to London. This was the historical context within which the first “all-India” cricket team took shape.

Q.16 [11594329]

Lord Harris regarded Ranji as a “bird of passage”. Which of the following, if true, would weaken this description the most?

1 ○ Ranji would continue to stay in India and not proceed to relax in a foreign country once the season changed.

2 ○ Ranji’s cricketing success was not ordinary despite the rich history of English cricket.

3 ○ Ranji’s cricketing success was not merely a passage for him to the throne of Nawanagar.

4 ○ Ranji’s cricketing success was not just a phase and his talent was one of its kind.

Solution:
Correct Answer : 4
A bird of passage means "a person who passes through a place without staying for long." Here, Lord Harris called Ranji a bird of passage in the context of his success i.e. he believed his success to be temporary. Thus 4 attacks it the most. 2 attacks it, but not to the extent of 4. 1 and 3 don't match the context in which Lord Harris made the comment.

Answer key/Solution

Bookmark FeedBack

Direction for questions (14-18): Read the given passage and answer the questions that follow.

Cricket, it has famously been said, is an Indian game accidentally invented by the English.

By a curious historical irony, a sport that was the exclusive preserve of colonial elite is now the national passion of the formerly colonised. What is equally extraordinary is that India has become world cricket's sole superpower.

It is a status much savoured by contemporary Indians, for whom their cricket team is the nation. They regard "team India" as a symbol of national unity, and its players a reflection of the country's diversity.

"In this last decade," former cricketer Rahul Dravid noted in 2011, "the Indian team represents, more than ever before, the country we come from - of people from vastly different cultures, who speak different languages, follow different religions, belong to different classes."

But the link between cricket and the nation was neither natural nor inevitable.

It took 12 years and three aborted attempts before the first composite Indian team took to the cricket field in the summer of 1911. And contrary to popular perception - fostered by the hugely successful Hindi film Lagaan - this "national team" was constituted by - and not against - empire.

A diverse coalition of Indian businessmen, princely aristocrats and publicists, working in tandem with British governors, civil servants, journalists, soldiers, and professional coaches made possible the idea of India on the cricket pitch.

The project to construct an "Indian" cricket team had a long and tortuous history. The idea was first floated in 1898, following the stunning rise of Kumar Shri Ranjitsinhji or Ranji, an Indian prince who bewitched Britain and the wider imperial world with his sublime batting.

Indian cricket promoters sought to capitalise on Ranji's celebrity in putting together a team. But Ranji, who used his cricketing prestige to become the ruler of Nawanagar, was wary of a project that might raise questions about his nationality and, in particular, his right to represent England on the cricket field. There were some in the English establishment - notably, Lord Harris, the ex-Governor of what was then Bombay - who had never reconciled themselves to Ranji's astonishing cricketing success and continued to regard him as a mere "bird of passage".

Four years later, a different imperative was at work. Now, Europeans in colonial India, who sought to attract teams from home, collaborated with powerful local elites to create an Indian team that would showcase the

country's potential as a cricketing destination.

But the venture failed because of fierce divisions between Hindus, Parsis and Muslims over the question of their representation in the proposed team.

A subsequent attempt in 1906 met with the same fate as previous failed ventures.

The years between 1907 and 1909 saw a wave of "revolutionary" violence by young Indians who targeted British officials and their local collaborators. And there were strident calls in Britain to prevent the free movement of Indians into the country.

Dismayed by the negative publicity generated by these acts, leading businessmen and public figures, along with prominent Indian princes, sought to revive the project of sending an Indian cricket team to London. This was the historical context within which the first "all-India" cricket team took shape.

Q.17 [11594329]

Which of the following can be inferred from the passage?

1 ○ India's success in cricket is ironical considering the multiplicity of religions and cultures in the nation.

2 ○ The popular perception regarding the formation of the Indian cricket team is not entirely inaccurate.

3 ○ The formation of the Indian cricket team was affected by cultural, political and imperialist considerations.

4 ○ But for the efforts of the alliance of colonial and local elites, India would not have a national-level cricket team.

Answer key/Solution

Solution:
Correct Answer : 3
The irony mentioned in Para 2 is that a sport once exclusive to colonial elite is now the national passion of the formerly colonised. This does not match with 1.
The author contradicts the popular perception in Para 6. So 2 can't be inferred. 3 can be inferred as one attempt to form the team was to attract teams from imperialist nations to India, another broke down because of religious divisions between Hindus, Muslims, and Parsis, and the one that was successful was a political move to minimise the negative publicity generated by the ideological attacks of the "revolutionary" youth. 4 can't be inferred because there is a possibility that the Indian team could have emerged later because of other factors, let's say representation of the country in international sports.

Bookmark FeedBack

Direction for questions (14-18): Read the given passage and answer the questions that follow.

Cricket, it has famously been said, is an Indian game accidentally invented by the English.

By a curious historical irony, a sport that was the exclusive preserve of colonial elite is now the national passion of the formerly colonised. What is equally extraordinary is that India has become world cricket's sole superpower.

It is a status much savoured by contemporary Indians, for whom their cricket team is the nation. They regard “team India” as a symbol of national unity, and its players a reflection of the country’s diversity.

“In this last decade,” former cricketer Rahul Dravid noted in 2011, “the Indian team represents, more than ever before, the country we come from - of people from vastly different cultures, who speak different languages, follow different religions, belong to different classes.”

But the link between cricket and the nation was neither natural nor inevitable.

It took 12 years and three aborted attempts before the first composite Indian team took to the cricket field in the summer of 1911. And contrary to popular perception - fostered by the hugely successful Hindi film Lagaan - this “national team” was constituted by - and not against - empire.

A diverse coalition of Indian businessmen, princely aristocrats and publicists, working in tandem with British governors, civil servants, journalists, soldiers, and professional coaches made possible the idea of India on the cricket pitch.

The project to construct an “Indian” cricket team had a long and tortuous history. The idea was first floated in 1898, following the stunning rise of Kumar Shri Ranjitsinhji or Ranji, an Indian prince who bewitched Britain and the wider imperial world with his sublime batting.

Indian cricket promoters sought to capitalise on Ranji’s celebrity in putting together a team. But Ranji, who used his cricketing prestige to become the ruler of Nawanagar, was wary of a project that might raise questions about his nationality and, in particular, his right to represent England on the cricket field. There were some in the English establishment - notably, Lord Harris, the ex-Governor of what was then Bombay - who had never reconciled themselves to Ranji’s astonishing cricketing success and continued to regard him as a mere “bird of passage”.

Four years later, a different imperative was at work. Now, Europeans in colonial India, who sought to attract teams from home, collaborated with powerful local elites to create an Indian team that would showcase the country’s potential as a cricketing destination.

But the venture failed because of fierce divisions between Hindus, Parsis and Muslims over the question of their representation in the proposed team.

A subsequent attempt in 1906 met with the same fate as previous failed ventures.

The years between 1907 and 1909 saw a wave of “revolutionary” violence by young Indians who targeted British officials and their local collaborators. And there were strident calls in Britain to prevent the free movement of Indians into the country.

Dismayed by the negative publicity generated by these acts, leading businessmen and public figures, along with prominent Indian princes, sought to revive the project of sending an Indian cricket team to London. This was the historical context within which the first “all-India” cricket team took shape.

Q.18 [11594329]

Which of the following best captures the essence of the sentence “Cricket, it has famously been said, is an Indian game accidentally invented by the English.”?

1 ○ The invention of cricket by the English is nothing but a mere accident, the sport has always been the heart of every Indian, and rightfully so.

2 ○ Cricket, once a game meant exclusively for the colonial elite is now an obsession of the country they colonised—India.

3 ○ The English have appropriated cricket from India and labelled it as an accident.

4 ○ Cricket, a game invented by the English, has become so synonymous with India for Indians that it appears nothing but an accident that it was not invented there.

Answer key/Solution

Solution:
Correct Answer : 4
1 is rejected as it says that the sport has “always been the heart of every Indian”, which is not justified by the context of the passage. 3 is rejected as it is factually incorrect. 2 is rejected because it doesn’t talk about the game’s invention by the English or relate it to the “accidentally” used in the quote. 4 best captures the essence.

Bookmark FeedBack

Q.19 [11594329]

The four sentences (labelled 1, 2, 3, and 4) given in this question, when properly sequenced, form a coherent paragraph. Decide on the proper order for the sentences and key in this sequence of four numbers as your answer.

1. But cast your mind back and you may recall a spate of articles predicting an imminent baby boom.
2. Nadine Dorries, minister responsible for maternity services, tweeted ”how busy we are going to be, nine months from now”.
3. The start of lockdown feels a very long time ago.
4. Under lockdown Britain, people were going to be incapable of keeping their hands off each other.

✖

Answer key/Solution

Solution:
Correct Answer : 3142
Your Answer : 2341
3 and 1 are pairs. 3 is the opening sentence as the rest of the sentences talk about a ‘lockdown’ scenario. 4 follows 1 as it explains the ‘imminent baby boom’. 2 follows 4 as it records a response to the prediction.

Bookmark FeedBack

Q.20 [11594329]

The four sentences (labelled 1, 2, 3, and 4) given in this question, when properly sequenced, form a coherent paragraph. Decide on the proper order for the sentences and key in this sequence of four numbers as your answer.

1. His utopia was the Covent Garden theatre, which is now the Royal Opera House, where he first saw Lopokova dance with Diaghilev's company.
2. An off-hand metaphor revealed his partiality: in Britain's imperial heyday, he said the Bank of England was "the conductor of the international orchestra".
3. He reminded governments of their duty to subsidise entertainers, whose "divine gift" brightened our lives.
4. Economics, for Keynes a form of play, was underpinned by aesthetics.

✖

Answer key/Solution

Solution:
Correct Answer : 4231
Your Answer : 4123
4 is the opening sentence as the rest of the sentences talk about Keynes. 2 continues the idea of how Keynes related economics with aesthetics by revealing a metaphor that "revealed this partiality". 3 continues the use of metaphors for economic matters. 1 then begins a discussion of his fondness for aesthetics, and thus will come at the end.

Bookmark FeedBack

Q.21 [11594329]

The passage given below is followed by four summaries. Choose the option that best captures the author's position.

Writing at a time of deep economic depression, Keynes argued that technological progress offered the path to a bright future. In the long run, he said, humanity could solve the economic problem of scarcity and do away with the need to work in order to live. That in turn implied that we would be free to discard 'all kinds of social customs and economic practices, affecting the distribution of wealth and of economic rewards and penalties, which we now maintain at all costs, however distasteful and unjust they may be in themselves, because they are tremendously useful in promoting the accumulation of capital'.

1 ○ Keynes argued that in the long run, technological progress could enable humans to do away with the need to work to live and in turn would make them free to discard capitalism.

2 ○ Keynes argued that technological progress could enable humans to not work for a livelihood and thus discard unjust practices currently upheld for the sake of capital accumulation.

3 ○ Keynes argued that for human beings to be able to discard unjust practices maintained for the sake of capital accumulation, technological progress was essential.

4 ○ Keynes argued that in the long run, technological progress could enable humanity to do away with the need to work and thus be free to discard unjust practices presently maintained for promoting capital accumulation.

Solution:
Correct Answer : 2
1 is rejected because the author does not talk about discarding 'capitalism'. 3 is rejected because the author does not call technological progress as an essential or necessary condition. Also, 3 does not talk about not working in order to live. 4 is rejected because it distorts the essence by saying that humanity will be able to do away with the need to work altogether. The author just says that humanity will be able to do away with the need to work 'in order to live'. Humanity may still need to work for other purposes—health, creative, etc.

Answer key/Solution

Bookmark FeedBack

Q.22 [11594329]
The passage given below is followed by four summaries. Choose the option that best captures the author's position.

In the Weimar period, during which a rickety republic governed interwar Germany from 1918 to 1933, Carl Schmitt, the popular German political theorist, took it as a basic fact that democracy was the sole principle of legitimacy capable of garnering mass support. So, for this supreme antiliberal, the challenge of the times was to reinterpret democracy into authoritarian terms. An ideology based on an idea of the 'substantive homogeneity' of the nation achieved this purpose – a secular substitute for the religious basis on which political legitimacy had been founded in the past. Schmitt also yoked democracy to his claim that the sovereign is 'he who decides on the state of exception'. Sovereignty is revealed in a situation of crisis, when the identity of the political community is at stake.

1 ○ The political theorist Carl Schmitt, convinced that only democracy legitimised mass support, reinterpreted it using the idea of 'substantive homogeneity' and tethered it to his claim that sovereignty is revealed in crisis.

2 ○ Carl Schmitt made two changes to the idea of democracy—reinterpreting it in terms of 'substantive homogeneity' and then yoking with his claim that a sovereign is the one who decides on the state of exception.

3 ○ Carl Schmitt, convinced that mass support could be gathered by a regime only on the basis of democracy, reinterpreted it into secular authoritarian terms and tied it with his claim that sovereignty is revealed in crisis.

4 ○ In the Weimar period, Carl Shmitt, a political theorist reinterpreted democracy into authoritarian terms and yoked it to the claim that sovereignty is revealed in crisis, so that it could garner mass support.

Solution:
Correct Answer : 3
Though 1 and 3 are close, 1 is distorted in that it states that 'democracy legitimised mass support', which is not what is meant in the para. The para implies that democracy was the only basis on which a regime could gather mass support, and not that democracy justified or granted legitimacy to mass support. 2 is rejected because it does not state why Carl made these changes. 4 is rejected because the changes were not made 'so that democracy could garner support'. Democracy could already garner mass support.

Answer key/Solution

Bookmark FeedBack

Q.23 [11594329]

Five sentences related to a topic are given below. Four of them can be put together to form a meaningful and coherent short paragraph. Identify the odd one out.

1. You could call the burning of cell phone masts an allergic reaction that the human race has developed to the future.
2. Only the literature of the imagination can capture what is happening all around us.
3. A symptom of what sociologist Manuel Castells called "informed bewilderment," the hallmark of our age.
4. As Frederik Pohl once said "A good science fiction story should be able to predict not the automobile, but the traffic jam."
5. It is also a sign that we live in a science-fictional reality now.

Solution:
Correct Answer : 4
The para talks about a current situation and calls it a science-fictional reality. The theme, however, is not the characteristics of a science-fiction story. Hence 4. The sequence is 1352.

Answer key/Solution

Bookmark FeedBack

Q.24 [11594329]

Five sentences related to a topic are given below. Four of them can be put together to form a meaningful and coherent short paragraph. Identify the odd one out.

1. If virtue needs no explanations, vice has none.
2. It makes us desire a future in which such horrific crimes can only be filed under fiction.
3. *Caging Skies* succeeds to the extent any fiction can succeed in taking on such impossible tasks.
4. Ultimately, it is the kind of story where the reader is required to be present and absent at the same time.
5. There are crimes beyond the reach of reasons; that is, beyond the reach of fiction.

Solution:
Correct Answer : 4
The discussion here is about the nature of crimes such as the one mentioned in Caging Skies. 4 does not match the theme. The sequence is 1532.

Answer key/Solution

Bookmark FeedBack

Q.25 [11594329]

Five sentences related to a topic are given below. Four of them can be put together to form a meaningful and coherent short paragraph. Identify the odd one out.

1. Many non-philosophers baulk at this suggestion.
2. The philosophers assume that the interpretation of thought experiments should be subject to a convention of authoritative authorial ethical framing.
3. Even when scenarios are highly unrealistic, judgments about them are thought to have wideranging implications for what should be done in the real world.
4. While thought experiments are as old as philosophy itself, the weight placed on them in recent philosophy is distinctive.
5. The assumption is that, if you can show that a point of ethical principle holds in one artfully designed case, however bizarre, then this tells us something significant.

Solution:
Correct Answer : 2
The topic under discussion is the significance of thought experiments. 2 talks about a particular convention that they should be subject to and goes out of the scope of this discussion. The sequence is 4351.

Answer key/Solution

Bookmark FeedBack

Sec 2

Directions for questions 26 to 28: Answer the questions on the basis of the information given below.

In a residential society, there are 'n' towers, numbered from 1 to n, such that there are 2 floors in tower numbered 1, and the number of floors at least triples as one moves to the next tower. For example if number of floors in tower numbered 1 is 'x', then the number of floors in tower numbered 2 is at least 3x and so on.

Q.26 [11594329]

If there are at least 30 floors in tower numbered 3 and there are total 6 towers in the society, then what could be the minimum number of floors of all the 6 towers taken together?

Solution:
Correct Answer : 1208

Answer key/Solution

Tower		Minimum number of floors
Tower 1	⇒	2
Tower 2	⇒	6
Tower 3	⇒	30
Tower 4	⇒	90
Tower 5	⇒	270
Tower 6	⇒	810

Total = 2 + 6 + 30 + 90 + 270 + 810 = 1208.

Bookmark FeedBack

Directions for questions 26 to 28: Answer the questions on the basis of the information given below.

In a residential society, there are 'n' towers, numbered from 1 to n, such that there are 2 floors in tower numbered 1, and the number of floors at least triples as one moves to the next tower. For example if number of floors in tower numbered 1 is 'x', then the number of floors in tower numbered 2 is at least 3x and so on.

Q.27 [11594329]
If the total number of floors of all the towers taken together is 1000, then what could be the maximum number of towers in the society?

Solution:
Correct Answer : 6

Answer key/Solution

Since the number of floors of all the towers taken together is 1000 and we have to maximize the number of towers. Therefore, we would minimize the number of floors in each tower.

Tower		Number of floors (Minimum)
Tower 1	⇒	2
Tower 2	⇒	6
Tower 3	⇒	18
Tower 4	⇒	54
Tower 5	⇒	162
Tower 6	⇒	486

Now, if we taken tower 7, then the number of floors would exceed 1000. Hence, a maximum of 6 towers are possible.
Note: We can make the sum = 1000, by increasing the number of floors in tower 6 or by increasing the number of floors in each of Tower 5 and Tower 6 or by many other ways.
Hence, maximum number of Tower = 6.

Bookmark FeedBack

Directions for questions 26 to 28: Answer the questions on the basis of the information given below.

In a residential society, there are 'n' towers, numbered from 1 to n, such that there are 2 floors in tower numbered 1, and the number of floors at least triples as one moves to the next tower. For example if number of floors in tower numbered 1 is 'x', then the number of floors in tower numbered 2 is at least 3x and so on.

Q.28 [11594329]

If the total number of floors of all the towers taken together is 500 and the total number of floors of towers numbered 1 and 2 taken together is 70, then what could be the number of floors in tower numbered 3?

Solution:

Correct Answer : 430

Answer key/Solution

Towers		Number of floors
Tower 1	⇒	2
Tower 2	⇒	68
Tower 3	⇒	204 -- Minimum number of floors i.e., (68 × 3)
Tower 4	⇒	612 -- Minimum number of floors i.e., (204 × 3)

Hence, Tower 4 is not possible since there are a total of 500 floors only, taking all towers together. This implies that (500 – 70) floors are there in 3rd tower i.e., 430 floors.

Bookmark FeedBack

Directions for questions 29 to 32 : Answer the questions on the basis of the information given below.

A company named "Tectura" sent its five salesmen – Rahil, Sunil, Akash, Pawan, and Surya – to five different cities – Dehradun, Haldwani, Kanpur, New Delhi and Mumbai – not necessarily in the same order. All five salesmen are of different heights and each of them carries a different mobile phone out of Samsung, Motorola, Lenovo, Mi and One Plus. It is also known that:

• Sunil, the third tallest, was sent to Kanpur. Neither Sunil nor the fourth tallest person carries Motorola phone.
• The shortest person carries One Plus phone and he was not sent to Haldwani or Mumbai.
• The Samsung phone is carried by the tallest person who is not Pawan.
• Akash, who is not shorter than the one who was sent to New Delhi, carries Mi phone.
• Rahil, who does not carry Motorola phone, was sent to Mumbai.

Q.29 [11594329]

Who carries the Samsung phone?

1 ○ Rahil

2 ○ Sunil

3 ○ Pawan

4 ○ Surya

✔

Solution:
Correct Answer : 1
Your Answer : 1

Answer key/Solution

From the above points (mentioned in question), it can be observed that:

- Tallest person is not Pawan but tallest person has Samsung phone.
- 2nd tallest person has Motorola phone.
- 3rd tallest person is Sunil and he was sent to Kanpur.
- 5th tallest person has One Plus phone and he was neither sent to Haldwani nor Mumbai.
- Since Akash has the Mi phone, he is the 4th tallest.
- Shortest person was sent to New Delhi, as it is given that Akash is not shorter than the one who went to New Delhi and Sunil has Lenovo phone.
- Rahil went to Mumbai but does not have Motorola phone.

Height	Order	Name	Phone	City
Tallest	1st	Rahil	Samsung	Mumbai
↓	2nd	Pawan/Surya	Motorola	Haldwani/Dehradun
↓	3rd	Sunil	Lenovo	Kanpur
↓	4th	Akash	Mi	Dehradun/Haldwani
Shortest	5th	Surya/Pawan	One Plus	New Delhi

Rahil carries the Samsung Phone.

Bookmark FeedBack

Directions for questions 29 to 32 : Answer the questions on the basis of the information given below.

A company named "Tectura" sent its five salesmen – Rahil, Sunil, Akash, Pawan, and Surya – to five different cities – Dehradun, Haldwani, Kanpur, New Delhi and Mumbai – not necessarily in the same order. All five salesmen are of different heights and each of them carries a different mobile phone out of Samsung, Motorola, Lenovo, Mi and One Plus. It is also known that:

• Sunil, the third tallest, was sent to Kanpur. Neither Sunil nor the fourth tallest person carries Motorola phone.
• The shortest person carries One Plus phone and he was not sent to Haldwani or Mumbai.
• The Samsung phone is carried by the tallest person who is not Pawan.
• Akash, who is not shorter than the one who was sent to New Delhi, carries Mi phone.
• Rahil, who does not carry Motorola phone, was sent to Mumbai.

Q.30 [11594329]
To which city was the 4th tallest person sent?

1 ○ Dehradun

2 ○ Haldwani

3 ○ Mumbai

4 ○ Cannot be determined

✔

Solution:
Correct Answer : 4
Your Answer : 4

Answer key/Solution

From the above points (mentioned in question), it can be observed that:

- Tallest person is not Pawan but tallest person has Samsung phone.
- 2nd tallest person has Motorola phone.
- 3rd tallest person is Sunil and he was sent to Kanpur.
- 5th tallest person has One Plus phone and he was neither sent to Haldwani nor Mumbai.
- Since Akash has the Mi phone, he is the 4th tallest.
- Shortest person was sent to New Delhi, as it is given that Akash is not shorter than the one who went to New Delhi and Sunil has Lenovo phone.
- Rahil went to Mumbai but does not have Motorola phone.

Height	Order	Name	Phone	City
Tallest	1st	Rahil	Samsung	Mumbai
↓	2nd	Pawan/Surya	Motorola	Haldwani/Dehradun
↓	3rd	Sunil	Lenovo	Kanpur
↓	4th	Akash	Mi	Dehradun/Haldwani
Shortest	5th	Surya/Pawan	One Plus	New Delhi

4th tallest person was sent to either Dehradun or Haldwani. So, cannot be determined.

Bookmark FeedBack

Directions for questions 29 to 32 : Answer the questions on the basis of the information given below.

A company named "Tectura" sent its five salesmen – Rahil, Sunil, Akash, Pawan, and Surya – to five different cities – Dehradun, Haldwani, Kanpur, New Delhi and Mumbai – not necessarily in the same order. All five salesmen are of different heights and each of them carries a different mobile phone out of Samsung, Motorola, Lenovo, Mi and One Plus. It is also known that:

• Sunil, the third tallest, was sent to Kanpur. Neither Sunil nor the fourth tallest person carries Motorola phone.
• The shortest person carries One Plus phone and he was not sent to Haldwani or Mumbai.
• The Samsung phone is carried by the tallest person who is not Pawan.
• Akash, who is not shorter than the one who was sent to New Delhi, carries Mi phone.
• Rahil, who does not carry Motorola phone, was sent to Mumbai.

Q.31 [11594329]
If Pawan carries the Motorola phone, then to which city was Surya sent?

1 ○ Mumbai

2 ○ Haldwani

3 ○ Dehradun

4 ○ New Delhi

✔

Solution:
Correct Answer : 4
Your Answer : 4

Answer key/Solution

From the above points (mentioned in question), it can be observed that:

- Tallest person is not Pawan but tallest person has Samsung phone.
- 2nd tallest person has Motorola phone.
- 3rd tallest person is Sunil and he was sent to Kanpur.
- 5th tallest person has One Plus phone and he was neither sent to Haldwani nor Mumbai.
- Since Akash has the Mi phone, he is the 4th tallest.
- Shortest person was sent to New Delhi, as it is given that Akash is not shorter than the one who went to New Delhi and Sunil has Lenovo phone.
- Rahil went to Mumbai but does not have Motorola phone.

Height	Order	Name	Phone	City
Tallest	1st	Rahil	Samsung	Mumbai
↓	2nd	Pawan/Surya	Motorola	Haldwani/Dehradun
↓	3rd	Sunil	Lenovo	Kanpur
↓	4th	Akash	Mi	Dehradun/Haldwani
Shortest	5th	Surya/Pawan	One Plus	New Delhi

If Pawan carries the Motorola phone, then Surya was sent to New Delhi.

Bookmark FeedBack

Directions for questions 29 to 32 : Answer the questions on the basis of the information given below.

A company named "Tectura" sent its five salesmen – Rahil, Sunil, Akash, Pawan, and Surya – to five different cities – Dehradun, Haldwani, Kanpur, New Delhi and Mumbai – not necessarily in the same order. All five salesmen are of different heights and each of them carries a different mobile phone out of Samsung, Motorola, Lenovo, Mi and One Plus. It is also known that:

• Sunil, the third tallest, was sent to Kanpur. Neither Sunil nor the fourth tallest person carries Motorola phone.
• The shortest person carries One Plus phone and he was not sent to Haldwani or Mumbai.
• The Samsung phone is carried by the tallest person who is not Pawan.
• Akash, who is not shorter than the one who was sent to New Delhi, carries Mi phone.
• Rahil, who does not carry Motorola phone, was sent to Mumbai.

Q.32 [11594329]
If Surya was sent to Dehradun, then which phone was carried by the person who was sent to Haldwani?

1 ○ Motorola

2 ○ One Plus

3 ○ Mi

4 ○ Cannot be determined

✔

Solution:

Correct Answer : 3

Your Answer : 3

Answer key/Solution

From the above points (mentioned in question), it can be observed that:

- Tallest person is not Pawan but tallest person has Samsung phone.
- 2nd tallest person has Motorola phone.
- 3rd tallest person is Sunil and he was sent to Kanpur.
- 5th tallest person has One Plus phone and he was neither sent to Haldwani nor Mumbai.
- Since Akash has the Mi phone, he is the 4th tallest.
- Shortest person was sent to New Delhi, as it is given that Akash is not shorter than the one who went to New Delhi and Sunil has Lenovo phone.
- Rahil went to Mumbai but does not have Motorola phone.

Height	Order	Name	Phone	City
Tallest	1st	Rahil	Samsung	Mumbai
↓	2nd	Pawan/Surya	Motorola	Haldwani/Dehradun
↓	3rd	Sunil	Lenovo	Kanpur
↓	4th	Akash	Mi	Dehradun/Haldwani
Shortest	5th	Surya/Pawan	One Plus	New Delhi

If Surya was sent to Dehradun, then Mi phone was carried by the person who was sent to Haldwani.

Bookmark FeedBack

Directions for questions 33 to 35: Answer the questions on the basis of the information given below.

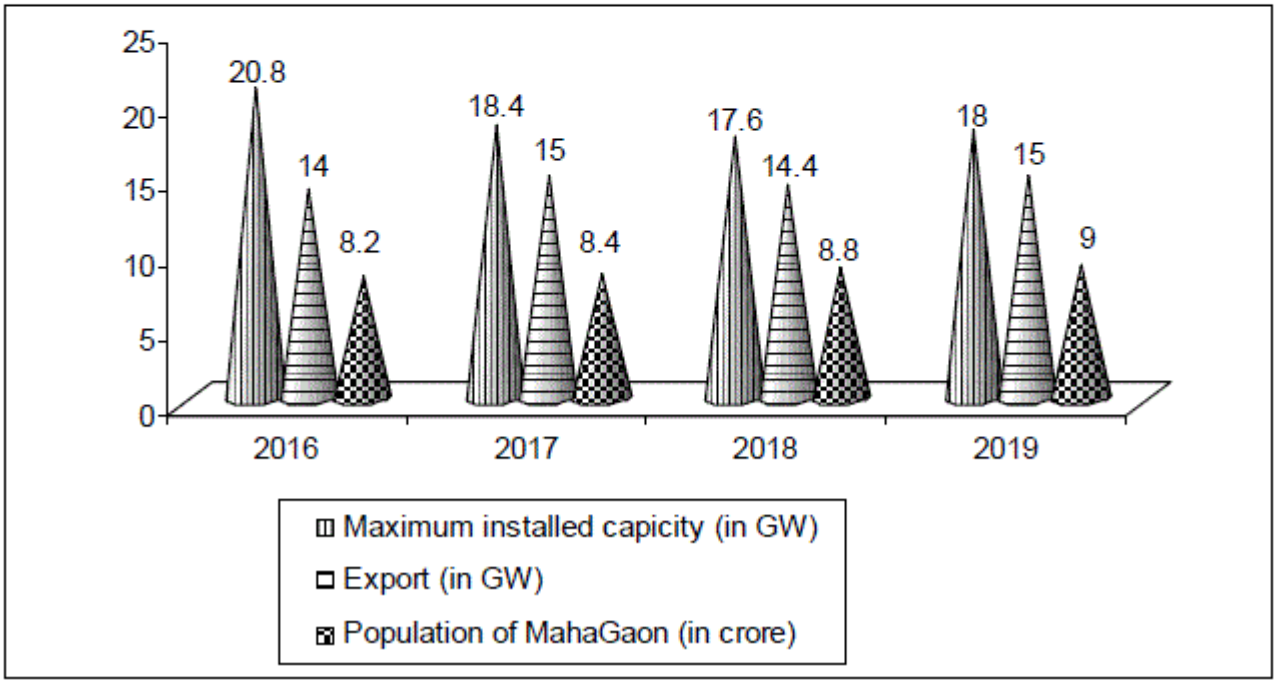
In the Mahagaon state, a part of the electricity (or power) produced is consumed internally, within the state, while the rest is exported to neighbouring states. The graph below gives the information about maximum installed capacity (in GW) in the state, the amount of electricity exported (in GW), and the population of Mahagaon (in crore).

The power produced in the state is given by the formula:

Power produced (in GW) = Efficiency (in %) x Maximum installed capacity (in GW)

Efficiency is always less than or equal to 100%. The state electricity board also monitors the per capita consumption of electricity in the state, which is defined as:

$$\text{Per capita consumption} = \frac{\text{Total internal consumption}}{\text{Total population}}$$



Q.33 [11594329]

It is known that, the power produced is same in 2016 and 2017, and then increases by 8% and 5% successively (per annum) from 2017 to 2019, find the minimum possible difference (nearest value), in GW, between power produced and maximum installed capacity in the year 2016.

1 ○ 4.9

2 ○ 3.7

3 ○ 2.3

4 ○ 6.1

Solution:
Correct Answer : 1

Answer key/Solution

The graph is quite direct. A percentage of capacity is produced as power. All power produced is either consumed internally or exported. All power consumed internally when divided by total population equals the per capita consumption of the state.

The minimum possible difference between power produced and capacity will be when power produced is as high as possible. However, power produced in 2016 cannot be equal to the capacity because it increases later.

We know that the

Power produced in 2017 × 1.08 × 1.05 = Power produced in 2019

Therefore, to maximise the power produced in the year 2016, we must maximise the power produced in 2019.

So, assuming that the power produced in 2019 = Capacity = 18 GW

We can say that, the maximum possible power produced in $2016 = \frac{18}{(1.08 \times 1.05)} = 15.87$ GW

Thus minimum difference between capacity and power produced in 2016 = 20.8 – 15.87 = 4.93 GW.

Bookmark FeedBack

Directions for questions 33 to 35: Answer the questions on the basis of the information given below.

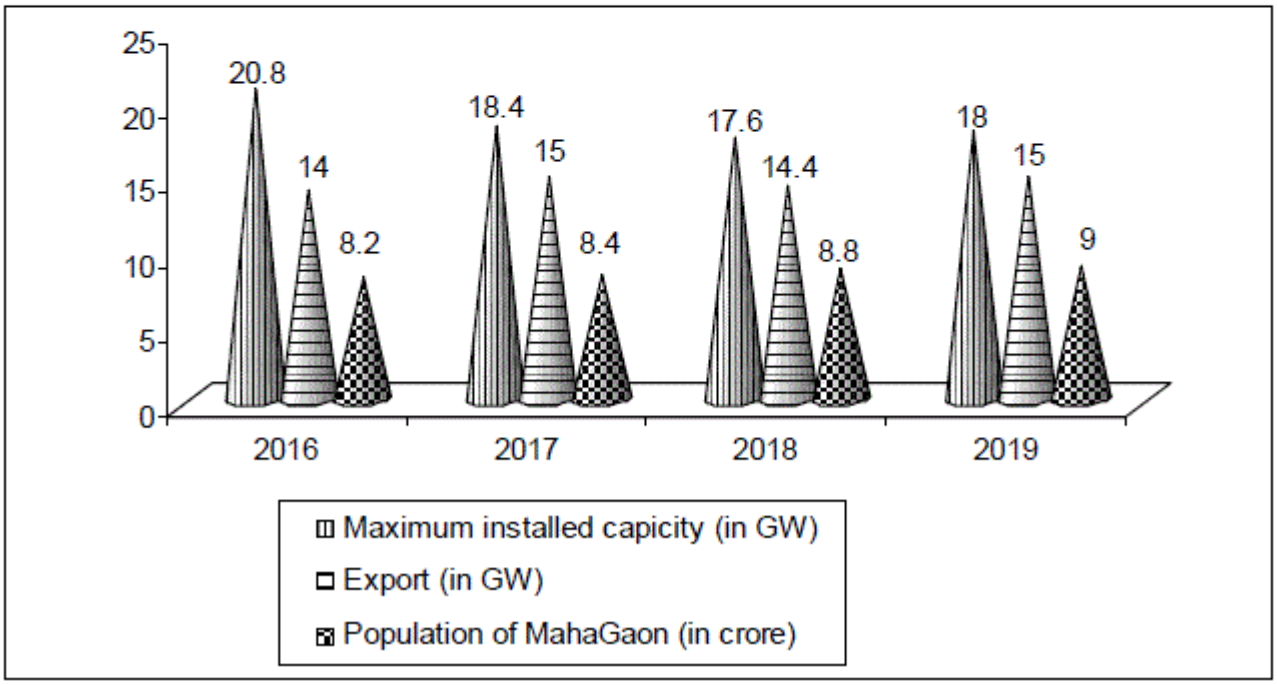
In the Mahagaon state, a part of the electricity (or power) produced is consumed internally, within the state, while the rest is exported to neighbouring states. The graph below gives the information about maximum installed capacity (in GW) in the state, the amount of electricity exported (in GW), and the population of Mahagaon (in crore).

The power produced in the state is given by the formula:

Power produced (in GW) = Efficiency (in %) x Maximum installed capacity (in GW)

Efficiency is always less than or equal to 100%. The state electricity board also monitors the per capita consumption of electricity in the state, which is defined as:

$$\text{Per capita consumption} = \frac{\text{Total internal consumption}}{\text{Total population}}$$



Q.34 [11594329]

Power produced is 80% and 85% of the maximum installed capacity in the year 2016 and 2017, respectively, and out of all power consumed internally, 40% is used by domestic consumers (households) across two years. Find the approximate difference, in GW, between the total power exported in two years and the total power consumed internally by non-domestic consumers.

1 ○ 24

2 ○ 25

3 ○ 26

4 ○ 27

Solution:
Correct Answer : 4

Answer key/Solution

The graph is quite direct. A percentage of capacity is produced as power. All power produced is either consumed internally or exported. All power consumed internally when divided by total population equals the per capita consumption of the state.

Power produced in 2016 = 80% of 20.8 = 16.64 GW
Power consumed internally = Production – Export = 2.64 GW
Power produced in 2017 = 85% of 18.4 = 15.64 GW
Power consumed internally = Production – Export = 0.64GW
Total power consumed internally in the two years = 2.64 + 0.64 = 3.28 GW
Consumption by non-domestic = 3.28 × 0.6 = 1.968GW
Difference = Total export – Total non-domestic consumption = 29 – 1.968 ≈27 GW.

Bookmark FeedBack

Directions for questions 33 to 35: Answer the questions on the basis of the information given below.

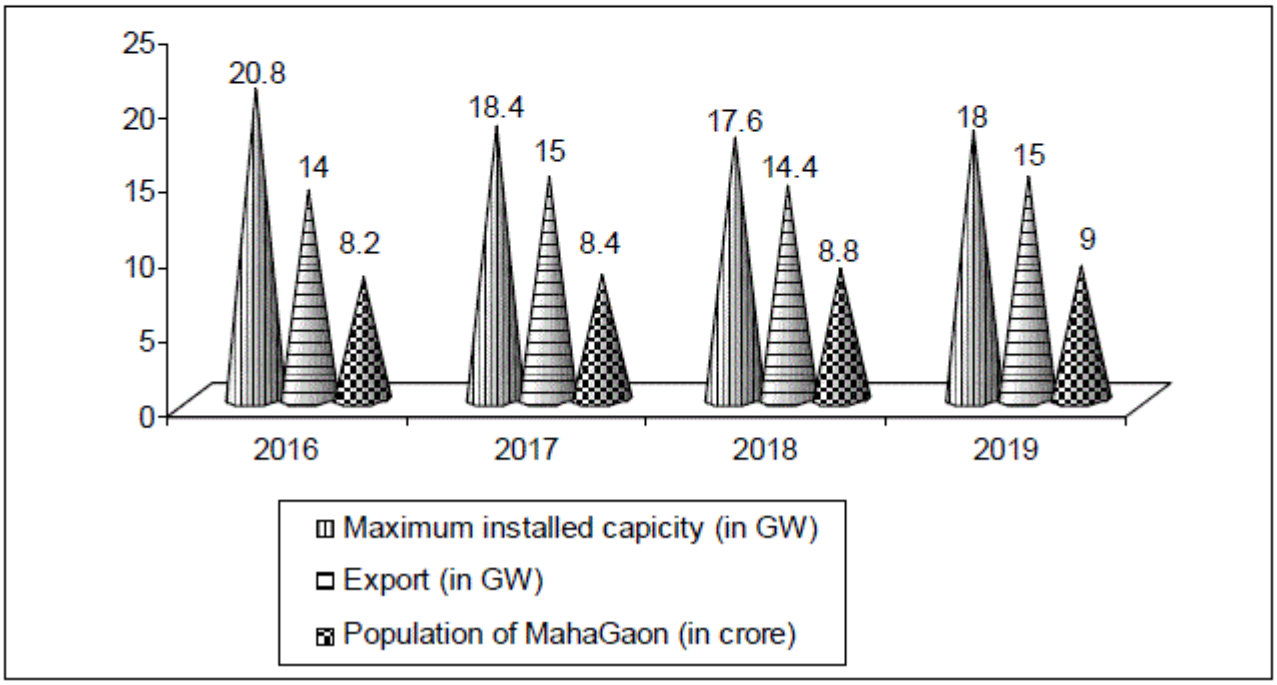
In the Mahagaon state, a part of the electricity (or power) produced is consumed internally, within the state, while the rest is exported to neighbouring states. The graph below gives the information about maximum installed capacity (in GW) in the state, the amount of electricity exported (in GW), and the population of Mahagaon (in crore).

The power produced in the state is given by the formula:

Power produced (in GW) = Efficiency (in %) x Maximum installed capacity (in GW)

Efficiency is always less than or equal to 100%. The state electricity board also monitors the per capita consumption of electricity in the state, which is defined as:

$$\text{Per capita consumption} = \frac{\text{Total internal consumption}}{\text{Total population}}$$



Q.35 [11594329]

What is the approximate percentage change in the per capita consumption of power, in Mahagaon, from 2016 to 2019 if it is known that power produced is 80% and 95% of maximum installed capacity in 2016 and 2019 respectively?

1 ○ 28%

2 ○ 23%

3 ○ 19%

4 ○ 16%

Solution:
Correct Answer : 1

Answer key/Solution

The graph is quite direct. A percentage of capacity is produced as power. All power produced is either consumed internally or exported. All power consumed internally when divided by total population equals the per capita consumption of the state.

Power produced in 2016 = 80% of 20.8 = 16.64 GW
Power consumed internally = Production – Exports = 2.64 GW

$$\text{Per capita consumption} = \frac{\text{Internal consumption}}{\text{Population}} = \frac{2.64}{8.2} = 0.32 \text{ GW/crore}$$

Power produced in 2019 = 95% of 18 = 17.1 GW
Power consumed internally = Production – exports = 2.1 GW

$$\text{Per capita consumption} = \frac{\text{Internal consumption}}{\text{Population}} = \frac{2.1}{9} = 0.23 \text{ GW/crore}$$

$$\text{Percentage change in per capita consumption} = \frac{(0.32 - 0.23)}{0.32} \approx 28\%.$$

Bookmark FeedBack

Directions for questions 36 to 39: Answer the questions on the basis of the information given below.

There are 14 different cars – A, B, C, D, E, F, G, H, I, J, K, L, M, and N, each manufactured by one of the 4 automobile companies – Ford, Toyota, Honda, and Tesla - such that - 5 are manufactured by Honda, 4 by Ford, 3 by Toyota, and 2 by Tesla. The cars are parked in 14 parking slots, one in each slot, out of the 22 parking slots, numbered from 1 to 22.

Further information is as follows:
(i) The 5 cars of Honda are parked in 5 parking slots which are consecutively numbered.
(ii) The 4 cars of Ford are parked in 4 parking slots, which are consecutive prime numbers. The same is also true for the parking slots, where the 3 Toyota cars are parked.
(iii) The cars K and M are parked in two slots which are consecutive prime numbers. The same is also true for the parking slots, where cars N and H are parked. Further, car K is parked in slot numbered 3 and car H is parked in slot numbered 19.
(iv) Cars M and J are manufactured by the same company and same is true for cars N and H.
(v) Cars - C, E and G - manufactured by the same company, are parked in alternate parking slots, and the parking slot number where C is parked, is the least of the 3 and the parking slot number where G is parked, is the highest of the 3.
(vi) Cars F and L are of the same company and are parked such that they have an empty slot between them.
(vii) Cars B and D are of the same company and are parked such that they have an empty slot between them.
Further, the number of slots between cars B and M is less than that between cars B and H.

Q.36 [11594329]
Which automobile company manufactured car F?

1 ○ Honda

2 ○ Ford

3 ◯ Tesla

4 ◯ Toyota

Solution:
Correct Answer : 3

Answer key/Solution

There are 8 prime number slots between 1 and 22; i.e., 2, 3, 5, 7, 11, 13, 17, and 19. Out of which, 4 slots are occupied by the 4 cars of Ford and 3 are occupied by the 3 cars of Toyota.

Since K is at slot 3 and car M is at the slot which is a consecutive prime number to 3, it implies that car M is either at slot 2 or at slot 5. Further, K, M, and J are of the same company, which is either Ford or Toyota. Similarly, car H is at slot 19 and car N is parked in the slot which is a consecutive prime number to 19, hence it is slot 17.

Now, since the 4 cars of ford are parked at 4 slots, which are consecutive prime numbers and 3 cars of Toyota are parked at 3 slots, which are also consecutive prime numbers, hence there are 2 possible scenarios.

Scenario 1: 4 cars of Ford are parked on slots numbered 2, 3, 5 and 7 and 3 cars of Toyota are parked at slots - numbered 13, 17 and 19.

Scenario 2: 3 cars of Toyota are parked on slots - numbered 2, 3 and 5 and 4 cars of Ford are parked on slots numbered 11, 13, 17 and 19.

Note: No other scenario is possible as there should be 5 consecutive slots for 5 cars of Honda. In the first scenario, the 5 such slots are 8, 9, 10, 11 and 12 and in the second scenario, the 5 such slots are 6, 7, 8, 9 and 10.

Now, K, M, and J are of same company i.e., either Ford or Toyota. Similarly, N and H are of the same company i.e., either Ford or Toyota. This implies that since C, E, and G are of the same company and it has to be Honda. Using points (vi) and (vii), we can conclude that neither F and L nor B and D are of Honda, as all the 5 cars of Honda are consecutively parked, without any gap. (In the case of both (F and L) and (B and D), there is an empty slot).

Therefore, the 5 cars of Honda are C, E, G, A, and I.

Now, if we consider scenario (1), then the 5 cars of Honda would occupy slots from 8 to 12. In that case, there would not be any slot left for car B. (Refer 2nd statement of point (vii)).

So, the only possibility is scenario (2). And following is the possible arrangement:

_ J K _ M C A/I E A/I G B _ D _ _ _ N _ H _ _ _
3 5 11 13 17 19

Cars F and L can be either at 14 and 16, in any order or at 20 and 22 in any order.

Note: M would be at 5 since B is closer to M than to H. (Refer point (vii))

Tesla manufactured car F.

Bookmark FeedBack

Directions for questions 36 to 39: Answer the questions on the basis of the information given below.

There are 14 different cars – A, B, C, D, E, F, G, H, I, J, K, L, M, and N, each manufactured by one of the 4 automobile companies – Ford, Toyota, Honda, and Tesla - such that - 5 are manufactured by Honda, 4 by Ford, 3 by Toyota, and 2 by Tesla. The cars are parked in 14 parking slots, one in each slot, out of the 22 parking slots, numbered from 1 to 22.

Further information is as follows:
(i) The 5 cars of Honda are parked in 5 parking slots which are consecutively numbered.
(ii) The 4 cars of Ford are parked in 4 parking slots, which are consecutive prime numbers. The same is also true for the parking slots, where the 3 Toyota cars are parked.
(iii) The cars K and M are parked in two slots which are consecutive prime numbers. The same is also true for the parking slots, where cars N and H are parked. Further, car K is parked in slot numbered 3 and car H is parked in slot numbered 19.
(iv) Cars M and J are manufactured by the same company and same is true for cars N and H.
(v) Cars - C, E and G - manufactured by the same company, are parked in alternate parking slots, and the parking slot number where C is parked, is the least of the 3 and the parking slot number where G is parked, is the highest of the 3.
(vi) Cars F and L are of the same company and are parked such that they have an empty slot between them.
(vii) Cars B and D are of the same company and are parked such that they have an empty slot between them. Further, the number of slots between cars B and M is less than that between cars B and H.

Q.37 [11594329]
Which of the following is not the possible parking slot number for car L?

1 ○ 14

2 ○ 16

3 ○ 11

4 ○ 20

Solution:
Correct Answer : 3

Answer key/Solution

There are 8 prime number slots between 1 and 22; i.e., 2, 3, 5, 7, 11, 13, 17, and 19. Out of which, 4 slots are occupied by the 4 cars of Ford and 3 are occupied by the 3 cars of Toyota.

Since K is at slot 3 and car M is at the slot which is a consecutive prime number to 3, it implies that car M is either at slot 2 or at slot 5. Further, K, M, and J are of the same company, which is either Ford or Toyota. Similarly, car H is at slot 19 and car N is parked in the slot which is a consecutive prime number to 19, hence it is slot 17.

Now, since the 4 cars of ford are parked at 4 slots, which are consecutive prime numbers and 3 cars of Toyota are parked at 3 slots, which are also consecutive prime numbers, hence there are 2 possible scenarios.

Scenario 1: 4 cars of Ford are parked on slots numbered 2, 3, 5 and 7 and 3 cars of Toyota are parked at slots - numbered 13, 17 and 19.

Scenario 2: 3 cars of Toyota are parked on slots - numbered 2, 3 and 5 and 4 cars of Ford are parked on slots numbered 11, 13, 17 and 19.

Note: No other scenario is possible as there should be 5 consecutive slots for 5 cars of Honda. In the first scenario, the 5 such slots are 8, 9, 10, 11 and 12 and in the second scenario, the 5 such slots are 6, 7, 8, 9 and 10.

Now, K, M, and J are of same company i.e., either Ford or Toyota. Similarly, N and H are of the same company i.e., either Ford or Toyota. This implies that since C, E, and G are of the same company and it has to be Honda. Using points (vi) and (vii), we can conclude that neither F and L nor B and D are of Honda, as all the 5 cars of Honda are consecutively parked, without any gap. (In the case of both (F and L) and (B and D), there is an empty slot).

Therefore, the 5 cars of Honda are C, E, G, A, and I.

Now, if we consider scenario (1), then the 5 cars of Honda would occupy slots from 8 to 12. In that case, there would not be any slot left for car B. (Refer 2nd statement of point (vii)).

So, the only possibility is scenario (2). And following is the possible arrangement:

_ J K _ M C A/I E A/I G B _ D _ _ _ N _ H _ _ _
3 5 11 13 17 19

Cars F and L can be either at 14 and 16, in any order or at 20 and 22 in any order.

Note: M would be at 5 since B is closer to M than to H. (Refer point (vii))

For car L, slot number 11 is not possible since car B will be parked there.

Bookmark FeedBack

Directions for questions 36 to 39: Answer the questions on the basis of the information given below.

There are 14 different cars – A, B, C, D, E, F, G, H, I, J, K, L, M, and N, each manufactured by one of the 4 automobile companies – Ford, Toyota, Honda, and Tesla - such that - 5 are manufactured by Honda, 4 by Ford, 3 by Toyota, and 2 by Tesla. The cars are parked in 14 parking slots, one in each slot, out of the 22 parking slots, numbered from 1 to 22.

Further information is as follows:
(i) The 5 cars of Honda are parked in 5 parking slots which are consecutively numbered.
(ii) The 4 cars of Ford are parked in 4 parking slots, which are consecutive prime numbers. The same is also true for the parking slots, where the 3 Toyota cars are parked.
(iii) The cars K and M are parked in two slots which are consecutive prime numbers. The same is also true for the parking slots, where cars N and H are parked. Further, car K is parked in slot numbered 3 and car H is parked in slot numbered 19.
(iv) Cars M and J are manufactured by the same company and same is true for cars N and H.
(v) Cars - C, E and G - manufactured by the same company, are parked in alternate parking slots, and the parking slot number where C is parked, is the least of the 3 and the parking slot number where G is parked, is the highest of the 3.
(vi) Cars F and L are of the same company and are parked such that they have an empty slot between them.
(vii) Cars B and D are of the same company and are parked such that they have an empty slot between them. Further, the number of slots between cars B and M is less than that between cars B and H.

Q.38 [11594329]
Which of the following car is manufactured by Honda?

1 ○ Car B

2 ○ Car F

3 ○ Car J

4 ○ Car A

Solution:
Correct Answer : 4

Answer key/Solution

There are 8 prime number slots between 1 and 22; i.e., 2, 3, 5, 7, 11, 13, 17, and 19. Out of which, 4 slots are occupied by the 4 cars of Ford and 3 are occupied by the 3 cars of Toyota.

Since K is at slot 3 and car M is at the slot which is a consecutive prime number to 3, it implies that car M is either at slot 2 or at slot 5. Further, K, M, and J are of the same company, which is either Ford or Toyota. Similarly, car H is at slot 19 and car N is parked in the slot which is a consecutive prime number to 19, hence it is slot 17.

Now, since the 4 cars of ford are parked at 4 slots, which are consecutive prime numbers and 3 cars of Toyota are parked at 3 slots, which are also consecutive prime numbers, hence there are 2 possible scenarios.

Scenario 1: 4 cars of Ford are parked on slots numbered 2, 3, 5 and 7 and 3 cars of Toyota are parked at slots - numbered 13, 17 and 19.

Scenario 2: 3 cars of Toyota are parked on slots - numbered 2, 3 and 5 and 4 cars of Ford are parked on slots numbered 11, 13, 17 and 19.

Note: No other scenario is possible as there should be 5 consecutive slots for 5 cars of Honda. In the first scenario, the 5 such slots are 8, 9, 10, 11 and 12 and in the second scenario, the 5 such slots are 6, 7, 8, 9 and 10.

Now, K, M, and J are of same company i.e., either Ford or Toyota. Similarly, N and H are of the same company i.e., either Ford or Toyota. This implies that since C, E, and G are of the same company and it has to be Honda. Using points (vi) and (vii), we can conclude that neither F and L nor B and D are of Honda, as all the 5 cars of Honda are consecutively parked, without any gap. (In the case of both (F and L) and (B and D), there is an empty slot).

Therefore, the 5 cars of Honda are C, E, G, A, and I.

Now, if we consider scenario (1), then the 5 cars of Honda would occupy slots from 8 to 12. In that case, there would not be any slot left for car B. (Refer 2nd statement of point (vii)).

So, the only possibility is scenario (2). And following is the possible arrangement:

_ J K _ M C A/I E A/I G B _ D _ _ _ N _ H _ _ _
3 5 11 13 17 19

Cars F and L can be either at 14 and 16, in any order or at 20 and 22 in any order.

Note: M would be at 5 since B is closer to M than to H. (Refer point (vii))

Car A is manufactured by Honda.

Bookmark FeedBack

Directions for questions 36 to 39: Answer the questions on the basis of the information given below.

There are 14 different cars – A, B, C, D, E, F, G, H, I, J, K, L, M, and N, each manufactured by one of the 4 automobile companies – Ford, Toyota, Honda, and Tesla - such that - 5 are manufactured by Honda, 4 by Ford, 3 by Toyota, and 2 by Tesla. The cars are parked in 14 parking slots, one in each slot, out of the 22 parking slots, numbered from 1 to 22.

Further information is as follows:
(i) The 5 cars of Honda are parked in 5 parking slots which are consecutively numbered.
(ii) The 4 cars of Ford are parked in 4 parking slots, which are consecutive prime numbers. The same is also true for the parking slots, where the 3 Toyota cars are parked.
(iii) The cars K and M are parked in two slots which are consecutive prime numbers. The same is also true for the parking slots, where cars N and H are parked. Further, car K is parked in slot numbered 3 and car H is parked in slot numbered 19.
(iv) Cars M and J are manufactured by the same company and same is true for cars N and H.
(v) Cars - C, E and G - manufactured by the same company, are parked in alternate parking slots, and the parking slot number where C is parked, is the least of the 3 and the parking slot number where G is parked, is the highest of the 3.
(vi) Cars F and L are of the same company and are parked such that they have an empty slot between them.
(vii) Cars B and D are of the same company and are parked such that they have an empty slot between them. Further, the number of slots between cars B and M is less than that between cars B and H.

Q.39 [11594329]
Which of the following parking slot is definitely vacant?

1 ○ Slot 14

2 ○ Slot 22

3 ○ Slot 4

4 ○ Slot 16

Solution:
Correct Answer : 3

Answer key/Solution

There are 8 prime number slots between 1 and 22; i.e., 2, 3, 5, 7, 11, 13, 17, and 19. Out of which, 4 slots are occupied by the 4 cars of Ford and 3 are occupied by the 3 cars of Toyota.

Since K is at slot 3 and car M is at the slot which is a consecutive prime number to 3, it implies that car M is either at slot 2 or at slot 5. Further, K, M, and J are of the same company, which is either Ford or Toyota. Similarly, car H is at slot 19 and car N is parked in the slot which is a consecutive prime number to 19, hence it is slot 17.

Now, since the 4 cars of ford are parked at 4 slots, which are consecutive prime numbers and 3 cars of Toyota are parked at 3 slots, which are also consecutive prime numbers, hence there are 2 possible scenarios.

Scenario 1: 4 cars of Ford are parked on slots numbered 2, 3, 5 and 7 and 3 cars of Toyota are parked at slots - numbered 13, 17 and 19.

Scenario 2: 3 cars of Toyota are parked on slots - numbered 2, 3 and 5 and 4 cars of Ford are parked on slots numbered 11, 13, 17 and 19.

Note: No other scenario is possible as there should be 5 consecutive slots for 5 cars of Honda. In the first scenario, the 5 such slots are 8, 9, 10, 11 and 12 and in the second scenario, the 5 such slots are 6, 7, 8, 9 and 10.

Now, K, M, and J are of same company i.e., either Ford or Toyota. Similarly, N and H are of the same company i.e., either Ford or Toyota. This implies that since C, E, and G are of the same company and it has to be Honda. Using points (vi) and (vii), we can conclude that neither F and L nor B and D are of Honda, as all the 5 cars of Honda are consecutively parked, without any gap. (In the case of both (F and L) and (B and D), there is an empty slot).

Therefore, the 5 cars of Honda are C, E, G, A, and I.

Now, if we consider scenario (1), then the 5 cars of Honda would occupy slots from 8 to 12. In that case, there would not be any slot left for car B. (Refer 2nd statement of point (vii)).

So, the only possibility is scenario (2). And following is the possible arrangement:

_ J K _ M C A/I E A/I G B _ D _ _ _ N _ H _ _ _
3 5 11 13 17 19

Cars F and L can be either at 14 and 16, in any order or at 20 and 22 in any order.

Note: M would be at 5 since B is closer to M than to H. (Refer point (vii))

Slot 4 is definitely vacant. Since the parking slot of car F and L are unknown to us.

Bookmark FeedBack

Directions for questions 40 to 42: Answer the questions on the basis of the information given below.

Each of Andre, Bravo, Chris, David, Eoin, and Finch wrote 3 tests i.e., VA, QA and DI. In each test, they are given ranks from 1 to 6, based on the marks scored. In any test, no two students got the same rank.

(**Note:** numerically smaller value of the rank means a better rank.)

Following is the additional information:
(i) None of them got the same rank in all the 3 tests.
(ii) Bravo got 1st rank in two of the 3 tests.
(iii) Andre got last rank in two of the 3 tests and 1st rank in the remaining one.
(iv) Chris got numerically even but different ranks in each of the 3 tests.
(v) For each of David and Eoin, the sum of the ranks in the 3 tests is a prime number. Also, the rank in each of the 3 tests is a prime number for each of David and Eoin.
(vi) In VA test, the rank of David is better than that of Eoin and in QA test, the rank of Eoin is better than that of David.
(vii) The sum of the ranks of Chris and David in VA test is equal to the sum of their ranks in DI test.

Q.40 [11594329]
What is the rank of Finch in DI test?

1 ○ 2

2 ○ 3

3 ○ 4

4 ○ Cannot be determined

✔

Solution:
Correct Answer : 4
Your Answer : 4

Answer key/Solution

Using statement (v), only 2 such prime numbers are possible i.e., 11 and 13 which can be written as a sum of 3 prime numbers.
11 = 3 + 3 + 5 and 13 = 3 + 5 + 5
Note: Though 7 can also be written as a sum of 3 prime numbers (i.e., 2 + 2 + 3) but then it would violate statement (vi) since none of the numbers in 11 or 13 is less than any of the numbers in 7)

Now, using statement (vi), ranks of David and Eoin in VA test are 3 and 5, respectively and the ranks of David and Eoin in QA test are 5 and 3 respectively. Using statements (vii) and (vi), since the sum of Chris' and David's ranks in VA test is equal to sum of their ranks in DI test and the ranks of Chris in all the 3 tests are different, that implies the rank of David should also be different in VA and DI, then only statement (vii) is possible. Hence rank of David in DI should be 5 and therefore rank of Eoin in DI would be 3.

The rank of Chris in VA test cannot be 2 because that would make the sum of the ranks of Chris and David in VA test equal to 5 while the rank of David in DI test alone is 5, hence it would violate statement (vii).
Hence, there are two possibilities for the rank of Chris in VA test - either rank 4 or rank 6.

Case I: Taking rank of Chris in VA test as 4.

	Andre	Bravo	Chris	David	Eoin	Finch
Rank in VA	6	1	4	3	5	2
Rank in DI	6	1	2	5	3	4
Rank in QA	1	2 or 4	6	5	3	4 or 2

Explanation: If rank of Chris in QA is 6, then ranks of Andre in VA and DI is 6 each and his rank in QA is 1. (Refer point (iii)). The ranks of Bravo in VA and DI tests would be 1st each (Refer point (ii)), while in QA test, one of Bravo and Finch got 2nd rank and the other one got 4th rank.

Case II: Taking rank of Chris in VA = 6

	Andre	Bravo	Chris	David	Eoin	Finch
Rank in VA test	1	2 or 4	6	3	5	4 or 2
Rank in DI test	6	1	4	5	3	2
Rank in QA test	6	1	2	5	3	4

Same logic as in Case I.

Rank of Finch can be either 4 or 2. Hence, cannot be determined.

Bookmark FeedBack

Directions for questions 40 to 42: Answer the questions on the basis of the information given below.

Each of Andre, Bravo, Chris, David, Eoin, and Finch wrote 3 tests i.e., VA, QA and DI. In each test, they are given ranks from 1 to 6, based on the marks scored. In any test, no two students got the same rank.

(**Note:** numerically smaller value of the rank means a better rank.)

Following is the additional information:
(i) None of them got the same rank in all the 3 tests.
(ii) Bravo got 1st rank in two of the 3 tests.
(iii) Andre got last rank in two of the 3 tests and 1st rank in the remaining one.
(iv) Chris got numerically even but different ranks in each of the 3 tests.
(v) For each of David and Eoin, the sum of the ranks in the 3 tests is a prime number. Also, the rank in each of the 3 tests is a prime number for each of David and Eoin.
(vi) In VA test, the rank of David is better than that of Eoin and in QA test, the rank of Eoin is better than that of David.
(vii) The sum of the ranks of Chris and David in VA test is equal to the sum of their ranks in DI test.

Q.41 [11594329]
What is the rank of Bravo in DI test?

✔

Solution:
Correct Answer : 1
Your Answer : 1

Answer key/Solution

Using statement (v), only 2 such prime numbers are possible i.e., 11 and 13 which can be written as a sum of 3 prime numbers.
11 = 3 + 3 + 5 and 13 = 3 + 5 + 5
Note: Though 7 can also be written as a sum of 3 prime numbers (i.e., 2 + 2 + 3) but then it would violate statement (vi) since none of the numbers in 11 or 13 is less than any of the numbers in 7)

Now, using statement (vi), ranks of David and Eoin in VA test are 3 and 5, respectively and the ranks of David and Eoin in QA test are 5 and 3 respectively. Using statements (vii) and (vi), since the sum of Chris' and David's ranks in VA test is equal to sum of their ranks in DI test and the ranks of Chris in all the 3 tests are different, that implies the rank of David should also be different in VA and DI, then only statement (vii) is possible. Hence rank of David in DI should be 5 and therefore rank of Eoin in DI would be 3.

The rank of Chris in VA test cannot be 2 because that would make the sum of the ranks of Chris and David in VA test equal to 5 while the rank of David in DI test alone is 5, hence it would violate statement (vii).
Hence, there are two possibilities for the rank of Chris in VA test - either rank 4 or rank 6.

Case I: Taking rank of Chris in VA test as 4.

	Andre	Bravo	Chris	David	Eoin	Finch
Rank in VA	6	1	4	3	5	2
Rank in DI	6	1	2	5	3	4
Rank in QA	1	2 or 4	6	5	3	4 or 2

Explanation: If rank of Chris in QA is 6, then ranks of Andre in VA and DI is 6 each and his rank in QA is 1. (Refer point (iii)). The ranks of Bravo in VA and DI tests would be 1st each (Refer point (ii)), while in QA test, one of Bravo and Finch got 2nd rank and the other one got 4th rank.

Case II: Taking rank of Chris in VA = 6

	Andre	Bravo	Chris	David	Eoin	Finch
Rank in VA test	1	2 or 4	6	3	5	4 or 2
Rank in DI test	6	1	4	5	3	2
Rank in QA test	6	1	2	5	3	4

Same logic as in Case I.

Rank of Bravo in DI test would be 1.

Bookmark FeedBack

Directions for questions 40 to 42: Answer the questions on the basis of the information given below.

Each of Andre, Bravo, Chris, David, Eoin, and Finch wrote 3 tests i.e., VA, QA and DI. In each test, they are given ranks from 1 to 6, based on the marks scored. In any test, no two students got the same rank.

(**Note:** numerically smaller value of the rank means a better rank.)

Following is the additional information:
(i) None of them got the same rank in all the 3 tests.
(ii) Bravo got 1st rank in two of the 3 tests.
(iii) Andre got last rank in two of the 3 tests and 1st rank in the remaining one.
(iv) Chris got numerically even but different ranks in each of the 3 tests.
(v) For each of David and Eoin, the sum of the ranks in the 3 tests is a prime number. Also, the rank in each of the 3 tests is a prime number for each of David and Eoin.
(vi) In VA test, the rank of David is better than that of Eoin and in QA test, the rank of Eoin is better than that of David.
(vii) The sum of the ranks of Chris and David in VA test is equal to the sum of their ranks in DI test.

Q.42 [11594329]
What is the sum of ranks of Eoin in all 3 tests?

1 ○ 13

2 ○ 11

3 ○ 7

4 ○ Cannot be determined

✖

Solution:
Correct Answer : 2
Your Answer : 3

Answer key/Solution

Using statement (v), only 2 such prime numbers are possible i.e., 11 and 13 which can be written as a sum of 3 prime numbers.
11 = 3 + 3 + 5 and 13 = 3 + 5 + 5
Note: Though 7 can also be written as a sum of 3 prime numbers (i.e., 2 + 2 + 3) but then it would violate statement (vi) since none of the numbers in 11 or 13 is less than any of the numbers in 7)

Now, using statement (vi), ranks of David and Eoin in VA test are 3 and 5, respectively and the ranks of David and Eoin in QA test are 5 and 3 respectively. Using statements (vii) and (vi), since the sum of Chris' and David's ranks in VA test is equal to sum of their ranks in DI test and the ranks of Chris in all the 3 tests are different, that implies the rank of David should also be different in VA and DI, then only statement (vii) is possible. Hence rank of David in DI should be 5 and therefore rank of Eoin in DI would be 3.

The rank of Chris in VA test cannot be 2 because that would make the sum of the ranks of Chris and David in VA test equal to 5 while the rank of David in DI test alone is 5, hence it would violate statement (vii).
Hence, there are two possibilities for the rank of Chris in VA test - either rank 4 or rank 6.

Case I: Taking rank of Chris in VA test as 4.

	Andre	Bravo	Chris	David	Eoin	Finch
Rank in VA	6	1	4	3	5	2
Rank in DI	6	1	2	5	3	4
Rank in QA	1	2 or 4	6	5	3	4 or 2

Explanation: If rank of Chris in QA is 6, then ranks of Andre in VA and DI is 6 each and his rank in QA is 1. (Refer point (iii)). The ranks of Bravo in VA and DI tests would be 1st each (Refer point (ii)), while in QA test, one of Bravo and Finch got 2nd rank and the other one got 4th rank.

Case II: Taking rank of Chris in VA = 6

	Andre	Bravo	Chris	David	Eoin	Finch
Rank in VA test	1	2 or 4	6	3	5	4 or 2
Rank in DI test	6	1	4	5	3	2
Rank in QA test	6	1	2	5	3	4

Same logic as in Case I.

The sum of rank of Eoin in all three tests is 11.

Bookmark FeedBack

Directions for questions 43 to 45: Answer the questions on the basis of the information given below.

A Society – My Home Vihanga – has 5 blocks, namely – Aibaan, Beauki, Chimair, Duven, and Emiet. The society holds a regular inspection in each of the five blocks to check water and electricity supply and to address infrastructure issues. The following information is also known with regard to the inspections in the five blocks in 2016:

- Aibaan, is inspected every 5th day, and was first inspected on 5th January.
- Beauki, is inspected every 6th day, and was first inspected on 6th January.
- Chimair, is inspected every 10th day, and was first inspected on 10th January.
- Duven, is inspected every 16th day, and was first inspected on 16th January.
- Emiet, is inspected every 25th day, and was first inspected on 25th January.

Q.43 [11594329]
In 2016, the number of blocks which received inspection on the same day could not be more than

1 ○ 2

2 ○ 3

3 ○ 4

4 ○ 5

Solution:
Correct Answer : 3

Answer key/Solution

Frequency of inspection in the 5 blocks are 5, 6, 10, 16 and 25. LCM and 5, 6, 10, 16, 25 = 1200. If the same frequency is followed, all blocks will receive inspection on 1200th day after 31st December, 2016. So, all 5 blocks cannot receive inspection in a single day in 2016. To check if 4 blocks can receive inspection on a single day, we can observe that LCM of 5, 6, 10 and 25 is 150. So, it means blocks with frequencies 5, 6, 10, and 25 can receive inspection every 150 days.

In 2016, the number of blocks that received inspection on a same day could not be more than 4.

Bookmark FeedBack

Directions for questions 43 to 45: Answer the questions on the basis of the information given below.

A Society – My Home Vihanga – has 5 blocks, namely – Aibaan, Beauki, Chimair, Duven, and Emiet. The society holds a regular inspection in each of the five blocks to check water and electricity supply and to address infrastructure issues. The following information is also known with regard to the inspections in the five blocks in 2016:

• Aibaan, is inspected every 5th day, and was first inspected on 5th January.
• Beauki, is inspected every 6th day, and was first inspected on 6th January.
• Chimair, is inspected every 10th day, and was first inspected on 10th January.
• Duven, is inspected every 16th day, and was first inspected on 16th January.
• Emiet, is inspected every 25th day, and was first inspected on 25th January.

Q.44 [11594329]
The first instance when exactly three blocks received inspection in April, 2016 was

1 ○ 9th April

2 ○ 29th April

3 ○ 14th April

4 ○ This did not occur in April

Answer key/Solution

Solution:
Correct Answer : 1
Frequency of inspection in the 5 blocks are 5, 6, 10, 16 and 25. LCM and 5, 6, 10, 16, 25 = 1200. If the same frequency is followed, all blocks will receive inspection on 1200th day after 31st December, 2016. So, all 5 blocks cannot receive inspection in a single day in 2016. To check if 4 blocks can receive inspection on a single day, we can observe that LCM of 5, 6, 10 and 25 is 150. So, it means blocks with frequencies 5, 6, 10, and 25 can receive inspection every 150 days.

Blocks with frequencies 5, 6 and 10 received inspection every 30 days (LCM and 5, 6, 10) and blocks with frequencies 5, 10 and 25 received inspection every 50 days (LCM of 5, 10, 25).
So, for April it has to be between 91 and 121 days.
So, for 1st such instance, we will consider the case of blocks with frequency 5, 10, 25, because they receive inspection every 50th day, so they will receive on 100th day also, which is 9th April, while counting from 1st January, 2016.

Bookmark FeedBack

Directions for questions 43 to 45: Answer the questions on the basis of the information given below.

A Society – My Home Vihanga – has 5 blocks, namely – Aibaan, Beauki, Chimair, Duven, and Emiet. The society holds a regular inspection in each of the five blocks to check water and electricity supply and to address infrastructure issues. The following information is also known with regard to the inspections in the five blocks in 2016:

• Aibaan, is inspected every 5th day, and was first inspected on 5th January.
• Beauki, is inspected every 6th day, and was first inspected on 6th January.
• Chimair, is inspected every 10th day, and was first inspected on 10th January.
• Duven, is inspected every 16th day, and was first inspected on 16th January.
• Emiet, is inspected every 25th day, and was first inspected on 25th January.

Q.45 [11594329]
The second instance when maximum number of blocks received inspection in 2016 was

1 ○ 29th April

2 ○ 30th April

3 ○ 26th October

4 ○ 27th August

Answer key/Solution

Solution:
Correct Answer : 4
Frequency of inspection in the 5 blocks are 5, 6, 10, 16 and 25. LCM and 5, 6, 10, 16, 25 = 1200. If the same frequency is followed, all blocks will receive inspection on 1200th day after 31st December, 2016. So, all 5 blocks cannot receive inspection in a single day in 2016. To check if 4 blocks can receive inspection on a single day, we can observe that LCM of 5, 6, 10 and 25 is 150. So, it means blocks with frequencies 5, 6, 10, and 25 can receive inspection every 150 days.

If we observe that, LCM of 5, 10, 25 and 6 is 150 and LCM of 5, 6, 10 and 16 is 240.
That means blocks with frequencies 5, 10, 25 and 6 received inspection every 150 days, while blocks with frequency 5, 6, 10 and 16 will be receiving inspection every 240 days.
Therefore, Second instance is 240th day i.e., 27th August, 2016.

Bookmark FeedBack

Sec 3

Q.46 [11594329]

If $2\times3^2 < \frac{12^2\times2^R\times3^S}{6^3\times2^M\times4^N} < 2^2\times3^2$, then what could be the minimum value of R + S + M + N, where R, S, M and N are all distinct positive integers?

Answer key/Solution

Solution:
Correct Answer : 10

After simplification of the expression, $2\times3^2 < \frac{12^2\times2^R\times3^S}{6^3\times2^M\times4^N} < 2^2\times3^2$, we get,

$\Rightarrow 2\times3^2 < \frac{2^{R+4}\times3^{S+2}}{3^3\times2^{M+3}\times2^{2N}} < 2^2\times3^2$

$\Rightarrow 2\times3^2 < 2^{R-M-2N+1}\times3^{S-1} < 2^2\times3^2$

$\Rightarrow 3^2 < 2^{R-M-2N}\times3^{S-1} < 2^1\times3^2$

$\Rightarrow 9 < 2^{R-M-2N}\times3^{S-1} < 18$

This is possible only if $2^{R-M-2N}\times3^{S-1}=2^2\times3$ ... (1), $2^{R-M-2N}\times3^{S-1}=2^4$. ... (2) and $2^{R-M-2N}\times3^{S-1}=\frac{3^3}{2}$ .....(3)

Case 1: R – M – 2N = 2 and S – 1 = 1, which gives S = 2, R = 7, M = 3 and N = 1 in order to have minimum value of R + S + M + N. Here, the required sum is 7+ 2 + 3 + 1 = 13.
Case 2: R – M – 2N = 4 and S – 1 = 0, which gives S = 1, R = 11, M = 3 and N = 2 in order to have minimum value of R + S + M + N. Here, the required value is 11+ 1 + 3 + 2 = 17.
Case 3: R – M – 2N = -1, and S – 1 = 3, which gives N = 1, M = 2, R = 3, and S = 4.
Here the required value will be 10.
Hence, the minimum possible value of R + S + M + N could be 10.

Bookmark FeedBack

Q.47 [11594329]

In a company, where each employee is either young or old, 65% of the total employees drink tea before lunch and 10% of the total employees are young. If 15% of those, who do not drink tea before lunch are young, then find the ratio of number of old employees, who drink tea before lunch to the number of young employees, who drink tea before lunch.

1 ○ $\frac{250}{17}$

2 ○ $\frac{352}{19}$

3 ○ $\frac{241}{19}$

4 ○ $\frac{301}{17}$

✔

Answer key/Solution

Solution:

Correct Answer : 3

Your Answer : 3

Let the total number of employees be n.

Then the number of employees who drink tea before lunch will be $\frac{65n}{100}$.

$\therefore$ The number of employees who do not drink tea before lunch is $\frac{35n}{100}$.

Number of young employees who do not drink tea before lunch = 15% of $\frac{35n}{100} = \frac{21n}{400}$

Total number of young employees in the company = $\frac{n}{10}$

$\therefore$ The number of young employees who drink tea before lunch = $\frac{n}{10} - \frac{21n}{400} = \frac{19n}{400}$

Now, the number of old employees who drink tea before lunch = $\frac{65n}{100} - \frac{19n}{400} = \frac{241n}{400}$

Hence, the required ratio = $\frac{\frac{241n}{400}}{\frac{19n}{400}}$ = 241 : 19.

Bookmark FeedBack

Q.48 [11594329]

If $4^a = 9^b = 6^{-c}$, where a, b, c are non-zero, then find the value of $\left(\frac{1}{a}+\frac{1}{b}+\frac{2}{c}\right)$.

1 ○ 7/2

2 ○ 0

3 ○ −7/2

4 ○ 2

✔

Solution:
Correct Answer : 2
Your Answer : 2

Answer key/Solution

We have, $4^a = 9^b = 6^{-c}$
Let us put them equal to P.
$4^a = P$; $9^b = P$; $6^{-c} = P$

$4 = P^{\frac{1}{a}}$; $9 = P^{\frac{1}{b}}$ and $6 = P^{\frac{-1}{c}}$

As $4 \times 9 = 36$

$\therefore P^{\frac{1}{a}} \times P^{\frac{1}{b}} = \left(P^{\frac{-1}{c}}\right)^2$,

$\Rightarrow P^{\left(\frac{1}{a}+\frac{1}{b}\right)} = P^{\left(\frac{-2}{c}\right)}$ $[a^m \times a^n = a^{m+n}]$

Here $P \neq 0$ or 1 or −1

So, $\left(\frac{1}{a}+\frac{1}{b}\right) = \frac{-2}{c}$

$\therefore \frac{1}{a}+\frac{1}{b}+\frac{2}{c} = 0$.

Bookmark FeedBack

Q.49 [11594329]

P working alone, takes 50% more time than it takes Q, working alone, to complete the same job. P and Q start working together and complete 60% of the task when C joins them. The three take another 5 days to complete the task, and Q does 46% of completed task. How many days did P and Q work, before C joined them?

1 ○ 12 days

2 ○ 14 days

3 ○ 18 days

4 ○ 20 days

Solution:
Correct Answer : 3

Answer key/Solution

Q's work rate is 50% more than P's. Since the question does not mention values, let's assume the work rate of P to be 2 units/day and that of Q to be 3 units/day.
If they work together for n days in the beginning, then
Work done = (3 + 2) n = 5n = 60% (or 0.6 times) of total work

Thus, total work = $\frac{5n}{0.6}$

Work done by Q = 3 units/day, x(n + 5) days = (3n + 15) units

We can say, 3n + 15 = 46% of total work = $\frac{0.46 \times 5n}{0.6}$

Solving, we will get n = 18 days.

Bookmark FeedBack

Q.50 [11594329]

How many integral values of 'y' satisfy the equation: $\log_5(y^3)+\frac{5}{2}=\log_y(25y^5)$?

Solution:
Correct Answer : 0

Answer key/Solution

$\log_5(y^3)+\frac{5}{2}=\log_y(25y^5)$

$\Rightarrow 3\log_5 y+\frac{5}{2}=\log_y 25+\log_y y^5$

$\Rightarrow 3\log_5 y+\frac{5}{2}=2\log_y 5+5$

$\Rightarrow \frac{3}{\log_y 5}+\frac{5}{2}=2\log_y 5+5 \quad \left[\log_b a=\frac{1}{\log_a b}\right]$

Putting $\log_y 5 = a$

$\frac{3}{a}+\frac{5}{2}=2a+5$

$\Rightarrow 6 + 5a = 4a^2 + 10a$
$\Rightarrow 4a^2 + 5a - 6 = 0$
$\Rightarrow 4a^2 + 8a - 3a - 6 = 0$
$\Rightarrow 4a(a + 2) - 3(a + 2) = 0$
$\Rightarrow (4a - 3)(a + 2) = 0$

$\Rightarrow a=\frac{3}{4}$ or $a = -2$

So, $\log_y 5 = a$

$\Rightarrow \log_5 y=\frac{1}{a}$

Case 1: When $a = \frac{3}{4}$

$\log_5 y=\frac{4}{3}$

$\Rightarrow y=5^{\frac{4}{3}}$ (Not an Integer)

Case 2: When $a = -2$

$\log_5 y=\frac{-1}{2}$

$\Rightarrow y=5^{\frac{1}{2}}$ (Not an Integer)

So, y has zero integral values.

Bookmark FeedBack

Q.51 [11594329]

Mayank and Sumit are climbing up an escalator which is going up at 2 steps/sec. Mayank takes 24 steps and Sumit takes 30 steps to reach the top of the escalator. The ratio of speeds of Mayank and Sumit is 2 : 3. Find the time taken by Mayank to climb a 80 step stationary escalator.

1 ○ 45 seconds

2 ○ 60 seconds

3 ○ 30 seconds

4 ○ 40 seconds

Solution:
Correct Answer : 2

Answer key/Solution

	Mayank 24 steps	Sumit 30 steps
Speed	2x step/sec	3x step/sec
Time on Escalator	$\frac{12}{x}$ sec	$\frac{10}{x}$ sec
Number of steps on Escalator	$24+\frac{12}{x}\times 2$	$30+\frac{10}{x}\times 2$

$$\Rightarrow 24+\frac{24}{x}=30+\frac{20}{x}$$

$$\Rightarrow \frac{4}{x}=6$$

$$\Rightarrow x=\frac{2}{3}$$

Speed of Mayank = $\frac{4}{3}$ step/sec

Time taken = $\frac{80}{\frac{4}{3}}$ = 60 seconds.

Bookmark FeedBack

Q.52 [11594329]
If ||x − 3| + 4| = 9, then find the sum of all possible values of x.

1 ○ 6

2 ○ 12

3 ○ 24

4 ○ 18

✔

Solution:
Correct Answer : 1
Your Answer : 1

Answer key/Solution

$||x - 3| + 4| = 9$
$\Rightarrow |x - 3| + 4 = \pm 9$
$|x - 3| = -13$ or 5
Since mod is always (+)ive hence
$|x - 3|$ cannot be -13.
So, $|x - 3| = 5 \Rightarrow x - 3 = \pm 5$
$\Rightarrow x = -2$ or 8
Hence, sum $= -2 + 8 = 6$.

Bookmark FeedBack

Q.53 [11594329]

Niki, Shasha and Sara start from P heading towards Q at different times. All the three took the same route from P to Q. Niki started at 10 a.m., Shasha at 11 a.m. and Sara at 12 noon. Shasha overtook Niki at 1 p.m. and Sara overtook Niki at 1 : 30 p.m. At what time would Sara overtake Shasha?

1 ○ 1 : 40 p.m.

2 ○ 1 : 48 p.m.

3 ○ 2 : 00 p.m.

4 ○ 2 : 24 p.m.

Solution:
Correct Answer : 2

Answer key/Solution

Distance covered by Niki in 3 hours = distance covered by Shasha in 2 hours i.e., ratio of time taken = 3 : 2
⇒ Ratio of their speeds = 2 : 3
Similarly, for Niki and Sara,
Ratio of time taken = 7 : 3
⇒ Ratio of their speeds = 3 : 7
⇒ Speed of Niki : Speed of Shasha : Speed of Sara = 6 : 9 : 14
Let say that speed of Shasha = 9 km/hr
⇒ Speed of Sara = 14 km/hr
Distance covered by Shasha in 1 hour i.e., from 11 a.m. to 12 noon = 9 km
Relative speed = 14 – 9 = 5 km/hr
Therefore, time taken to overtake = 9/5 hours = 1 hour 48 minutes.

Bookmark FeedBack

Q.54 [11594329]

The function $f(x) = ax + b$ fulfils the conditions $f^n(x) = f(f^{n-1}(x))$. If $f^n(1) = 245$ and $f^n(0) = 2$, then what is the value of the slope of the graph $f(x) = ax + b$, given that a is an integer?

1 ○ 2

2 ○ 3

3 ○ 4

4 ○ None of these

Solution:
Correct Answer : 2

Answer key/Solution

$f(x) = ax + b$
$f^2(x) = a^2x + ab + b$
$f^3(x) = a^3x + a^2b + ab + b$
$f^4(x) = a^4x + a^3b + a^2b + ab + b$
$\therefore f^n(x) = a^nx + a^{n-1}b + a^{n-2}b + \ldots + b$
So, $f^n(1) = a^n + a^{n-1}b + a^{n-2}b + \ldots + b$
$f^n(0) = a^{n-1}b + a^{n-2}b + \ldots + b = 2$
$\Rightarrow f^n(1) = a^n + 2 = 245$
$\Rightarrow a^n = 243$
$\Rightarrow 3^5 = 243$ (where n is a natural number) is the only possible value.
$\Rightarrow a = 3$
Hence, the value of the slope of the graph is 3.

Bookmark FeedBack

Q.55 [11594329]

In a class test, 36% of the boys and 56% of the girls passed the test. 44% of all the students in the class passed the test. What is the minimum strength of the class?

✖

Solution:
Correct Answer : 125
Your Answer : 25

Answer key/Solution

Let number of boys be x and number of girls be y.

$$\Rightarrow \frac{36}{100}x + \frac{56}{100}y = \frac{44}{100}(x+y)$$

$$\Rightarrow 8x = 12y \Rightarrow \frac{x}{y} = \frac{3}{2}$$

Now, number of boys passed should be an integer and so should be the number of girls passed

Therefore, $\frac{36x}{100}$ or $\frac{9x}{25}$ to be an integer, x should be multiple of 25 as well as 3.

Hence, minimum value of x = 25 × 3 = 75 and thus y = 50.
Therefore, minimum number of students = 75 + 50 = 125.

Bookmark FeedBack

Q.56 [11594329]

The function # operates on X and Y such that X # Y = Y – X. If X # (Y # Z) = (X # Y) # Z, then what is the value of X?

✔

Solution:
Correct Answer : 0
Your Answer : 0
X # (Y # Z) = X # (Z – Y) = Z – Y – X
(X # Y) # Z = (Y – X) # Z = Z – Y + X
Since these are equal, we get X = 0.

Answer key/Solution

Bookmark FeedBack

Q.57 [11594329]

A loan of Rs. 24,000 taken at 15% per annum compounded annually is paid back in instalments. The ratio of the instalment paid at the end of the first year to that paid at the end of the second year is 1 : 2. If Rs. 2,087 is paid off as the third instalment to finish off the loan, find the approximate value (in Rs.) of the second instalment.

1 ○ 18,000

2 ○ 19,000

3 ○ 20,000

4 ○ 21,000

Answer key/Solution

Solution:
Correct Answer : 2
If we use the options to solve the question, it would be easier.
Option (1): If Rs. 18,000 is the second instalment, then Rs. 9,000 should be the first.
Thus, Amount at the end of the first year = 24,000 × 1.15 = Rs. 27,600
Instalment paid = Rs. 9,000
Principal for 2nd year = Rs. 18,600
Amount at end of second year = 18600 × 1.15 = Rs. 21,390
Instalment paid = Rs. 18,000
Principal for 3rd year = Rs. 3,390
Option (1) is not the answer since the final amount at this instalment will be fairly more than Rs. 2,087.
Option (2): If Rs. 19,000 is the second instalment, then Rs. 9,500 should be the first.
Thus, amount at the end of the first year = 24,000 × 1.15 = Rs. 27,600
Instalment paid = Rs. 9,500
Principal for 2nd year = Rs. 18,100
Amount at end of second year = 18,100 × 1.15 = Rs. 20,815
Instalment paid = Rs. 19,000
Principal for 3^{rd} year = Rs. 1,815
Amount at the end of 3rd year = Rs. 1,815 × 1.15 = Rs. 2,087.25 ~ Rs. 2,087.
Since amount due at the end of the 3^{rd} year matches the instalment paid, option (2) is the right value.

Bookmark FeedBack

Q.58 [11594329]
The equation $2\cos(x^2 + 2x) = 3^x + 3^{-x}$ has

1 ○ One real root

2 ○ Two real roots

3 ○ More than two real roots

4 ○ No real root

Solution:
Correct Answer : 1

Answer key/Solution

By AM ≥ GM inequality,

$$\frac{3^x+3^{-x}}{2} \geq \sqrt{3^x \times 3^{-x}} \Rightarrow 3^x + 3^{-x} \geq 2$$

The minimum value of RHS is 2.
The maximum value of LHS is 2 when cos $(x^2 + 2x)$ is 1.
Therefore, L.H.S and R.H.S can only be equal when both sides are equal to 2.
Therefore, cos $(x^2 + 2x) = 1$
$\Rightarrow x^2 + 2x = 0$
$\Rightarrow x(x + 2) = 0$
$\Rightarrow x = 0, -2$
$x = -2$ will not satisfy the given equation.
Hence, only one real root $x = 0$.

Bookmark FeedBack

Q.59 [11594329]

A starts from point X and B starts at the same time from point Y towards each other. A point P is somewhere in between X and Y such that XP : PY = 2 : 5. If B passes point P 10 minutes before A and A's speed is one-third of B's, find the total amount of time, in minutes, taken by A to reach point Y.

Solution:
Correct Answer : 210

Answer key/Solution

To explain the question let me take XP = 2D, and YP = 5D. A starts from X and B from Y.

Since A's speed is $\frac{1}{3}$rd of B's, we can that in the time that A covers 2D distance (XP), B will cover 6D, thrice that of A.

6D = 5D + D = YP + D
After passing P, B moves for 10 more minutes till A reaches P. We can therefore say that B takes 10 minutes to cover the extra distance D over YP.

If B takes 10 minutes to cover D, A will take 30 minutes to cover D since A's speed is $\frac{1}{3}$rd of B's.

Hence, the total time taken by A to cover XY, or distance 7D = 210 minutes.

Bookmark FeedBack

Q.60 [11594329]

A circle of center O and radius 8 cm has a chord AB at a distance of 4 cm from its center. If chord CD intersects chord AB at M such that AM : MB = 1 : 4, then what is the minimum value (in cm) of CD?

1 ○ $\frac{16\sqrt{3}}{5}$

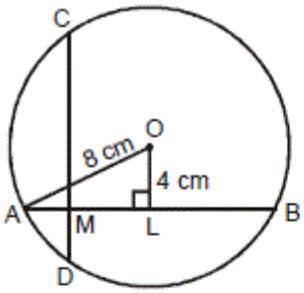
2 ○ $\frac{32\sqrt{3}}{5}$

3 ○ $8\sqrt{3}$

4 ○ $4\sqrt{3}$

Solution:
Correct Answer : 2

Answer key/Solution



By Pythagoras' Theorem,

AL = $\sqrt{8^2-4^2} = 4\sqrt{3}$ cm

and AB = $2\times 4\sqrt{3} = 8\sqrt{3}$ cm

Therefore, AM = $\frac{1}{5}\times 8\sqrt{3} = \frac{8\sqrt{3}}{5}$ cm and MB = $\frac{32\sqrt{3}}{5}$cm

Therefore, CM × MD = AM × MB (By intersecting chords theorem)

$\Rightarrow$ CM × MD = $\frac{8\sqrt{3}}{5}\times\frac{32\sqrt{3}}{5} = \frac{256\times 3}{25}$

By AM ≥ GM inequality,

$\frac{CM+MD}{2} \geq \sqrt{CM\times MD}$

Or, $\frac{CM+MD}{2} \geq \sqrt{\frac{256\times 3}{25}} = \frac{16\sqrt{3}}{5}$

Or, $\frac{CM+MD}{2} \geq \frac{32\sqrt{3}}{5}$

Or, $CD \geq \frac{32\sqrt{3}}{5}$

Hence, minimum value of CD = $\frac{32\sqrt{3}}{5}$cm.

Bookmark FeedBack

Q.61 [11594329]

A glass was filled with 150 ml of 40% concentrated solution of alcohol and water. After every sip of 20 ml, it was diluted back with 10 ml of water. This continues till the entire quantity was consumed. What is the ratio of alcohol and water inside the glass just after the 4th sip?

1 ○ 24 : 11

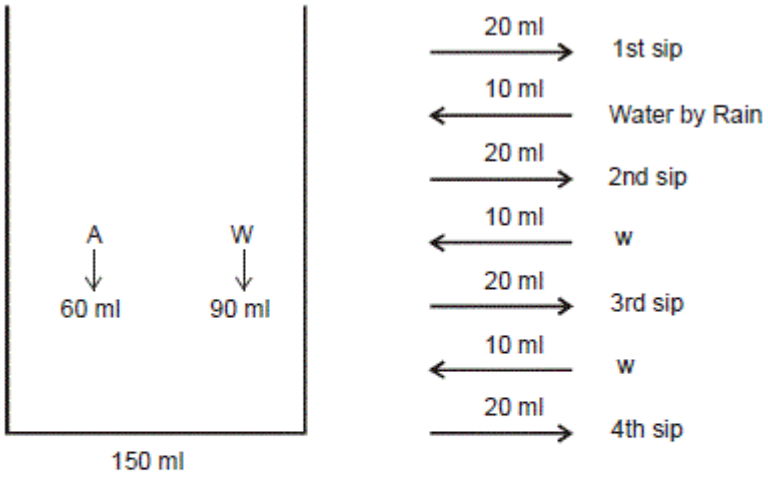
2 ○ 11 : 24

3 ○ 13 : 28

4 ○ 28 : 13

Solution:
Correct Answer : 2

Answer key/Solution



Volume of alcohol after 4th sip = $60 \times \frac{13}{15} \times \frac{12}{14} \times \frac{11}{13} \times \frac{10}{12} = \frac{220}{7}$ ml

Volume of water after 4th sip = $100 - \frac{220}{7} = \frac{480}{7}$ ml

Hence, required ratio = $\frac{220}{7} : \frac{480}{7} = 11:24$.

Bookmark FeedBack

Q.62 [11594329]

A rabbit is at the coordinates (10, 13) on an x-y plane. It takes two types of steps. In the Type 1 step, the rabbit hops +2 units parallel to the x axis and +1 unit parallel to the y axis. In the Type 2 step, the rabbit hops +1 unit parallel to the x axis and +1 unit parallel to the y axis. In how many steps will the rabbit reach (64, 43)?

Solution:
Correct Answer : 30

Answer key/Solution

Irrespective of the type of step taken by the rabbit, it always moves +1 unit along the (positive) y axis. Since it must move from a y coordinate of 13 to a y coordinate of 43, it has to move 30 units in the direction of the positive y axis. Thus it will need to take 30 steps in total.

Bookmark FeedBack

Q.63 [11594329]

In a parallelogram ABCD, the diagonals intersect at 60°. One of the diagonals AC is $20\sqrt{3}$ units in length and one of the sides is 30 units in length. What could be the maximum possible area (in sq. units) of the parallelogram?

1 ○ $300\sqrt{3}$

2 ○ $600\sqrt{3}$

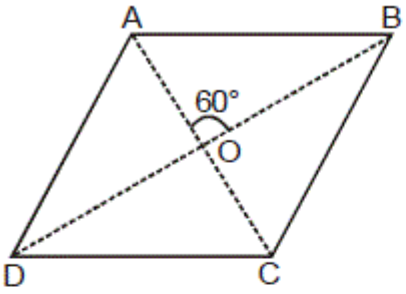
3 ○ $1200\sqrt{3}$

4 ○ $900\sqrt{3}$

Solution:
Correct Answer : 2

Answer key/Solution

Taking angle AOB as 60°, we have two cases:
- AB is 30 units, or
- BC is 30 units in length



$AO = \frac{1}{2}$ of $AC = 10\sqrt{3}$

Case 1: (AB = 30 units)
In triangle ABO, using the sine rule to find BO.

We can say, $\frac{AB}{\sin 60°} = \frac{AO}{\sin \angle ABO} = \frac{BO}{\sin \angle BAO}$

$\sin \angle ABO = \frac{1}{2}$

$\angle ABO = 30°$

So, $\angle BAO = 90°$ and $BO = 20\sqrt{3}$

Area of parallelogram ABCD = 2(Area of triangle AOB + Area of triangle COB)

$= 2\left(\frac{1}{2} \times 10\sqrt{3} \times 20\sqrt{3} \sin 50° + \frac{1}{2} \times 20\sqrt{3} \times 10\sqrt{3} \sin 120°\right) = 600\sqrt{3}$ sq. units

Case 2: (BC = 30 units)
In triangle BOC, using the sine rule to find BO.

We can say, $\frac{BC}{\sin 120°} = \frac{OC}{\sin \angle OBC} = \frac{BO}{\sin \angle OCB}$

$\angle OBC = 30°$

So, $\angle OCB = 30°$ and $BO = 10\sqrt{3}$

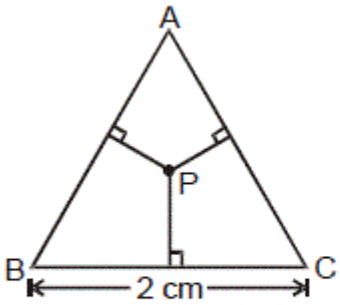
Area = $300\sqrt{3}$ sq. units

Similarly, on taking $\angle BOC$ as 60°, we will have two cases: When BC = 30 units, area of the parallelogram will come out as $600\sqrt{3}$ sq. units and if AB = 30 units, then area of the parallelogram will be equal to $300\sqrt{3}$ sq. units.

So, the maximum possible area could be $600\sqrt{3}$ sq. units.

Bookmark FeedBack

Q.64 [11594329]



In the given figure, ΔABC is an equilateral triangle of side 2 cm. From a point P inside the triangle, perpendiculars are dropped at three sides. What will be the sum of lengths (in cm) of these perpendiculars?

1 ○ $\frac{\sqrt{3}}{4}$

2 ○ $\frac{\sqrt{3}}{2}$

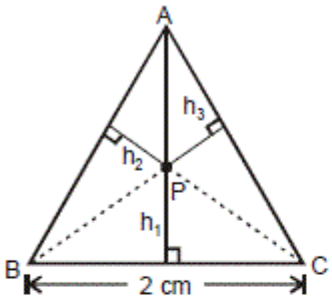
3 ○ $\sqrt{3}$

4 ○ $2\sqrt{3}$

✔

Solution:
Correct Answer : 3
Your Answer : 3

Answer key/Solution



Let's join the vertices A, B and C with the point P through lines PA, PB and PC. We get 3 triangles, namely, ΔPAB, ΔPBC and ΔPAC.
Sum of areas of these three triangles will be equal to area of ΔABC.

$\therefore$ Area of $\Delta PAB = \frac{1}{2} \times 2 \times h_2$

$\therefore$ Area of $\Delta PBC = \frac{1}{2} \times 2 \times h_1$

$\therefore$ Area of $\Delta PAC = \frac{1}{2} \times 2 \times h_3$

$\therefore \frac{1}{2} \times 2 \times h_1 + \frac{1}{2} \times 2 \times h_2 + \frac{1}{2} \times 2 \times h_3 = \frac{\sqrt{3}}{4}(2)^2$ [Area of equilateral triangle $= \frac{\sqrt{3}}{4} \times (\text{side})^2$]

$\therefore h_1 + h_2 + h_3 = \sqrt{3}$ cm.

Bookmark FeedBack

Q.65 [11594329]
The numbers X, Y, Z are 3 three digit numbers in the ascending order. In each of these numbers the last digit is equal to the first one. It is also known that the largest number is one more than twice the second largest. The second largest is one more than twice the smallest number. How many triads (X, Y, Z) are possible?

1 ○ 2

2 ○ 1

3 ○ 3

4 ○ More than 3

✖

Solution:
Correct Answer : 1
Your Answer : 4

Answer key/Solution

Y = 2X + 1; Z = 2Y +1 = 4X + 3.
Both of then are odd. Since Z is also a 3 digit number, X has to be less than 250.
If X is in 100s, then Y is in 300s (since it must end with 3, so also start with 3) and Z in 700s.
So the possible values are 181 and 191 for X.
If X is in 200s, then Y must be in 500s. So it means X has to be more than 250. But then Z will no longer be a 3 digit number.
So only 2 values are possible.

Bookmark FeedBack

Q.66 [11594329]

A passenger train consists of 28 carriages. There are 1000 passengers on the train. In every five successive carriages there are exactly 180 passengers in total. How many passengers are in the two middle carriages of the train in total?

1 ○ 80

2 ○ 120

3 ○ 100

4 ○ Data Insufficient

Solution:
Correct Answer : 1

Answer key/Solution

Let P1, P2, P3, P4, P5 be the number of passengers in the first 5 carriages.
Since P1 + P2 + P3 + P4 + P5 = P2 + P3 + P4 + P5 + P6 it implies P6 = P1.
Similarly, P7 = P2; P8 = P3; P9 = P4; P10 = P5; The sequence repeats itself. So P11 = P1; P12 = P2 … so on.
So, 1000 = 180 × 6 – (P4 + P5).
So, P4 + P5 = 80.
The middle carriages are 14^{th} and 15^{th} carriages. So, P14 + P15 = P4 + P5 = 80.

Bookmark FeedBack

Q.67 [11594329]

60 blue ties and 80 red ties in total have to be placed in certain number of boxes. Each box contains both types of ties. There should be the same number of blue ties in each box but no two boxes should contain the same number of red ties. The maximum number of boxes needed would be

1 ○ 10

2 ○ 12

3 ○ 15

4 ○ 20

Answer key/Solution

Solution:
Correct Answer : 2
Since 60 blue ties have to be distributed equally among the boxes, the number of boxes must be a factor of 60. (n =60 or 20 or 15 or 12 or 10 or …)
The first value of n in the descending order that would let you distribute 80 ties such that every box has a different number of ties is 12 (Since 1+ 2 + 3 + 4 + 5 … + 12 = 78 … which is less than 80).
Hence, the answer is 12.

Bookmark FeedBack

Q.68 [11594329]

If $a_n = \frac{(a_{n-1} + a_{n+1})}{2}$ and $a_1 = 1$, $a_2 = 3$, then find the sum of $a_1 + a_2 + a_3 + \ldots + a_{35}$.

✖

Answer key/Solution

Solution:
Correct Answer : 1225
Your Answer : 1190

$a_n = \frac{a_{n-1} + a_{n+1}}{2}$

$a_{n+1} = 2a_n - a_{n-1}$

$a_3 = 2a_2 - a_1 = 5$ $[a_1 = 1, a_2 = 3]$

$a_4 = 2a_3 - a_2 = 7$

⋮

If we see the pattern we are getting odd natural numbers.

So, $a_1 + a_2 + a_3 + \ldots + a_{35} = 1 + 3 + 5 + 7 + \ldots + 69$

Now sum of first "n" odd natural number = $n^2 = 35^2 = 1225$.

Bookmark FeedBack

Q.69 [11594329]

Find the total area enclosed by the graph of |2x| + |y| = 48.

Solution:

Correct Answer : 2304

Answer key/Solution

$|2x| + |y| = 48$

As there are two mods, so after opening, we will get four equations

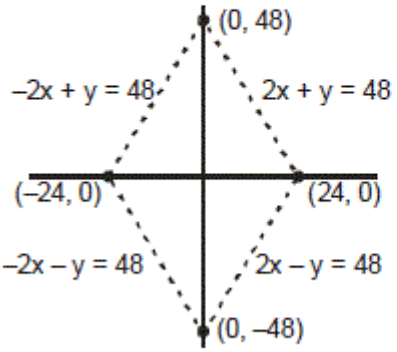
$2x + y = 48$

$-2x - y = 48$

$-2x + y = 48$

$2x - y = 48$

Now, based on these lines, the graph will be



So, area enclosed by the graph = $4\left(\frac{1}{2}\times 24\times 48\right) = 2304.$

Bookmark FeedBack

Q.70 [11594329]

If $S_n = \frac{1}{2.5.8} + \frac{1}{5.8.11} + \frac{1}{8.11.14} + \ldots + \frac{1}{29.32.35}$, find the value of S_n.

1 ○ $\frac{11}{1120}$

2 ○ $\frac{37}{2240}$

3 ○ $\frac{37}{1120}$

4 ○ $\frac{43}{2240}$

Solution:

Correct Answer : 2

Answer key/Solution

$$Sn = \frac{1}{2.5.8}+\frac{1}{5.8.11}+\frac{1}{8.11.14}+\cdots+\frac{1}{29.32.35}$$

$$\frac{1}{2.5.8}=\frac{1}{6}\left[\frac{1}{2.5}-\frac{1}{5.8}\right];\frac{1}{5.8.11}=\frac{1}{6}\left[\frac{1}{5.8}-\frac{1}{8.11}\right]$$

Hence,

$$Sn = \frac{1}{6}\left[\left(\frac{1}{2.5}-\frac{1}{5.8}\right)+\left(\frac{1}{5.8}-\frac{1}{8.11}\right)+\cdots+\left(\frac{1}{29.32}-\frac{1}{32.35}\right)\right]$$

$$=\frac{1}{6}\left(\frac{1}{2.5}-\frac{1}{32.35}\right)=\frac{1}{60}\times\frac{111}{112}=\frac{37}{2240}.$$

Bookmark FeedBack