

Directions of Test

Test Name	2016 Bull CAT 09	Total Questions	100	Total Time	180 Mins
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Section Name	No. of Questions	Time limit	Marks per Question	Negative Marking
Verbal Ability	34	1:0(h:m)	3	1/3
DI & Reasoning	32	1:0(h:m)	3	1/3
Quantitative Ability	34	1:0(h:m)	3	1/3

Section : Verbal Ability

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

Question No. : 1

Email, ughhhh. There is too much of it, and the wrong kind of it, from the wrong people. When people aren't hating their inboxes out loud, they are quietly emailing to say that they're sorry for replying so late, and for all the typos, and for missing your earlier note, and for forgetting to turn off auto-reply, and for sending this from their mobile device, and for writing too long, and for bothering you at all.

For an activity that's so mundane, email seems to be infused with an extraordinary amount of dread and guilt. Several studies have linked frequent email-checking with higher levels of anxiety. One study found that constant email-checkers also had heart activity that suggested higher levels of cortisol, a hormone associated with stress—until they were banned from their inboxes.

In the mobile Internet age, checking email is simultaneously a nervous tic and, for many workers, a tether to the office. A person's email inbox is where forgotten passwords are revived; where mass-mailings are collected; and where pumpkin-pie recipes, toddler photos, and absurd one-liners are shared. The inbox, then, is a place of convergence: for junk, for work, for advertising, and still sometimes for informal, intimate correspondence. Email works just the way it's supposed to, and better than it used to, but people seem to hate it more than ever.

Over the course of about half a century, email went from being obscure and specialized, to mega-popular and beloved, to derided and barely tolerated. With email's reputation now cratering, service providers offer tools to help you hit "inbox zero," while startups promise to kill email altogether. It's even become fashionable in tech circles to brag about how little a person uses email anymore.

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In 2016, instead of being the subject of romantic comedies and love songs, email is at the center of conversations about digital overload and work-life imbalances. The words "drowning," "avalanche," and "tyranny" are used. People resent their inboxes

because they are not in control of them. Email takes a psychological toll. It “emotionally weighs on us,” said Alex Moore, CEO of Boomerang, which offers a suite of efficiency tools like email scheduling, snooze features, read receipts, and reminders.

Which of the following can be used to describe the passage in one line?

- A) Email is hell unleashed ✓B) Email became an overkill tough to manage C) Email sabotaged our work-life balance
D) Email killed what was there of innocent conversation

Explanation:- Option 2 is the apt answer here.

Option 1 is too strong an answer option.

Option 3 goes outside the scope of the passage. Email has had negative impacts but we cannot say it has sabotaged our work-life balance.

Option 4 does not find a mention in the passage.

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Question No. : 2

Email, ughhhh. There is too much of it, and the wrong kind of it, from the wrong people. When people aren't hating their inboxes out loud, they are quietly emailing to say that they're sorry for replying so late, and for all the typos, and for missing your earlier note, and for forgetting to turn off auto-reply, and for sending this from their mobile device, and for writing too long, and for bothering you at all.

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The author will agree with which of the following statements:

- I. Emails do not carry any inherent preference bias.
II. Neutrality of emails is a solution as well as a problem.

III. Emails solved the problem of people not being able to receive messages.

- ✓A) I & II B) I & III C) II & III D) All of the above

Explanation:- Statement I can be derived from the lines: *Email is neutral, meaning that anyone can email anyone else with an email address.*

Statement II can be derived from the lines: *That neutrality is part of what makes email so special. It is, however, what makes inboxes overflow, too.*

Statement III is incorrect. Refer to the lines: *Email's underlying triumph, the quality that made it revolutionary, was that you could instantly deliver a written message to someone even if they weren't there to receive it. Statement III inverts the intended meaning of the given facts.*

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Question No. : 3

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The author of the passage accomplishes which of the following in the passage?

- ✓A) He traces the journey of a utility tool. B) He outlines the life-cycle of primary user-level product.
C) He projects the possible outcomes for a product cycle. D) He highlights the mechanisms of production of a product.

Explanation:- In the given passage, the author of the passage outlines the journey of E-mail, a utility tool. He highlights how this tool has developed and mentions the stages it has gone through. Refer to these lines: Over the course of about half a century, email went from being obscure and specialized, to mega-popular and beloved, to derided and barely tolerated. These lines reflect the general sentiment of the author of the passage. None of the other options come close to this sentiment. Option 2 is also rejected as 'life cycle means start and end of the product and this is not mentioned in the passage.

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Question No. : 4

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According to the information given in the passage, which of the following cannot be inferred?

- A) E-mails have an impact on the work schedules of employees.
- B) It is not necessary that a person will have complete control over the contents of his inbox.
- ✓ C) Higher levels of cortisol lead a person to check his email more often.
- D) Attempts to replace emails with other tools are being made.

Explanation:- Option 1 can be derived from the lines: In the mobile Internet age, checking email is simultaneously a nervous tic and, for many workers, a tether to the office
Option 2 can be derived from the lines: The inbox, then, is a place of convergence: for junk, for work, for advertising, and still sometimes for informal, intimate correspondence.

Option 3 reverses the causation suggested in the passage. Refer to the lines: Several studies have linked frequent email-checking with higher levels of anxiety. One study found that constant email-checkers also had heart activity that suggested higher levels of cortisol, a hormone associated with stress—until they were banned from their inboxes.

Option 4 can be derived from the lines: With email's reputation now cratering, service providers offer tools to help you hit "inbox zero," while start-ups promise to kill email altogether.

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Question No. : 5

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One of the requirements to manage email inboxes is:

- A) A certain minimum level of intellect. B) Proficiency in the English language.
✓C) An investment of time to enable inbox management. D) None of the above

Explanation:- This is the easiest question in this passage. The answer to this question can be derived from the lines: But leaving messages for people to pick up later means contributing to swelling inboxes that require time to maintain.

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

Question No. : 6

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According to the passage, e-mail is:

- A) unaffected by rank structures B) Incompatible with rank hierarchies C) incomplete without rank and file structures
D) Intertwined with rank structures

Explanation:- Refer to the lines: *Anyone in an organization could communicate directly and immediately with anyone else, "regardless of rank," as the 'The New York Times' put it in an article about "computer mail" in 1989. That neutrality is part of what makes email so special. It is, however, what makes inboxes overflow, too.*
These lines clearly state that emails are not linked to ranks.

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

Question No. : 7

When Isaac Newton was 17 years old, he performed a series of experiments with prisms and light beams. Within weeks he discovered the scientific explanation for color, invented the reflecting telescope, proposed the particle theory of light, and deduced that the human eye contained three receptor types corresponding to the three primary colors. Not bad for a teen.

Newton's insights were not easily accepted. At the time, the prevailing theory of color was metaphysical. White light was thought to be pure, heavenly, and scrubbed of all contaminants, whereas colored light was contaminated by the worldly surfaces it

touched. To scholars, the exact process by which white light became dirtied was a philosophical hard problem worthy of debate.

We now know why that hard problem was so darn hard. The brain processes the world in a simplified and inaccurate manner, and those inaccuracies gave people the wrong idea about color. Deep in the visual system, the brain reconstructs information about light. In that simplified code, white corresponds to the color channels registering zero and the brightness channel cranked up high. Pure luminance without color is a physical impossibility, because white light is a mixture of all colors. The pre-Newtonian problem of color was hard because it had no possible solution.

Why would the brain evolve such an inaccurate, simplified model of the world? The reason is efficiency. The brain didn't evolve to get all the scientific details right. That would be a waste of energy and computing time. Instead, it evolved to process information about the world just well enough, and quickly enough, to guide behavior. All the brain's internal models are simplified caricatures of the world it models. Arguably, science is the gradual process by which the cognitive parts of our brains discover the profound inaccuracies in our deeper, evolutionarily built-in models of the world.

When the author says, 'Not bad for a teen', he adopts a tone of:

- A) Contdescension ✓B) Admiration C) Disbelief D) Incredulity

Explanation:- Let's explore the meanings of the individual options:

1. *Condescension: The trait of displaying arrogance by patronizing those considered inferior*
2. *Admiration: A feeling of delighted approval and liking*
3. *Disbelief: Doubt about the truth of something*
4. *Incredulity: Doubt about the truth of something*

We can clearly see that option 2 is the most suitable answer option in the given case.

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

Question No. : 8

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At one point of time, the prevailing theory of color:

- A) had no role in the world of consciousness ✓B) had no basis in reality C) was limited by physical precepts
D) was dictated by individual dogma

Explanation:- The answer to this question can be derived from the lines: Newton's insights were not easily accepted. At the time, the prevailing theory of color was metaphysical. White light was thought to be pure, heavenly, and scrubbed of all contaminants, whereas colored light was contaminated by the worldly surfaces it touched. To scholars, the exact process by which white light became dirtied was a philosophical hard problem worthy of debate.

Metaphysics has two meanings:

1. the branch of philosophy that deals with the first principles of things, including abstract concepts such as being, knowing, identity, time, and space.
 2. abstract theory with no basis in reality.
- In this case, the second meaning is applicable.
None of the other options is applicable in this case.

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

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According to the views expressed by the author of the passage:

- A) science helps us define a framework to understand our evolution through models and processes
- B) science is a process which uses the learning and reasoning prowess of our brain to correct the flaws in our instinct-driven understanding of the world
- C) science is a process which discovers the internal biases of human beings and benchmarks these against factual data
- D) science only exposes the inherent incongruence between our models of the world and the real models of the world

Explanation:- The answer can be derived from the lines: Arguably, science is the gradual process by which the cognitive parts of our brains discover the profound inaccuracies in our deeper, evolutionarily built-in models of the world.

These lines help us identify option 2. Our evolutionary models are instinct driven (read the passage carefully where it outlines how human models develop). Science, through cognition, helps us correct these models.

Options 1 and 3 are irrelevant in the given case.

Option 4 is incorrect as there is no such thing as 'real models of the world' mentioned in the passage.

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

Question No. : 10

President Obama, greyer and jowlier but still sounding a little like the earnest community activist of a decade ago, has delivered his last State of the Union address.

His unflappable moderation always seems astonishing, in a man who has been dogged by the ravings of conspiracy theorists spreading pernicious untruths alleging that the first black president is in fact a secret Muslim, an impostor and not even a US citizen. When Obama speaks of the dangers of division, he knows what he's talking about.

But never has his message about the politics of race and creed been more important. "When politicians insult Muslims" he said,

“when a mosque is vandalised or a kid bullied, that doesn’t make us safer. That’s not telling it like it is. It’s just wrong. It diminishes us in the eyes of the world.”

He was addressing a domestic audience, partly for party political purposes. But in the fetid atmosphere of a Europe struggling to work out how to respond to the angry claims that police have been covering up assaults on young women by bands of young men – refugees, apparently from Muslim countries – never has his calm authority been more badly needed globally.

The New Year’s Eve events in Cologne and some other German cities – and, it now emerges (just as support for the far-right Sweden Democrats is taking off, curiously), at a youth festival in Sweden the summer before last – are terrible for the women concerned. But they could also be disastrous for social cohesion as the layers of cultural significance are gleefully unpacked in the binary world of Twitter trolls.

This is a minefield for the rest of us who still inhabit the complex world of greys. The only easy bit is the beginning: there is never an excuse for a sexual assault. But there are – pause – often explanations.

These cases involved gangs of young men. Youth, maleness and crowds all in the one place are identifiers of trouble, wherever you are in the world. Add in a shared foreignness, late nights and the atmosphere of licence that tends to accompany New Year’s Eve, and maybe the biggest surprise is that the German police appeared so unprepared.

But the fact that these attacks happened looks more like a vehicle for another agenda altogether. The terrifying experience of the women has not much occupied people since news of the attacks first broke; the mileage is in the time it took for the truth to come out.

The assumption is that it was covered up in a liberal conspiracy to disguise the social harm that Germany’s open-hearted approach to refugees is provoking. That is reasonable, if you think that some refugees have behaved criminally– but there are many, many more that haven’t. And when there are already serious issues of social cohesion, many sensible people would think it sensible to avoid a naming-and-shaming exercise.

But there are other explanations. For example, rather than this being a liberal conspiracy, might it have been the more basic human emotion when faced with a total misjudgement: denial?

Without exonerating the perpetrators, it does seem possible that events were aggravated by a failure of policing; that possibly the mindset of the authorities in Cologne, where the mayor and police chief both subsequently resigned (the latter because he had initially reported a quiet night, the former for suggesting that it was the victims’ faults for being there) was a contributory factor?

And possibly, there is another bunch of assumptions at work, based on the perception of Islam as a misogynistic faith that encourages young Muslim men (in a group etc) to assume that if they see a young woman on her own, and not covered up, that she is theirs for the taking. (Let’s not draw comparisons with the “she was asking for it” line of defence, which even now is the staple of the rape defendant in many a European court.)

I happen to agree that Islam often appears misogynistic. I hate wearing a headscarf in a strict Muslim country. But I don’t think this behaviour was a matter of faith: it is ordinary, nasty criminal behaviour. Bring the perpetrators to court. And then consider the circumstances in which the crime occurred.

There is an important obligation on those of us who pride ourselves on occupying the moral high ground. It is this: if we want to protect all those fleeing persecution, we must recognise that it will not be cost free. And unless we do address the costs – social and financial – we will play right into the hands of the people President Obama was pointing at last night: the people who believe that slamming the brakes on change is somehow the way to restore past glories.

What does the word 'fetid' mean as used in paragraph four of the passage ?

- ✓ A) extremely unpleasant B) offensively malodorous C) evil-smelling D) pungent

Explanation:- In the given case, 'fetid' means extremely unpleasant.

The dictionary definition for fetid is: smelling extremely unpleasant. But in this case, we cannot stick to the dictionary meaning.

Refer to the lines: But in the fetid atmosphere of a Europe struggling to work out how to respond to the angry claims that police have been covering up assaults on young women by bands of young men – refugees, apparently from Muslim countries – never has his calm authority been more badly needed globally.

From these lines, we can clearly see that the feeling of unpleasantness is something that the author wants to point out using this

word.

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

Question No. : 11

President Obama, greyer and jowlier but still sounding a little like the earnest community activist of a decade ago, has delivered his last State of the Union address.

His unflappable moderation always seems astonishing, in a man who has been dogged by the ravings of conspiracy theorists spreading pernicious untruths alleging that the first black president is in fact a secret Muslim, an impostor and not even a US citizen. When Obama speaks of the dangers of division, he knows what he's talking about.

But never has his message about the politics of race and creed been more important. "When politicians insult Muslims" he said, "when a mosque is vandalised or a kid bullied, that doesn't make us safer. That's not telling it like it is. It's just wrong. It diminishes us in the eyes of the world."

He was addressing a domestic audience, partly for party political purposes. But in the fetid atmosphere of a Europe struggling to work out how to respond to the angry claims that police have been covering up assaults on young women by bands of young men – refugees, apparently from Muslim countries – never has his calm authority been more badly needed globally.

The New Year's Eve events in Cologne and some other German cities – and, it now emerges (just as support for the far-right Sweden Democrats is taking off, curiously), at a youth festival in Sweden the summer before last – are terrible for the women concerned. But they could also be disastrous for social cohesion as the layers of cultural significance are gleefully unpacked in the binary world of Twitter trolls.

This is a minefield for the rest of us who still inhabit the complex world of greys. The only easy bit is the beginning: there is never an excuse for a sexual assault. But there are – pause – often explanations.

These cases involved gangs of young men. Youth, maleness and crowds all in the one place are identifiers of trouble, wherever you are in the world. Add in a shared foreignness, late nights and the atmosphere of licence that tends to accompany New Year's Eve, and maybe the biggest surprise is that the German police appeared so unprepared.

But the fact that these attacks happened looks more like a vehicle for another agenda altogether. The terrifying experience of the women has not much occupied people since news of the attacks first broke; the mileage is in the time it took for the truth to come out.

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But there are other explanations. For example, rather than this being a liberal conspiracy, might it have been the more basic human emotion when faced with a total misjudgement: denial?

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And possibly, there is another bunch of assumptions at work, based on the perception of Islam as a misogynistic faith that encourages young Muslim men (in a group etc) to assume that if they see a young woman on her own, and not covered up, that she is theirs for the taking. (Let's not draw comparisons with the "she was asking for it" line of defence, which even now is the staple of the rape defendant in many a European court.)

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There is an important obligation on those of us who pride ourselves on occupying the moral high ground. It is this: if we want to protect all those fleeing persecution, we must recognise that it will not be cost free. And unless we do address the costs – social and financial – we will play right into the hands of the people President Obama was pointing at last night: the people who believe that slamming the brakes on change is somehow the way to restore past glories.

It can be inferred from the passage that:

- A) people largely take one side when it comes to contentious issues such as migration of the persecuted from their own country to another
- B) people are almost always divided into two sides when it comes to contentious issues such as migration of the persecuted from their own country to another
- C) people are not always divided into opposing sides when it comes to contentious issues such as migration of the persecuted from their own country to another
- ✓D) people take to different sides when it comes to contentious issues such as migration of the persecuted from their own country to another

Explanation:- Refer to the lines: *But they could also be disastrous for social cohesion as the layers of cultural significance are gleefully unpacked in the binary world of Twitter trolls. This is a minefield for the rest of us who still inhabit the complex world of greys.*

It is easy to get misled in this question and select option 2 as the correct answer. Remember, there are three sides referred to by the author: the binary opposites as well as the grey ones. Considering this, option 4 is the best choice in the given case.

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

Question No. : 12

President Obama, greyer and jowlier but still sounding a little like the earnest community activist of a decade ago, has delivered his last State of the Union address.

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But never has his message about the politics of race and creed been more important. "When politicians insult Muslims" he said, "when a mosque is vandalised or a kid bullied, that doesn't make us safer. That's not telling it like it is. It's just wrong. It diminishes us in the eyes of the world."

He was addressing a domestic audience, partly for party political purposes. But in the fetid atmosphere of a Europe struggling to work out how to respond to the angry claims that police have been covering up assaults on young women by bands of young men – refugees, apparently from Muslim countries – never has his calm authority been more badly needed globally.

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But the fact that these attacks happened looks more like a vehicle for another agenda altogether. The terrifying experience of the women has not much occupied people since news of the attacks first broke; the mileage is in the time it took for the truth to come out.

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approach to refugees is provoking. That is reasonable, if you think that some refugees have behaved criminally– but there are many, many more that haven't. And when there are already serious issues of social cohesion, many sensible people would think it sensible to avoid a naming-and-shaming exercise.

But there are other explanations. For example, rather than this being a liberal conspiracy, might it have been the more basic human emotion when faced with a total misjudgement: denial?

Without exonerating the perpetrators, it does seem possible that events were aggravated by a failure of policing; that possibly the mindset of the authorities in Cologne, where the mayor and police chief both subsequently resigned (the latter because he had initially reported a quiet night, the former for suggesting that it was the victims' faults for being there) was a contributory factor?

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I happen to agree that Islam often appears misogynistic. I hate wearing a headscarf in a strict Muslim country. But I don't think this behaviour was a matter of faith: it is ordinary, nasty criminal behaviour. Bring the perpetrators to court. And then consider the circumstances in which the crime occurred.

There is an important obligation on those of us who pride ourselves on occupying the moral high ground. It is this: if we want to protect all those fleeing persecution, we must recognise that it will not be cost free. And unless we do address the costs – social and financial – we will play right into the hands of the people President Obama was pointing at last night: the people who believe that slamming the brakes on change is somehow the way to restore past glories.

According to the information given in the passage, when people take open stands against particular factions in a society:

- A) they help in exposing conspiracies of particular factions B) they risk destroying the underlying social fabric
✓C) they stand a chance to deliver justice D) they help in forming an opinion in society

Explanation:- Refer to the lines: *The assumption is that it was covered up in a liberal conspiracy to disguise the social harm that Germany's open-hearted approach to refugees is provoking. That is reasonable, if you think that some refugees have behaved criminally– but there are many, many more that haven't. And when there are already serious issues of social cohesion, many sensible people would think it sensible to avoid a naming-and-shaming exercise.*

We can clearly see that the last line of this paragraph helps us identify option 3 as the correct answer. Option 2 goes against the context presented in the lines above and hence rejected.

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

Question No. : 13

President Obama, greyer and jowlier but still sounding a little like the earnest community activist of a decade ago, has delivered his last State of the Union address.

His unflappable moderation always seems astonishing, in a man who has been dogged by the ravings of conspiracy theorists spreading pernicious untruths alleging that the first black president is in fact a secret Muslim, an impostor and not even a US citizen. When Obama speaks of the dangers of division, he knows what he's talking about.

But never has his message about the politics of race and creed been more important. "When politicians insult Muslims" he said, "when a mosque is vandalised or a kid bullied, that doesn't make us safer. That's not telling it like it is. It's just wrong. It diminishes us in the eyes of the world."

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These cases involved gangs of young men. Youth, maleness and crowds all in the one place are identifiers of trouble, wherever you are in the world. Add in a shared foreignness, late nights and the atmosphere of licence that tends to accompany New Year's Eve, and maybe the biggest surprise is that the German police appeared so unprepared.

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There is an important obligation on those of us who pride ourselves on occupying the moral high ground. It is this: if we want to protect all those fleeing persecution, we must recognise that it will not be cost free. And unless we do address the costs – social and financial – we will play right into the hands of the people President Obama was pointing at last night: the people who believe that slamming the brakes on change is somehow the way to restore past glories.

The author of the passage suggests that:

- A) Those, who are fleeing persecution, by virtue of their foolish acts, aid and abet those who resist change
- ✓ B) Those who oppose change use incidents of violence carried out by some to sully the image of all those who are fleeing persecution
- C) Those who oppose change are not open to rational arguments and they are helped further by the foolish actions of those who are fleeing persecution
- D) Both A and B

Explanation:- Refer to the lines: *It is this: if we want to protect all those fleeing persecution, we must recognise that it will not be cost free. And unless we do address the costs – social and financial – we will play right into the hands of the people President Obama was pointing at last night: the people who believe that slamming the brakes on change is somehow the way to restore past glories.*

Remember, you cannot include all those who fleeing persecution in your answer options. This is why option 1 is ruled out in the given case.

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

Question No. : 14

President Obama, greyer and jowlier but still sounding a little like the earnest community activist of a decade ago, has delivered his last State of the Union address.

His unflappable moderation always seems astonishing, in a man who has been dogged by the ravings of conspiracy theorists spreading pernicious untruths alleging that the first black president is in fact a secret Muslim, an impostor and not even a US citizen. When Obama speaks of the dangers of division, he knows what he's talking about.

But never has his message about the politics of race and creed been more important. "When politicians insult Muslims" he said, "when a mosque is vandalised or a kid bullied, that doesn't make us safer. That's not telling it like it is. It's just wrong. It diminishes us in the eyes of the world."

He was addressing a domestic audience, partly for party political purposes. But in the fetid atmosphere of a Europe struggling to work out how to respond to the angry claims that police have been covering up assaults on young women by bands of young men – refugees, apparently from Muslim countries – never has his calm authority been more badly needed globally.

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But the fact that these attacks happened looks more like a vehicle for another agenda altogether. The terrifying experience of the women has not much occupied people since news of the attacks first broke; the mileage is in the time it took for the truth to come out.

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The author of the passage:

- A) Postulates different explanations for a particular situation B) Highlights sources for a particular stream of thoughts
✓C) Outlines various explanations for a certain event D) provides varying viewpoints in a particularly tricky debate

Explanation:- *In the given case, the events under consideration are the New Year's Eve events in Cologne and some other German cities. The author then outlines the various ways in which these events can be explained. This makes option 3 the direct answer in the given case.*

Postulates means 'suggest or assume the existence, fact, or truth of (something) as a basis for reasoning, discussion, or belief.' This sentiment clearly does not fit in the given context.

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

Question No. : 15

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encourages young Muslim men (in a group etc) to assume that if they see a young woman on her own, and not covered up, that she is theirs for the taking. (Let's not draw comparisons with the "she was asking for it" line of defence, which even now is the staple of the rape defendant in many a European court.)

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The author of the passage uses the example of President Obama in order to:

- A) prove that key decision makers might not necessarily get it right when it comes to contentious issues
- ✓ B) showcase the kind of thinking process that needs to be adopted by those in key decision making roles
- C) provide us an insight into the thinking of those in power
- D) illustrate how the prejudice of race can be overcome

Explanation:- The author of the passage clearly has a positive opinion about President Obama and he uses his example to highlight the kind of views and positions that need to be adopted in the current situation. Considering this, we find option 2 to be the best answer in the given case.

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

Question No. : 16

"As smoking gives us something to do with our hands when we aren't using them, Time gives us something to do with our minds when we aren't thinking," Dwight Macdonald wrote in 1957. With smartphones, the issue never arises. Hands and mind are continuously occupied texting, e-mailing, liking, tweeting, watching YouTube videos, and playing Candy Crush.

Americans spend an average of five and a half hours a day with digital media, more than half of that time on mobile devices, according to the research firm eMarketer. Among some groups, the numbers range much higher. In one recent survey, female students at Baylor University reported using their cell phones an average of ten hours a day. Three quarters of eighteen-to-twenty-four-year-olds say that they reach for their phones immediately upon waking up in the morning. Once out of bed, we check our phones 221 times a day—an average of every 4.3 minutes—according to a UK study. This number actually may be too low, since people tend to underestimate their own mobile usage. In a 2015 Gallup survey, 61 percent of people said they checked their phones less frequently than others they knew.

Our transformation into device people has happened with unprecedented suddenness. The first touchscreen-operated iPhones went on sale in June 2007, followed by the first Android-powered phones the following year. Smartphones went from 10 percent to 40 percent market penetration faster than any other consumer technology in history. In the United States, adoption hit 50 percent only three years ago. Yet today, not carrying a smartphone indicates eccentricity, social marginalization, or old age.

What does it mean to shift overnight from a society in which people walk down the street looking around to one in which people walk down the street looking at machines? We wouldn't be always clutching smartphones if we didn't believe they made us safer, more productive, less bored, and were useful in all of the ways that a computer in your pocket can be useful. At the same time, smartphone owners describe feeling "frustrated" and "distracted." In a 2015 Pew survey, 70 percent of respondents said their phones made them feel freer, while 30 percent said they felt like a leash. Nearly half of eighteen-to-twenty-nine-year-olds said they used their phones to "avoid others around you."

The statement, 'In a 2015 Gallup survey, 61 percent of people said they checked their phones less frequently than others they knew', showcases that:

- A) people want to avoid questions asked in such surveys.
- ✓ B) people don't claim they check their phone as often as they do.
- C) people claim that they check their phone as often as they do.
- D) people claim that they do not check their phone as often as they do not.

Explanation:- The given statement is used by the author to prove thing: people check their phones a lot more than they claim. By

commenting on the usage of their others, they are actually not acknowledging their own usage. This helps us identify option 2 as the correct answer.

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

Question No. : 17

"As smoking gives us something to do with our hands when we aren't using them, Time gives us something to do with our minds when we aren't thinking," Dwight Macdonald wrote in 1957. With smartphones, the issue never arises. Hands and mind are continuously occupied texting, e-mailing, liking, tweeting, watching YouTube videos, and playing Candy Crush.

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The author of the passage highlights:

- A) the sudden and rapid adoption of smartphone devices.
- B) the change in social behaviour brought about by smartphone devices
- C) content consumption on mobile devices forms a significant portion of our digital media consumption
- ✓D) All of the above

Explanation:- Option 1 can be derived from the lines: Our transformation into device people has happened with unprecedented suddenness.

Option 2 can be derived from the lines: What does it mean to shift overnight from a society in which people walk down the street looking around to one in which people walk down the street looking at machines?

Option 3 can be derived from the lines: Americans spend an average of five and a half hours a day with digital media, more than half of that time on mobile devices, according to the research firm eMarketer.

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

Question No. : 18

"As smoking gives us something to do with our hands when we aren't using them, Time gives us something to do with our minds when we aren't thinking," Dwight Macdonald wrote in 1957. With smartphones, the issue never arises. Hands and mind are continuously occupied texting, e-mailing, liking, tweeting, watching YouTube videos, and playing Candy Crush.

Americans spend an average of five and a half hours a day with digital media, more than half of that time on mobile devices, according to the research firm eMarketer. Among some groups, the numbers range much higher. In one recent survey, female students at Baylor University reported using their cell phones an average of ten hours a day. Three quarters of eighteen-to-twenty-four-year-olds say that they reach for their phones immediately upon waking up in the morning. Once out of bed, we check our phones 221 times a day—an average of every 4.3 minutes—according to a UK study. This number actually may be too low, since

people tend to underestimate their own mobile usage. In a 2015 Gallup survey, 61 percent of people said they checked their phones less frequently than others they knew.

Our transformation into device people has happened with unprecedented suddenness. The first touchscreen-operated iPhones went on sale in June 2007, followed by the first Android-powered phones the following year. Smartphones went from 10 percent to 40 percent market penetration faster than any other consumer technology in history. In the United States, adoption hit 50 percent only three years ago. Yet today, not carrying a smartphone indicates eccentricity, social marginalization, or old age.

What does it mean to shift overnight from a society in which people walk down the street looking around to one in which people walk down the street looking at machines? We wouldn't be always clutching smartphones if we didn't believe they made us safer, more productive, less bored, and were useful in all of the ways that a computer in your pocket can be useful. At the same time, smartphone owners describe feeling "frustrated" and "distracted." In a 2015 Pew survey, 70 percent of respondents said their phones made them feel freer, while 30 percent said they felt like a leash. Nearly half of eighteen-to-twenty-nine-year-olds said they used their phones to "avoid others around you."

The author of the passage implies that:

- A) smartphones are probably not as smart as we make them out to be
- B) smartphones offer a much simpler and cheaper solution when compared to desktop computers and this fuels their rapid adoption
- C) the simplicity of smartphones leads to their extensive use
- ✓D) the beliefs in the supposed efficiency of smartphones pushes us towards using these devices more

Explanation:- The answer to this question can be derived from the lines: What does it mean to shift overnight from a society in which people walk down the street looking around to one in which people walk down the street looking at machines? We wouldn't be always clutching smartphones if we didn't believe they made us safer, more productive, less bored, and were useful in all of the ways that a computer in your pocket can be useful.

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

Question No. : 19

DISMAL may not be the most desirable of modifiers, but economists love it when people call their discipline a science. They consider themselves the most rigorous of social scientists. Yet whereas their peers in the natural sciences can edit genes and spot new planets, economists cannot reliably predict, let alone prevent, recessions or other economic events. Indeed, some claim that economics is based not so much on empirical observation and rational analysis as on ideology.

In October Russell Roberts, a research fellow at Stanford University's Hoover Institution, tweeted that if told an economist's view on one issue, he could confidently predict his or her position on any number of other questions. Prominent bloggers on economics have since furiously defended the profession, citing cases when economists changed their minds in response to new facts, rather than hewing stubbornly to dogma. Adam Ozimek, an economist at Moody's Analytics, pointed to Narayana Kocherlakota, president of the Federal Reserve Bank of Minneapolis from 2009 to 2015, who flipped from hawkishness to dovishness when reality failed to affirm his warnings of a looming surge in inflation. Tyler Cowen, an economist at George Mason, published a list of issues on which his opinion has shifted (he is no longer sure that income from capital is best left untaxed). Paul Krugman, an economist and New York Times columnist, chimed in. He changed his view on the minimum wage after research found that increases up to a certain point reduced employment only marginally (this newspaper had a similar change of heart).

Economists, to be fair, are constrained in ways that many scientists are not. They cannot brew up endless recessions in test tubes to work out what causes what, for instance. Yet the same restriction applies to many hard sciences, too: geologists did not need to recreate the Earth in the lab to get a handle on plate tectonics. The essence of science is agreeing on a shared approach for generating widely accepted knowledge. Science, wrote Paul Romer, an economist, in a paper published last year, leads to broad consensus. Politics does not.

Nor, it seems, does economics. In a paper on macroeconomics published in 2006, Gregory Mankiw of Harvard University declared: "A new consensus has emerged about the best way to understand economic fluctuations." But after the financial crisis prompted a wrenching recession, disagreement about the causes and cures raged. "Schlock economics" was how Robert Lucas, a Nobel-prize-winning economist, described Barack Obama's plan for a big stimulus to revive the American economy. Mr Krugman, another

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As Mr Roberts suggested, economists tend to fall into rival camps defined by distinct beliefs. Anthony Randazzo of the Reason Foundation, a libertarian think-tank, and Jonathan Haidt of New York University recently asked a group of academic economists both moral questions (is it fairer to divide resources equally, or according to effort?) and questions about economics. They found a high correlation between the economists’ views on ethics and on economics. The correlation was not limited to matters of debate—how much governments should intervene to reduce inequality, say—but also encompassed more empirical questions, such as how fiscal austerity affects economies on the ropes. Another study found that, in supposedly empirical research, right-leaning economists discerned more economically damaging effects from increases in taxes than left-leaning ones.

That is worrying. Yet is it unusual, compared with other fields? Gunnar Myrdal, yet another Nobel-winning economist, once argued that scientists of all sorts rely on preconceptions. “Questions must be asked before answers can be given,” he quipped. A survey conducted in 2003 among practitioners of six social sciences found that economics was no more political than the other fields, just more finely balanced ideologically: left-leaning economists outnumbered right-leaning ones by three to one, compared with a ratio of 30:1 in anthropology.

According to the information given in the passage:

- I. Scientists and economists are similar.
 - II. Scientists and economists are not similar.
 - III. Scientists are more accurate than economists.
 - IV. Scientists are less disputative than economists.
- A) I, II & III ✓B) II, III & IV C) I, III & IV D) All of the above

Explanation:- *Statement I clearly goes against the information given in the passage. Statement II is the opposite of statement I and mirrors the central idea of the passage. Statement III can be derived from the lines: Science, wrote Paul Romer, an economist, in a paper published last year, leads to broad consensus. Statement IV can be derived from the lines: A survey conducted in 2003 among practitioners of six social sciences found that economics was no more political than the other fields, just more finely balanced ideologically: left-leaning economists outnumbered right-leaning ones by three to one, compared with a ratio of 30:1 in anthropology.*

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

Question No. : 20

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Economics is closer to:

A) Science B) Politics C) Both (A) and (B) D) Neither (A) nor (B)

Explanation:- *The answer can be derived from the lines: Science, wrote Paul Romer, an economist, in a paper published last year, leads to broad consensus. Politics does not. Nor, it seems, does economics.*

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

Question No. : 21

DISMAL may not be the most desirable of modifiers, but economists love it when people call their discipline a science. They consider themselves the most rigorous of social scientists. Yet whereas their peers in the natural sciences can edit genes and spot new planets, economists cannot reliably predict, let alone prevent, recessions or other economic events. Indeed, some claim that economics is based not so much on empirical observation and rational analysis as on ideology.

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It can be inferred from the passage that:

- A) there is limited impact of ethics and politics on economic thought
- B) there is sudden impact of ethics and politics on economic thought
- ✓C) there is discernable impact of ethics and politics on economic thought
- D) there is negligible impact of ethics and politics on economic thought

Explanation:- The answer to this question can be derived from the lines: Anthony Randazzo of the Reason Foundation, a libertarian think-tank, and Jonathan Haidt of New York University recently asked a group of academic economists both moral questions (is it fairer to divide resources equally, or according to effort?) and questions about economics. They found a high correlation between the economists' views on ethics and on economics. The correlation was not limited to matters of debate—how much governments should intervene to reduce inequality, say—but also encompassed more empirical questions, such as how fiscal austerity affects economies on the ropes. Another study found that, in supposedly empirical research, right-leaning economists discerned more economically damaging effects from increases in taxes than left-leaning ones.

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

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The tone and attitude of the author of the passage can be said to be:

- A) unforgiving criticism B) implied criticism C) trenchant criticism D) both (A) and (C)

Explanation:- In the given passage, the author of the passage does repeatedly point out the flaws of economists. But while doing so, he never openly attacks the subject and tries to maintain a balance on the subject. This makes option 2 the correct answer in this case. Remember, every time he criticizes economics, he provides a counter as well. This makes option 1 and 3 too strong in nature.

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

Question No. : 23

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A suitable title for the passage is:

- A) All sizzle and no steak B) A chilles heel C) All in your head ✓D) All at sea

Explanation:- *Let's explore the meanings of all the idioms given in the options:*

All sizzle and no steak: A thing or person which fails to measure up to its description or advanced promotion.

Achilles heel: This expression refers to a vulnerable area or a weak spot, in an otherwise strong situation, that could cause one's downfall or failure.

All in your head: If something is all in your head, it is not real. It is in your imagination.

All at sea: confused and not certain what to do.

We can clearly see that option 4 is the best answer here.

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

Question No. : 24

DISMAL may not be the most desirable of modifiers, but economists love it when people call their discipline a science. They consider themselves the most rigorous of social scientists. Yet whereas their peers in the natural sciences can edit genes and spot new planets, economists cannot reliably predict, let alone prevent, recessions or other economic events. Indeed, some claim that economics is based not so much on empirical observation and rational analysis as on ideology.

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According to the information provided in the passage, an economist's view on one issue can be extrapolated to find his views on other issues. How is this possible?

- A) The viewpoints of economists are driven by their inner insecurities and these are reflected in their overall approach
- ✓ B) The viewpoints of economists are not limited by their academic learning and in fact, are a reflection of their overall ethical and political leanings
- C) Economists learn from one another and this means their viewpoints are a reflection of one common pool of ideas
- D) Both (B) and (C)

Explanation:- The answer can be derived from the following lines: In October Russell Roberts, a research fellow at Stanford University's Hoover Institution, tweeted that if told an economist's view on one issue, he could confidently predict his or her position on any number of other questions....As Mr Roberts suggested, economists tend to fall into rival camps defined by distinct beliefs....They found a high correlation between the economists' views on ethics and on economics. The correlation was not limited to matters of debate—how much governments should intervene to reduce inequality, say—but also encompassed more empirical questions, such as how fiscal austerity affects economies on the ropes.

DIRECTIONS for the question: Identify the most appropriate summary for the paragraph and write the key for most appropriate option.

Question No. : 25

It's been a good run for magazine writing—at least 150 years, by most calculations. But I've been reading up on the state of the business and I can report back that the future is dire. The enemy, it turns out, is you and I. Or rather, it is what the demon Internet has done to us, through the Web and the smartphones upon which it is consumed. Always in the pocket, always bleeping its siren call of apps and games, Twitter and Snapchat, and every other flashing distraction—or, as us magazine-lovers might say, affliction. Always conspiring to eliminate our desire for prose longer than a brunch photo caption.

- 1) The future of magazines is now solely in the hands of the consumer and he decides what content goes into magazines
 - 2) The form and structure of magazines will undergo a positive transformation as they are challenged by new consumption patterns in a world dominated by Internet
 - 3) Magazines, in their current prosaic form, are under severe threat of being wiped out as modern day Internet changes the very way we consume information
 - 4) The Twitters and Snapchats of the world have come to rule the roost and become the new-age media companies that magazines are afraid of
- (write the answer key)

- A) 3 B) C) D)

Explanation:-

The critical aspect in this question the core ideas of the paragraph. The central aspect of the passage is the future of magazines is bleak as they are attacked by Internet companies. This is the broad idea of the paragraph. Now keeping this sentiment in mind, we can that options 3 and 4 are fairly close to this sentiment. The issue with option 4 is the Twitter and Snapchat are not new-age media companies; these are social networks which are changing the way we read and consume information. This sentiment is best expressed by option 3. Option 2 is also rejected as nowhere in the passage the author has talked about the positive transformation.

DIRECTIONS for the question: Identify the most appropriate summary for the paragraph and write the key for most appropriate option.

Question No. : 26

Pretentiousness is always someone else's crime. It's never a felony in the first person. You might cop to the odd personality flaw; the occasional pirouette of self-deprecation is nothing if not good manners. Most likely one of those imperfections nobody minds owning up to, something that looks charming in the right circumstances. Being absent-minded. A bad dancer. Partial to a large gin after work. But being pretentious? That's premier-league obnoxious, the team-mate of arrogance, condescension, careerism and pomposity. Pretension brunches with fraudulence and snobbery, and shops for baubles with the pseudo and the vacuous. Whatever it is you do, I'll bet you'd never think it pretentious. That's because you do it, and pretension never self-identifies. Pretentiousness happens over there. In the way he writes. In her music taste. In the way they dress. And who hasn't before described a person, place or thing as pretentious?

- 1) Pretentiousness is something that urges for tacit approval but only conjures non-compliant snobbery
- 2) Pretentiousness is something that signifies inner hollowness but on the public side helps maintain a façade of cheerfulness and glee
- 3) Pretentiousness is something that escapes the lens of self-scrutiny but is easy to use as tool to depreciate others
- 4) Pretentiousness is something that is built on vacuous precepts of low self-esteem that help in poking holes in the personalities of others

(write the answer key)

A) 3 B) C) D)

Explanation:-

This is a tough question and one that you should avoid to solve in the first attempt. The language of the question stem as well as the options will pose a severe challenge while attempting this question under time pressure. On close observation, you will see that option 3 is the only that comes close to the main idea of the paragraph.

In this paragraph, the last three lines are pivotal to understand the paragraph meaning: Pretentiousness is always someone else's crime. It's never a felony in the first person.....Pretentiousness happens over there. In the way he writes. In her music taste. In the way they dress. And who hasn't before described a person, place or thing as pretentious?

In this case, the author wishes to communicate that pretentiousness is something that we allege is present in others but we don't acknowledge our own.

DIRECTIONS for the question: Identify the most appropriate summary for the paragraph and write the key for most appropriate option.

Question No. : 27

Market-based emissions trading has become the modern world's primary pollution control mechanism, forming a key part of various national and international bodies' commitment to climate change mitigation. To understand why the emissions-trading regime has come to dominate, it is important to understand its appeal. The first step is a government's imposing of a cap on carbon emissions within a country for any given year. Permits are then created up to the level of this cap, with one permit representing 1 tonne of CO₂. These permits are then allocated to businesses, which can then trade the permits amongst one another. This trading amongst permit users puts a price on pollution, incentivising businesses to reduce their carbon footprint so as to be able to sell permits to businesses which are more carbon-dependent, which in turn strive to reduce the number they must buy. Thus, the social goal of reducing carbon emissions is internalised into the profit motive. By ensuring that companies can trade permits, the emissions trading system ensures that the emissions reductions will happen at the lowest possible cost.

- 1) Market-based emissions is the only way forward if one has to reduce the carbon emissions as the introduction of profit motive the incentive businesses have been looking forward when it comes to reducing their carbon footprint
- 2) Market-based emissions trading incentivizes emissions reduction by enabling trading in emissions which helps countries swap their carbon emission targets and thereby, maintain a check on global carbon emission levels
- 3) Market-based emissions trading has become a part of climate change mitigation as it incentivizes the process of CO₂ reduction and introduces a profit motive for businesses to walk on the path of carbon footprint reduction
- 4) Market-based emissions trading, the de-facto mechanism to control pollution, is growing increasingly popular among nations and businesses, and going forward, it could become the default mechanism for cutting down emissions

(write the answer key)

A) 3 B) C) D)

Explanation:- Option 3 is the apt answer in the given case as it covers the central aspects of the paragraph.
Option 1 is incorrect as it labels the given method as the only way forward.
Option 2 is incorrect as the paragraph does not mention that countries can swap their emission targets.
Option 4 is incorrect as the paragraph does not talk about the growing popularity of the given system. Also, there is not talk of market-based emissions trading becoming more popular.

DIRECTIONS for the question: 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. Choose its number as your answer and key it in.

Question No. : 28

1. The couple, both in their mid-30s, were on their way to adopt a baby girl.
 2. Porto swallowed two tablets of Orfidal – a common anti-anxiety medicine that she had used before then – but remained too agitated and excited to sleep.
 3. One day in late June 2001, Rosario Porto, a petite, dark-haired lawyer from Santiago de Compostela, northern Spain, sat nervously on a flight to China beside her husband Alfonso Bastera, a quiet man from the Basque country, who worked as a freelance journalist.
 4. The couple had had no trouble persuading local Spanish authorities that they would make good parents and that their child would be surrounded by a loving extended family.
 5. The child's bedroom would have wallpaper covered in clouds and suns.
- (write the ans key)

A) 5 B) C) D)

Explanation:- In this case, the set of connected statements is: 3-1-2-4. Statement 5 is the odd one out here. Statement 5 is out of place as it goes into a specific detail about the child's bedroom, something which is not a part of the other 4 statements. The other 4 statements, in fact, are introductory in nature and inform us of the given context.

DIRECTIONS for the question: 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. Choose its number as your answer and key it in.

Question No. : 29

1. More worryingly, advanced countries' growth rates have also become more volatile.
 2. Seven years after the global financial crisis erupted in 2008, the world economy continued to stumble in 2015.
 3. In the US, quantitative easing did not boost consumption and investment partly because most of the additional liquidity returned to central banks' coffers in the form of excess reserves.
 4. According to the United Nations' report World Economic Situation and Prospects 2016, the average growth rate in developed economies has declined by more than 54% since the crisis.
 5. An estimated 44 million people are unemployed in developed countries, about 12 million more than in 2007, while inflation has reached its lowest level since the crisis.
- (write the ans key)

A) 3 B) C) D)

Explanation:- In this case, statement 3 is the odd one out. Statements 2-4-5-1 form the pair of connected statements. These follow the general to specific order, with each successive statement providing greater detail about the given situation. The topic of quantitative easing does not fit in the given context, which is fairly generic in nature.

DIRECTIONS for the question: The five sentences (labelled 1,2,3,4, and 5) given in this question, when properly sequenced, form a coherent paragraph. Decide on the proper order for the sentence and key in this sequence of five numbers as your answer.

Question No. : 30

1. Self-control is "like" a muscle in that muscles get tired with use over the short term and, second, that muscles get stronger with use over the long term.

2. Muscles are a bit like foreign languages and health flexible spending accounts: use it or lose it.
3. Or, at least, my sense is that people think that in order for muscles to get big and stay that way, they need to be used.
4. Human muscles seem to atrophy with disuse, as anyone will tell you who has had to take a six week hiatus from the gym because of a bunch of injuries.
5. My sense is that many people think that this is a general property of muscles.

(write the ans key)

A) 1 B) C) D)

Explanation:- This is an easy question. Statements 4-2-5-3 form the connected set of statements. Statement 1 is the odd one out here as the subject of the statement (self-control) is absent from the other statements. Considering the easy nature of this question, you should have easily spotted the correct answer.

DIRECTIONS for the question: The five sentences (labelled 1,2,3,4, and 5) given in this question, when properly sequenced, form a coherent paragraph. Decide on the proper order for the sentence and key in this sequence of five numbers as your answer.

Question No. : 31

1. The volatility affecting global markets last month appears set to continue amid concern about Chinese economic growth, falling oil prices and speculation that the US federal reserve could change course with interest rates.
2. "The combination of concerns that the United States could be heading toward a recession and the global stock sell-off is curbing risk appetite and is sending investors to the safe-haven yen," Takuya Takahashi, senior strategist at Daiwa Securities, told Kyodo News.
3. After hovering around the 117-yen line on Monday, the Japanese currency briefly rose to the upper 114 zone to its strongest level against the dollar since November 2014.
4. Investors regard the yen as a "save haven" currency when global markets are hit by the kind of turmoil witnessed in recent weeks.
5. The yen is expected to make further gains – a trend that eats into the repatriated profits of Japanese auto and other exporters.

(write the ans key)

A) 12345 B) C) D)

Explanation:- In this case, the given order is the correct one. Statement 1 introduces the given context and statement 2 connects with statement 1 (the common reference to the US market). Statement 3 then provides an input regards to the current status of yen and statement 4 describes how the yen is viewed. Statement 5 is the concluding statement in this case and it wraps up the given paragraph.

DIRECTIONS for the question: The five sentences (labelled 1,2,3,4, and 5) given in this question, when properly sequenced, form a coherent paragraph. Decide on the proper order for the sentence and key in this sequence of five numbers as your answer.

Question No. : 32

1. Those exposed to particulate air pollution were more likely to die from respiratory problems, like pneumonia, emphysema and bronchitis, and also from cardiovascular problems, like heart attacks.
2. The analysis of 368,000 British people over 38 years also showed that those living in the most polluted places have a 14% higher risk of dying than those in the least polluted areas.
3. "There is an imperative that, because the effects are so long-lasting, we really ought to act on it. We have to think about what we are doing to the long-term health of the population."
4. "What this study shows is that the [health] effects of air pollution persist for a very long time," said Dr Anna Hansell, at Imperial College London, who led the new study.
5. Air pollution raises the risk of death for many decades after exposure, according to the longest-running study to date.

(write the ans key)

A) 52143 B) C) D)

Explanation:- The correct order in this case is: 5-2-1-4-3. Statement 5 is the generic opening sentence in this case. Statement 2 follows this up by mentioning the details of the statement mentioned in statement 5. Statement 1 then provides further details.

Statements 4 and 3 (in that order) form the concluding set by providing us an expert opinion on the given study.

DIRECTIONS for the question: The five sentences (labelled 1,2,3,4, and 5) given in this question, when properly sequenced, form a coherent paragraph. Decide on the proper order for the sentence and key in this sequence of five numbers as your answer.

Question No. : 33

1. But it's a lot worse than that as today's Chinese GDP report suggests.
2. It might be easy to minimize this and conclude that China's unwary stock market investors have now simply paid for their profligacy.
3. It's easy to think that China's economy has just hit a bump in the road and will now endure a further slowing and perhaps a few of years of pain but remain on its path of good growth.
4. China grew at a rate of 6.9 percent in 2015, its slowest pace in 25 years—only adding to mounting global concerns about China's economy.
5. China's stock market tanked badly again last week, and is now down over 40 percent since June 2015.

(write the ans key)

A) 52314 B) C) D)

Explanation:- In this case, the correct order is: 5-2-3-1-4. Statement 5 is the introductory sentence in this case. It is followed by statements 2 and 3 which try to explain the event mentioned in statement 5. Statements 1 and 4 (in that order) then introduce a contradiction for the given situation.

DIRECTIONS for the question: The five sentences (labelled 1,2,3,4, and 5) given in this question, when properly sequenced, form a coherent paragraph. Decide on the proper order for the sentence and key in this sequence of five numbers as your answer.

Question No. : 34

1. From the flatlands of Kentucky to the seaport district of Boston, we are not built to withstand the harms we are likely to face in the years ahead.
2. But in all these discussions of how to build resiliency into our domestic fabric, we may be getting far ahead of ourselves.
3. Our nation faces multibillion-dollar disasters, a changing climate, a rising sea, fires that can't seem to be put out, and many other varieties of mayhem.
4. Public-policy experts and politicians talk of building a more resilient nation, the de rigueur notion of our time.
5. Resiliency is understood as the capacity to create systems that can regroup, bounce back, adapt, and return stronger, and this notion of resiliency has taken on a life of its own as leaders in industries as far-ranging as business, health care, law, and psychology all have jumped on the bandwagon.

(write the ans key)

A) 31452 B) C) D)

Explanation:- In this case, statement 3 is the generic opening sentences. Sentence 1 takes forward the situation mentioned in statement 3. Statement 1 then introduces the concept of resilient nation. Statement 5 explains this further and statement 2 provides the conclusion in this case.

Section : DI & Reasoning

DIRECTIONS for the question: Study the table/s given below and answer the question that follows.

Question No. : 35

Suvidha.com is an online company which is in the business of collecting details of potential employees and selling these details to other organizations. The company collects data regarding people of different categories of one or more of the six features, name, age, address, hobbies, contact number and e-mail ID. The following table gives the information available in the database of the company about the number of people in each category, and the percentage of people in that category for whom the details of each feature are available.

Category	Number of people	Percentage of people for whom the details of the feature are available					
		Name	Age	Address	Hobbies	Contact number	Email ID
School Teachers	3200	100%	85%	70%	90%	65%	80%
Pharmacists	600	100%	75%	95%	80%	70%	60%
Doctors	12000	100%	50%	60%	70%	65%	100%
Professors	2000	100%	70%	75%	60%	85%	90%
Civil Engineers	5000	100%	40%	60%	50%	65%	85%
MBA's	30000	100%	50%	55%	70%	65%	100%
CAs	520	100%	80%	50%	40%	50%	90%
Mechanical Engineers	8400	100%	85%	70%	95%	60%	80%
Nurses	3600	100%	50%	40%	60%	75%	40%
Accountants	2400	100%	40%	70%	75%	90%	85%
Ex-Servicemen	3000	100%	65%	75%	40%	80%	60%
Electrical Engineers	4400	100%	70%	65%	60%	70%	90%
Computer Engineers	5200	100%	80%	60%	65%	50%	100%

In the above table, for example, the contact numbers of 65% of the School Teachers in the database (i.e., 65% of 3200) are available. Assume that no person belongs to more than one category.

The number of mechanical engineers, for whom the details of exactly four of the six features are available, is at least

- A) 420 B) 1260 C) 2100 D) None of these

Explanation:- The number of mechanical engineers for whom exactly four of the six details was available can be zero, as the total data available is on an average 4.9 items per person ($100 + 85 + 70 + 95 + 60 + 80 = 490$) and it can be due to a majority of them having exactly five of their details available and for the others on, two or three of the six details being available.

DIRECTIONS for the question: Study the table/s given below and answer the question that follows.

Question No. : 36

Suvidha.com is an online company which is in the business of collecting details of potential employees and selling these details to other organizations. The company collects data regarding people of different categories of one or more of the six features, name, age, address, hobbies, contact number and e-mail ID. The following table gives the information available in the database of the company about the number of people in each category, and the percentage of people in that category for whom the details of each feature are available.

Category	Number of people	Percentage of people for whom the details of the feature are available					
		Name	Age	Address	Hobbies	Contact number	Email ID
School Teachers	3200	100%	85%	70%	90%	65%	80%

Pharmacists	600	100%	75%	95%	80%	70%	60%
Doctors	12000	100%	50%	60%	70%	65%	100%
Professors	2000	100%	70%	75%	60%	85%	90%
Civil Engineers	5000	100%	40%	60%	50%	65%	85%
MBA's	30000	100%	50%	55%	70%	65%	100%
CAs	520	100%	80%	50%	40%	50%	90%
Mechanical Engineers	8400	100%	85%	70%	95%	60%	80%
Nurses	3600	100%	50%	40%	60%	75%	40%
Accountants	2400	100%	40%	70%	75%	90%	85%
Ex-Servicemen	3000	100%	65%	75%	40%	80%	60%
Electrical Engineers	4400	100%	70%	65%	60%	70%	90%
Computer Engineers	5200	100%	80%	60%	65%	50%	100%

In the above table, for example, the contact numbers of 65% of the School Teachers in the database (i.e., 65% of 3200) are available. Assume that no person belongs to more than one category.

The number of professors for whom at least two of the three features, address, contact number and e-mail ID, are available, is at least (in numerical value)

- A) 1500 B) C) D)

Explanation:-

The number of professors for whom at least two of address, phone number and e-mail ID are available would be the least when for the maximum number of professors exactly one detail is available and for others all the three details are available. Total = 75 + 85 + 90 = 250. Hence we can assume there are x% of professors for whom only one of those three details are available and for

the rest, all three details are available. So the equation would be $x + (100 - x) \cdot 3 = 250 \Rightarrow x = 25$. Hence we know all the three

details of $100 - 25 = 75\%$ of professors which becomes $2000 \times 0.75 = 1500$.

DIRECTIONS for the question: Study the table/s given below and answer the question that follows.

Question No. : 37

Suvidha.com is an online company which is in the business of collecting details of potential employees and selling these details to other organizations. The company collects data regarding people of different categories of one or more of the six features, name, age, address, hobbies, contact number and e-mail ID. The following table gives the information available in the database of the company about the number of people in each category, and the percentage of people in that category for whom the details of each feature are available.

Category	Number of people	Percentage of people for whom the details of the feature are available					
		Name	Age	Address	Hobbies	Contact number	Email ID
School	3200	100%	85%	70%	90%	65%	80%

Teachers								
Pharmacists	600	100%	75%	95%	80%	70%	60%	
Doctors	12000	100%	50%	60%	70%	65%	100%	
Professors	2000	100%	70%	75%	60%	85%	90%	
Civil Engineers	5000	100%	40%	60%	50%	65%	85%	
MBA's	30000	100%	50%	55%	70%	65%	100%	
CAs	520	100%	80%	50%	40%	50%	90%	
Mechanical Engineers	8400	100%	85%	70%	95%	60%	80%	
Nurses	3600	100%	50%	40%	60%	75%	40%	
Accountants	2400	100%	40%	70%	75%	90%	85%	
Ex-Servicemen	3000	100%	65%	75%	40%	80%	60%	
Electrical Engineers	4400	100%	70%	65%	60%	70%	90%	
Computer Engineers	5200	100%	80%	60%	65%	50%	100%	

In the above table, for example, the contact numbers of 65% of the School Teachers in the database (i.e., 65% of 3200) are available. Assume that no person belongs to more than one category.

For at the most how many of the CAs, the details of exactly five of the six features available?

- A) 260 B) 390 C) 400 D) 364

Explanation:- As one should have exactly five of six features, he should not have one of the features with least percentage value. Consider the three least percentages available i.e., 50% 40%, and 50%. Exactly two among these three must be available

$\therefore \frac{50+40+50}{2} = 70\%$ and as other features have more than 70% availability, 70% of 520 = 364

DIRECTIONS for the question: Study the table/s given below and answer the question that follows.

Question No. : 38

Suvidha.com is an online company which is in the business of collecting details of potential employees and selling these details to other organizations. The company collects data regarding people of different categories of one or more of the six features, name, age, address, hobbies, contact number and e-mail ID. The following table gives the information available in the database of the company about the number of people in each category, and the percentage of people in that category for whom the details of each feature are available.

Category	Number of people	Percentage of people for whom the details of the feature are available					
		Name	Age	Address	Hobbies	Contact number	Email ID
School Teachers	3200	100%	85%	70%	90%	65%	80%
Pharmacists	600	100%	75%	95%	80%	70%	60%
Doctors	12000	100%	50%	60%	70%	65%	100%
Professors	2000	100%	70%	75%	60%	85%	90%
Civil	5000	100%	40%	60%	50%	65%	85%

Engineers								
MBA's	30000	100%	50%	55%	70%	65%	100%	
CAs	520	100%	80%	50%	40%	50%	90%	
Mechanical Engineers	8400	100%	85%	70%	95%	60%	80%	
Nurses	3600	100%	50%	40%	60%	75%	40%	
Accountants	2400	100%	40%	70%	75%	90%	85%	
Ex-Servicemen	3000	100%	65%	75%	40%	80%	60%	
Electrical Engineers	4400	100%	70%	65%	60%	70%	90%	
Computer Engineers	5200	100%	80%	60%	65%	50%	100%	

In the above table, for example, the contact numbers of 65% of the School Teachers in the database (i.e., 65% of 3200) are available. Assume that no person belongs to more than one category.

For at least how many of the given engineers (i.e., Civil, Mechanical, Electrical and Computer engineers, put together) are both the contact number and the e-mail ID available?

- A) 10000 B) 11200 C) 10700 D) 11100

Explanation:- The least number of engineers for whom both phone number and e-mail ID are available is as follows

Civil Engineers - $(85 + 65) - 100 = 50\% = 2500$

Mechanical Engineers - $(80 + 60) - 100 = 40\% = 3360$

Electrical Engineers - $(90 + 70) - 100 = 60\% = 2640$

Computer Engineers - $(100 + 50) - 100 = 50\% = 2600$

Total = 11100.

DIRECTIONS for the question: Study the table/s given below and answer the question that follows.

Question No. : 39

Priyanka, from city Ahmedabad, decided to visit city Dhanbad. in the month of april. She decided to go by air to city Dhanbad from city Ahmedabad. As there were no direct flights between these cities, she had to first fly to either city Bangluru or city Chennai and then fly to city Dhanbad from there. Only a single airline operates flights from Ahmedabad to either Bangluru or Chennai and the same was the case with travel from Bangluru or Chennai to Dhanbad. As she wanted to minimize the cost of travel, she collected the following information regarding the airfares (in Rs.) on each date of the month of April.

Date	Air fare (Rs.)				Date	Air fare (Rs.)			
	A - B	A - C	B - D	C - D		A - B	A - C	B - D	C - D
1	165	202.5	415	505	16	183	217.5	360	350
2	182.5	150	377.5	600	17	215	175	352.5	330
3	210	185	505	485	18	260	187.5	340	340
4	180	170	325	462.5	19	275	192.5	342.5	342.5
5	157.5	155	365	427.5	20	210	215	365	375
6	187.5	262.5	322.5	402.5	21	185	207.5	375	385
7	165	207.5	315	420	22	192.5	215	380	400
8	170	215	305	405	23	200	232.5	392.5	415
9	190	200	397.5	377.5	24	215	197.5	402.5	405
10	202.5	190	422.5	385	25	187.5	150	415	320

11	215	180	410	390	26	192.5	142.5	427.5	367.5
12	195	165	400	415	27	177.5	135	435	375
13	177.5	192.5	382.5	417.5	28	185	175	387.5	380
14	152.5	225	382.5	365	29	190	195	362.5	390
15	152.5	157.5	342.5	340	30	180	157.5	350	365

Here A stands for Ahmedabaad, B stands for Bangluru, C stands for Chennai and D stands for Dhanbaad. The flights are connected in such a way that a person can go from Ahmedabaad to Dhanbaad, via Bangluru or Chennai, on the same day.

What is the minimum fare for travelling by flight from Ahmedabaad to Dhanbaad on any day in the month of April? (in Rs.)

A) 470 B) C) D)

Explanation:- Minimum cost would be incurred for the route A – C – D on 25th April i.e cost = 150 + 320 = 470.

DIRECTIONS for the question: Study the table/s given below and answer the question that follows.

Question No. : 40

Priyanka, from city Ahmedabaad, decided to visit city Dhanbaad. in the month of april. She decided to go by air to city Dhanbaad from city Ahmedabaad. As there were no direct flights between these cities, she had to first fly to either city Bangluru or city Chennai and then fly to city Dhanbaad from there. Only a single airline operates flights from Ahmedabaad to either Bangluru or Chennai and the same was the case with travel from Bangluru or Chennai to Dhanbaad. As she wanted to minimize the cost of travel, she collected the following information regarding the airfares (in Rs.) on each date of the month of April.

Date	Air fare (Rs.)				Date	Air fare (Rs.)			
	A – B	A – C	B – D	C – D		A – B	A – C	B – D	C – D
1	165	202.5	415	505	16	183	217.5	360	350
2	182.5	150	377.5	600	17	215	175	352.5	330
3	210	185	505	485	18	260	187.5	340	340
4	180	170	325	462.5	19	275	192.5	342.5	342.5
5	157.5	155	365	427.5	20	210	215	365	375
6	187.5	262.5	322.5	402.5	21	185	207.5	375	385
7	165	207.5	315	420	22	192.5	215	380	400
8	170	215	305	405	23	200	232.5	392.5	415
9	190	200	397.5	377.5	24	215	197.5	402.5	405
10	202.5	190	422.5	385	25	187.5	150	415	320
11	215	180	410	390	26	192.5	142.5	427.5	367.5
12	195	165	400	415	27	177.5	135	435	375
13	177.5	192.5	382.5	417.5	28	185	175	387.5	380
14	152.5	225	382.5	365	29	190	195	362.5	390
15	152.5	157.5	342.5	340	30	180	157.5	350	365

Here A stands for Ahmedabaad, B stands for Bangluru, C stands for Chennai and D stands for Dhanbaad. The flights are connected in such a way that a person can go from Ahmedabaad to Dhanbaad, via Bangluru or Chennai, on the same day.

The airline offers a 25% discount on its fares for travel from Chennai to Dhanbaad on weekdays, i.e., from Monday to Friday but not on weekends, i.e., Saturdays and Sundays. If April 1st is a Wednesday, the minimum possible cost of flying from Ahmedabaad to Dhanbaad on any day in the month of April is

- A) Rs. 405 B) Rs. 410 C) Rs. 412.5 D) Rs. 422.5

Explanation:-

The minimum cost for flying by route A - C - D is Rs.497.5 on 15th April, Rs. 505 on 17th April, Rs. 470 on 25th April and Rs. 510 on 27th April. As the discounted fare is applicable only on weekdays and as the lowest fare would be available on 15th April i.e., $157.5 + 75/100 \times 340 = 157.5 + 255 = \text{Rs.}412.5$

DIRECTIONS for the question: Study the table/s given below and answer the question that follows.

Question No. : 41

Priyanka, from city Ahmedabaad, decided to visit city Dhanbaad. in the month of april. She decided to go by air to city Dhanbaad from city Ahmedabaad. As there were no direct flights between these cities, she had to first fly to either city Bangluru or city Chennai and then fly to city Dhanbaad from there. Only a single airline operates flights from Ahmedabaad to either Bangluru or Chennai and the same was the case with travel from Bangluru or Chennai to Dhanbaad. As she wanted to minimize the cost of travel, she collected the following information regarding the airfares (in Rs.) on each date of the month of April.

Date	Air fare (Rs.)				Date	Air fare (Rs.)			
	A - B	A - C	B - D	C - D		A - B	A - C	B - D	C - D
1	165	202.5	415	505	16	183	217.5	360	350
2	182.5	150	377.5	600	17	215	175	352.5	330
3	210	185	505	485	18	260	187.5	340	340
4	180	170	325	462.5	19	275	192.5	342.5	342.5
5	157.5	155	365	427.5	20	210	215	365	375
6	187.5	262.5	322.5	402.5	21	185	207.5	375	385
7	165	207.5	315	420	22	192.5	215	380	400
8	170	215	305	405	23	200	232.5	392.5	415
9	190	200	397.5	377.5	24	215	197.5	402.5	405
10	202.5	190	422.5	385	25	187.5	150	415	320
11	215	180	410	390	26	192.5	142.5	427.5	367.5
12	195	165	400	415	27	177.5	135	435	375
13	177.5	192.5	382.5	417.5	28	185	175	387.5	380
14	152.5	225	382.5	365	29	190	195	362.5	390
15	152.5	157.5	342.5	340	30	180	157.5	350	365

Here A stands for Ahmedabaad, B stands for Bangluru, C stands for Chennai and D stands for Dhanbaad. The flights are connected in such a way that a person can go from Ahmedabaad to Dhanbaad, via Bangluru or Chennai, on the same day.

If Priyanka wants to limit her travelling expenses to Rs.500, then on how many days of the month, does she have the option of travelling from Ahmedabaad to Dhanbaad, via. Bangluru?

- A) 2 B) 3 C) 4 D) 5

Explanation:- He can travel if A - B - D on 7th, 8th and 15th. A total of three days.

DIRECTIONS for the question: Study the table/s given below and answer the question that follows.

Question No. : 42

Priyanka, from city Ahmedabaad, decided to visit city Dhanbaad. in the month of april. She decided to go by air to city Dhanbaad

from city Ahmedabaad. As there were no direct flights between these cities, she had to first fly to either city Bangluru or city Chennai and then fly to city Dhanbaad from there. Only a single airline operates flights from Ahmedabaad to either Bangluru or Chennai and the same was the case with travel from Bangluru or Chennai to Dhanbaad. As she wanted to minimize the cost of travel, she collected the following information regarding the airfares (in Rs.) on each date of the month of April.

Date	Air fare (Rs.)				Date	Air fare (Rs.)			
	A - B	A - C	B - D	C - D		A - B	A - C	B - D	C - D
1	165	202.5	415	505	16	183	217.5	360	350
2	182.5	150	377.5	600	17	215	175	352.5	330
3	210	185	505	485	18	260	187.5	340	340
4	180	170	325	462.5	19	275	192.5	342.5	342.5
5	157.5	155	365	427.5	20	210	215	365	375
6	187.5	262.5	322.5	402.5	21	185	207.5	375	385
7	165	207.5	315	420	22	192.5	215	380	400
8	170	215	305	405	23	200	232.5	392.5	415
9	190	200	397.5	377.5	24	215	197.5	402.5	405
10	202.5	190	422.5	385	25	187.5	150	415	320
11	215	180	410	390	26	192.5	142.5	427.5	367.5
12	195	165	400	415	27	177.5	135	435	375
13	177.5	192.5	382.5	417.5	28	185	175	387.5	380
14	152.5	225	382.5	365	29	190	195	362.5	390
15	152.5	157.5	342.5	340	30	180	157.5	350	365

Here A stands for Ahmedabaad, B stands for Bangluru, C stands for Chennai and D stands for Dhanbaad. The flights are connected in such a way that a person can go from Ahmedabaad to Dhanbaad, via Bangluru or Chennai, on the same day.

If en route to city Dhanbaad, Priyanka wants stop at city Bangluru for one day, then the cost of flying from Ahmedabaad to Dhanbaad in the month of April, is at least

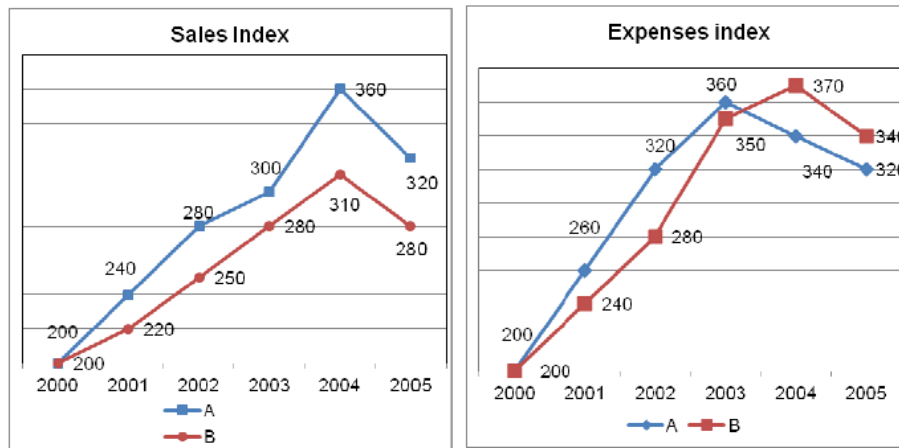
- A) Rs. 460 B) Rs. 465 C) Rs. 470 D) Rs. 485

Explanation:- If she covers the first leg on the 7th and the second leg on the 8th the cost would be $165 + 305 = \text{Rs. } 470$

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

Question No. : 43

The following line graphs give the values of sales and expenses for two banana ripening plants, Healthy Farm Fresh and Super Banana plant 2000 to 2005. The values of sales and expenses of both the companies are each indexed to 200 in the year 2000.



In the above graph, the values of the sales and expenses of company Healthy Farm Fresh are indexed to the corresponding values in the year 2000 and same is the case with Super Banana plant. For example, if the sales value of Healthy Farm Fresh is 200k in 2000, it is 240k in 2001 and so on and if the sales value of Super Banana plant is 200k in 2000, it is 220k in 2001 and so on.

It is also known that neither of the ripening plants made a loss in any of the years.

Profit = Sales – Expenses

Profitability (in %) = Profit / Sales × 100

The profitability (in %) of company Healthy Farm Fresh in the year 2005 was at least

- A) 12.25 B) 15 C) 16.67 D) 20

Explanation:- The indexed values of sales and expenses are as follows.

Year	Company A		Company B	
	Sales	Expenses	Sales	Expenses
2000	200	200	200	200
2001	240	260	220	240
2002	280	320	250	280
2003	300	360	280	350
2004	360	340	310	370
2005	320	320	280	340

It is said that both the companies made a profit in each of the given years.

∴ For company A, in 2003, 300(Sales) > 360 (Expenses)

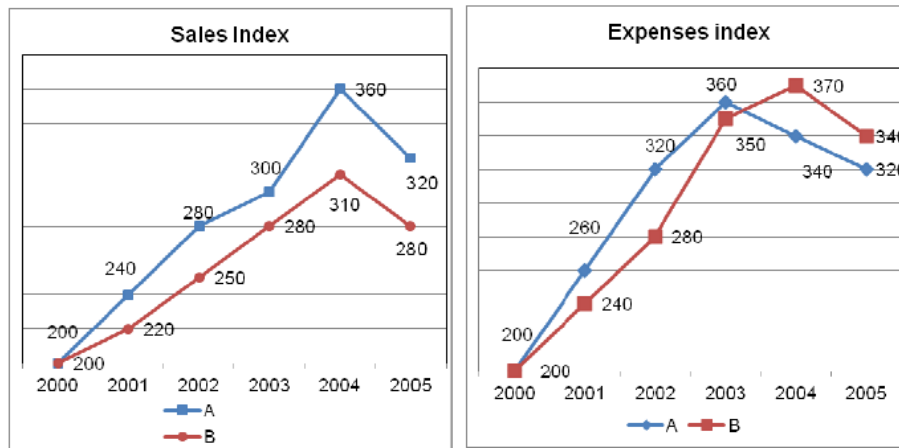
(Sales) > 1.2 (Expenses)

∴ Profitability in 2005 is at least $\frac{1.2(320) - 320}{1.2(320)} \times 100 = \frac{32}{192} \times 100 = 16.67\%$

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

Question No. : 44

The following line graphs give the values of sales and expenses for two banana ripening plants, Healthy Farm Fresh and Super Banana plant 2000 to 2005. The values of sales and expenses of both the companies are each indexed to 200 in the year 2000.



In the above graph, the values of the sales and expenses of company Healthy Farm Fresh are indexed to the corresponding values in the year 2000 and same is the case with Super Banana plant. For example, if the sales value of Healthy Farm Fresh is 200k in 2000, it is 240k in 2001 and so on and if the sales value of Super Banana plant is 200k in 2000, it is 220k in 2001 and so on.

It is also known that neither of the ripening plants made a loss in any of the years.

Profit = Sales – Expenses

Profitability (in %) = Profit / Sales × 100

If the profit earned by company Super Banana plant in 2002 was Rs. 12 crores, then in how many years from 2001 to 2005, did the sales of company Super Banana plant increase by more than 10% when compared to the previous year?

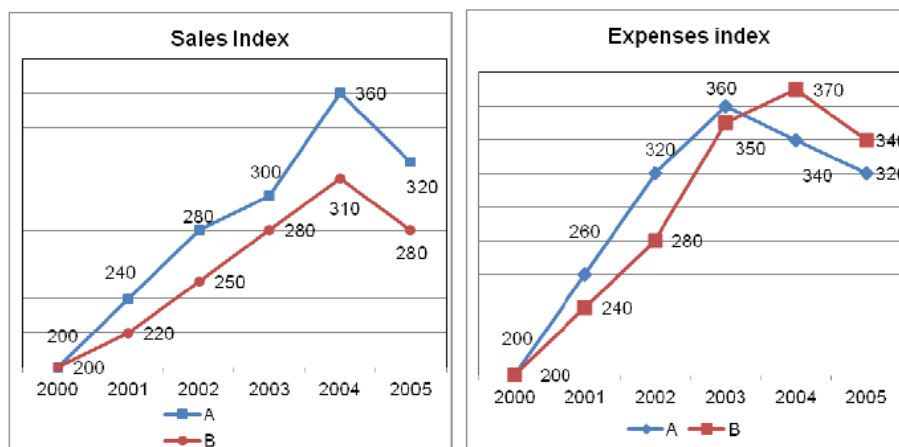
- A) 0 B) 1 C) 2 D) 3

Explanation:- No calculation is required here. We can directly find the years in which the sales increased by more than 10%, from the indexed value i.e., in 2002, 2003 and 2004.

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

Question No. : 45

The following line graphs give the values of sales and expenses for two banana ripening plants, Healthy Farm Fresh and Super Banana plant 2000 to 2005. The values of sales and expenses of both the companies are each indexed to 200 in the year 2000.



In the above graph, the values of the sales and expenses of company Healthy Farm Fresh are indexed to the corresponding values in the year 2000 and same is the case with Super Banana plant. For example, if the sales value of Healthy Farm Fresh is 200k in 2000, it is 240k in 2001 and so on and if the sales value of Super Banana plant is 200k in 2000, it is 220k in 2001 and so on.

It is also known that neither of the ripening plants made a loss in any of the years.

$$\text{Profit} = \text{Sales} - \text{Expenses}$$

$$\text{Profitability (in \%)} = \text{Profit} / \text{Sales} \times 100$$

If in the year 2004, the profits earned by companies Healthy Farm Fresh and Super Banana plant were in the ratio 5 : 12 and the expenses of the companies were in the ratio 1 : 2, then what was the ratio of their sales values?

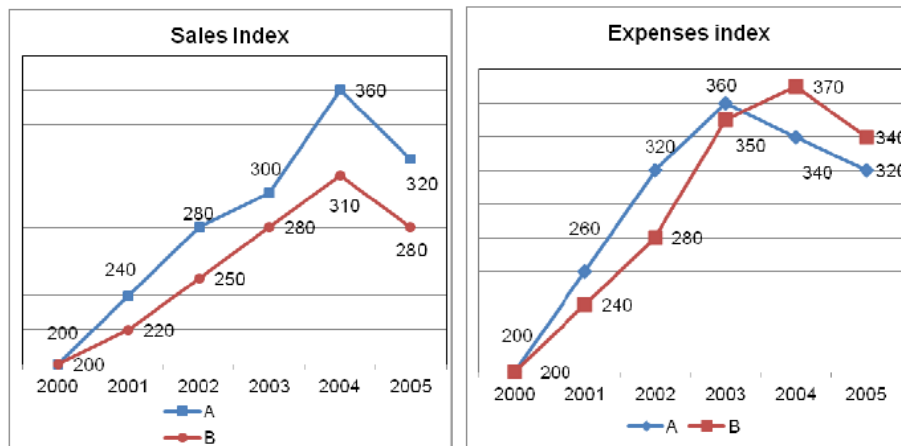
- A) 5 : 12 B) 7 : 5 C) 5 : 7 D) Cannot be determined

Explanation:- As the ratios but not the values of profits and expenses are given, we cannot determine the ratio of their sales.

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

Question No. : 46

The following line graphs give the values of sales and expenses for two banana ripening plants, Healthy Farm Fresh and Super Banana plant 2000 to 2005. The values of sales and expenses of both the companies are each indexed to 200 in the year 2000.



In the above graph, the values of the sales and expenses of company Healthy Farm Fresh are indexed to the corresponding values in the year 2000 and same is the case with Super Banana plant. For example, if the sales value of Healthy Farm Fresh is 200k in 2000, it is 240k in 2001 and so on and if the sales value of Super Banana plant is 200k in 2000, it is 220k in 2001 and so on.

It is also known that neither of the ripening plants made a loss in any of the years.

$$\text{Profit} = \text{Sales} - \text{Expenses}$$

$$\text{Profitability (in \%)} = \text{Profit} / \text{Sales} \times 100$$

In at least how many of the given years did company Super Banana plant have a profitability of more than 10%? (in numerical value)

A) 3 B) C) D)

Explanation:- As company Super Banana plant made profits in each of the given year in the year 2003, its sales must be more than the expenses.

$\therefore 280 \text{ (Sales)} > 350 \text{ (Expenses)}$ Or $\text{Sales} > 1.25 \text{ (Expenses)}$

\therefore The values of sales and expenses of company assuming sales as (1.25) expenses (least possible values) in terms of expenses is

Year	Sales	Expenses	Profit
2000	250	200	50
2001	275	240	35
2002	312.5	280	32.5
2003	350	350	0
2004	387.5	370	17.5
2005	350	340	10

\therefore At least in 2000, 2001 and 2002, the profitability of company Super Banana Plant was more than 10%.

DIRECTIONS for the question: Study the table/s given below and answer the question that follows.

Question No. : 47

Brain tree school has organized a festival where 4 stalls - Selfie stall, Puppet stall, Snack stall & Tattoo stall has been displayed by teacher for students. Each student who has attended the festival has gone to at least one of the four stalls. Also following observations are made:

	No. of students of age more than 6 years who went to the stall	No. of students of age more than 3 years but not more than 6 years who went to the stall	No. of students of age not more than 3 years, who went to the stall	No. of people who went to only that stall
Selfie stall	50	110	90	100
Puppet stall	30	60	110	40
Snack stall	40	50	60	30
Tattoo stall	30	70	70	20

What is the minimum possible number of students who have attended the festival?

✓A) 350 B) 370 C) 300 D) 190

Explanation:- To minimize the total number of students, we will maximise the number of students who went to all 4 stalls. But 4th column of the table shows there are students who went to only one stall. Number of such students = $100 + 40 + 30 + 20 =$

190.

On selfie stall, $50 + 110 + 90 = 250$ students went. But 100 went to selfie stall only.
So, remaining $250 - 100 = 150$ students went to one more stall. So, we can say,

Number of students who went to at least one more stall	
Selfie	150
Puppet	160
Snack	120
Tattoo	150

As the maximum value in the above table is 160, so we can assume that the students who visited other stalls are among these 160 students. So the minimum number of students who attended the festival = $160 + 190 = 350$.

OR

To minimize the number of students we will maximise the number of students who went to all 4 stall. But 4th column of the table shows there are students who went to only are stall. No. of such student = $100 + 40 + 30 + 20 = 190 = x$ (say)

On selfie stall, $50 + 110 + 90 = 250$ students went. But 100 went to selfie stall only.

So, remaining $250 - 100 = 150$ students went to one more stall. So, we can say,

No. of students who went to at least one more stall	
Selfie	150
Puppet	160
Snack	120
Tattoo	150

We can assume $120 = y$ (say) students went to all stalls. (exactly 4 stall)

From the remaining, $20 = z$ (say) students went to exactly 3 stalls & $20 = (w, \text{say})$ 2. So, minimum = $x + y + z + w = 190 + 120 + 20 + 20 = 350$.

DIRECTIONS for the question: Study the table/s given below and answer the question that follows.

Question No. : 48

Brain tree school has organized a festival where 4 stalls - Selfie stall, Puppet stall, Snack stall & Tattoo stall has been displayed by teacher for students. Each student who has attended the festival has gone to at least one of the four stalls. Also following observations are made:

	No. of students of age more than 6 years who went to the stall	No. of students of age more than 3 years but not more than 6 years who went to the stall	No. of students of age not more than 3 years, who went to the stall	No. of people who went to only that stall
Selfie stall	50	110	90	100
Puppet stall	30	60	110	40
Snack stall	40	50	60	30
Tattoo stall	30	70	70	20

The number of students who went to all the 4 stalls is at most:

- A) 125 B) 130 C) 120 D) 140

Explanation:- To minimize the total number of students, we will maximise the number of students who went to all 4 stalls. But 4th column of the table shows there are students who went to only one stall. Number of such students = $100 + 40 + 30 + 20 = 190$.

On selfie stall, $50 + 110 + 90 = 250$ students went. But 100 went to selfie stall only.
So, remaining $250 - 100 = 150$ students went to one more stall. So, we can say,

Number of students who went to at least one more stall	
Selfie	150
Puppet	160
Snack	120
Tattoo	150

In the above table, the minimum value is 120. So we can say that these 120 students may have visited all the four stalls.

DIRECTIONS for the question: Study the table/s given below and answer the question that follows.

Question No. : 49

Brain tree school has organized a festival where 4 stalls - Selfie stall, Puppet stall, Snack stall & Tattoo stall has been displayed by teacher for students. Each student who has attended the festival has gone to at least one of the four stalls. Also following observations are made:

	No. of students of age more than 6 years who went to the stall	No. of students of age more than 3 years but not more than 6 years who went to the stall	No. of students of age not more than 3 years, who went to the stall	No. of people who went to only that stall
Selfie stall	50	110	90	100
Puppet stall	30	60	110	40
Snack stall	40	50	60	30
Tattoo stall	30	70	70	20

The number of students of age not more than 6 years, who attended the festival is at least:

- A) 150 B) 170 C) 210 D) 140

Explanation:-

To find the required number of students of age not more than 6 years, who attended the festival, we will assume that the 50 students who were more than 6 years of age would be the ones who went to exactly one stall. So the remaining 50 students who went to exactly one stall were of age ≤ 6 years. It means that $110 + 90 - 50 = 150$ students who went to selfie stall must have gone to some other stall. Similarly there are 160 students who went to Puppet stall must have gone to some other stall. The similar values for the next two stalls are 110 and 140 respectively. So the number of students of age not more than 6 years = $160 + 60 = 220$.

OR

Age ≤ 6 . We want to minimize number of student in this category. So, we have to assume that a maximum number of students in this age group went to all the 4 stalls.

From the given data it is obvious that of required age group, at least 50 must go to selfie stall & at least 10 must go to puppet stall. Now we have to maximize the number of students who goes to all four stalls. i.e. 110. Now from the remaining people, maximum number of who goes to students exactly 3 stalls = 20 & exactly, 2 stalls = $10 + 20 = 30$. Total students = $50 + 10 + 110 + 20 + 20 + 10 = 220$.

DIRECTIONS for the question: Study the table/s given below and answer the question that follows.

Question No. : 50

Brain tree school has organized a festival where 4 stalls - Selfie stall, Puppet stall, Snack stall & Tattoo stall has been displayed by teacher for students. Each student who has attended the festival has gone to at least one of the four stalls. Also following observations are made:

	No. of students of age more than 6 years who went to the stall	No. of students of age more than 3 years but not more than 6 years who went to the stall	No. of students of age not more than 3 years, who went to the stall	No. of people who went to only that stall
Selfie stall	50	110	90	100
Puppet stall	30	60	110	40
Snack stall	40	50	60	30
Tattoo stall	30	70	70	20

The number of students who went to exactly two of the four stalls is at the most

- A) 280 B) 340 C) 300 D) 290

Explanation:- Required value will be maximum when students go to exactly 2 stalls.

$$\text{Required value} = \frac{250 + 200 + 150 + 170 - 190}{2} = 290$$

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

Question No. : 51

There are 6 members – P, Q, R, S, T and U in a family. Out of them, three are gents and three ladies. There are two married couples and two people are unmarried. All of them read different newspapers as The Times of India, Indian Express, Hindustan Times, Business Herald, Nav Bharat Times and Tribune.

T, who reads Indian Express, is the mother in law of P who is the wife of R. S is the father of U and he does not read Times of India and Tribune. Q reads Nav Bharat Times and is the sister of U, who read Hindustan Times. R does not read Tribune.

How many sons T has? (in numerical value)

- A) 2 B) C) D)

Explanation:-

Persons	Gender	Newspaper	Married/Unmarried	Relation
P	Woman	Tribune	Married	Wife of R
Q	Woman	Nav Bharat Times	Unmarried	Sister of U
R	Man	The Times of India	Married	Husband of P
S	Man	Business Herald	Married	Father of U and Husband of T
T	Woman	Indian Express	Married	Wife of S
U	Man	Hindustan Times	Unmarried	Brother of Q

T has two sons: U and R.

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

Question No. : 52

There are 6 members – P, Q, R, S, T and U in a family. Out of them, three are gents and three ladies. There are two married couples and two people are unmarried. All of them read different newspapers as The Times of India, Indian Express, Hindustan Times, Business Herald, Nav Bharat Times and Tribune.

T, who reads Indian Express, is the mother in law of P who is the wife of R. S is the father of U and he does not read Times of India and Tribune. Q reads Nav Bharat Times and is the sister of U, who read Hindustan Times. R does not read Tribune.

Which of the following newspapers is read by P?

- A) Business Herald B) The Times of India C) Nav Bharat Times D) None of these

Explanation:-

Persons	Gender	Newspaper	Married/Unmarried	Relation
P	Woman	Tribune	Married	Wife of R
Q	Woman	Nav Bharat Times	Unmarried	Sister of U
R	Man	The Times of India	Married	Husband of P
S	Man	Business Herald	Married	Father of U and Husband of T
T	Woman	Indian Express	Married	Wife of S
U	Man	Hindustan Times	Unmarried	Brother of Q

P reads Tribune

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

Question No. : 53

There are 6 members – P, Q, R, S, T and U in a family. Out of them, three are gents and three ladies. There are two married couples and two people are unmarried. All of them read different newspapers as The Times of India, Indian Express, Hindustan Times, Business Herald, Nav Bharat Times and Tribune.

T, who reads Indian Express, is the mother in law of P who is the wife of R. S is the father of U and he does not read Times of India and Tribune. Q reads Nav Bharat Times and is the sister of U, who read Hindustan Times. R does not read Tribune.

How is U related to P?

- A) Son B) Daughter C) Brother D) None of these

Explanation:-

Persons	Gender	Newspaper	Married/Unmarried	Relation
P	Woman	Tribune	Married	Wife of R
Q	Woman	Nav Bharat Times	Unmarried	Sister of U
R	Man	The Times of India	Married	Husband of P
S	Man	Business Herald	Married	Father of U and Husband of T

T	Woman	Indian Express	Married	Wife of S
U	Man	Hindustan Times	Unmarried	Brother of Q

U is Brother – In - Law of P

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

Question No. : 54

There are 6 members – P, Q, R, S, T and U in a family. Out of them, three are gents and three ladies. There are two married couples and two people are unmarried. All of them read different newspapers as The Times of India, Indian Express, Hindustan Times, Business Herald, Nav Bharat Times and Tribune.

T, who reads Indian Express, is the mother in law of P who is the wife of R. S is the father of U and he does not read Times of India and Tribune. Q reads Nav Bharat Times and is the sister of U, who read Hindustan Times. R does not read Tribune.

Which of the following is one of the married couples?

- A) U Q B) T U C) S Q D) S T

Explanation:-

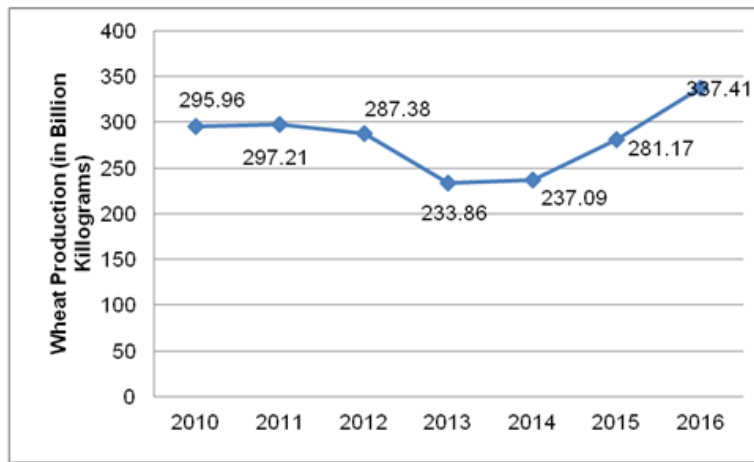
Persons	Gender	Newspaper	Married/Unmarried	Relation
P	Woman	Tribune	Married	Wife of R
Q	Woman	Nav Bharat Times	Unmarried	Sister of U
R	Man	The Times of India	Married	Husband of P
S	Man	Business Herald	Married	Father of U and Husband of T
T	Woman	Indian Express	Married	Wife of S
U	Man	Hindustan Times	Unmarried	Brother of Q

The two married couples are ST and RP.

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

Question No. : 55

The annual Wheat production (in billion kilograms) in country Joyland for the period 2010-2016 is shown in the line graph given below.



What is the approximate average annual wheat production (in million tonnes) in Joyland for the period 2010-2015?

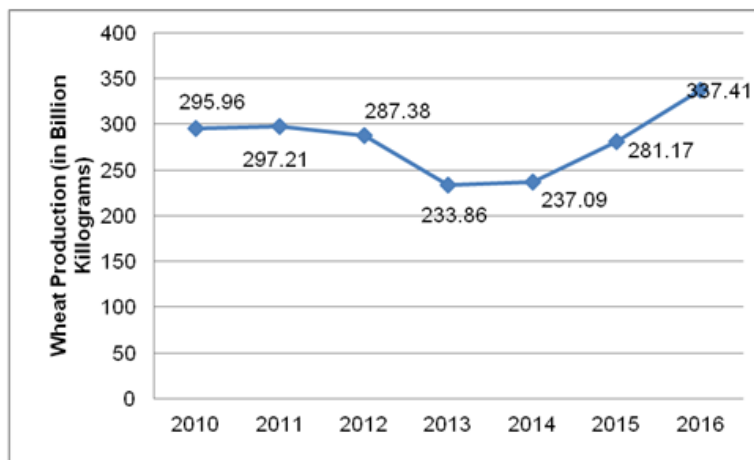
- A) 281.4 B) 326.5 ✓C) 272.1 D) 328.3

Explanation:- Average = $\frac{(295.96 + 297.21 + 287.38 + 233.86 + 237.09 + 281.17)}{6} = 272.11$

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

Question No. : 56

The annual Wheat production (in billion kilograms) in country Joyland for the period 2010-2016 is shown in the line graph given below.



The wheat production in Joyland in the year 2017 increases by 15% over the year 2016. What is the approximate compounded annual growth rate of wheat production in Joyland over the period 2014-2017?

- A) 19% B) 17% C) 16% ✓D) 18%

Explanation:- Wheat production in 2017 = $337.41 \times \frac{115}{100} = 388.02$ billion kgs

Let the required value be $x\%$

$$\therefore \frac{\text{Production in 2017}}{\text{Production in 2014}} = \left(\frac{100+x}{100}\right)^3$$

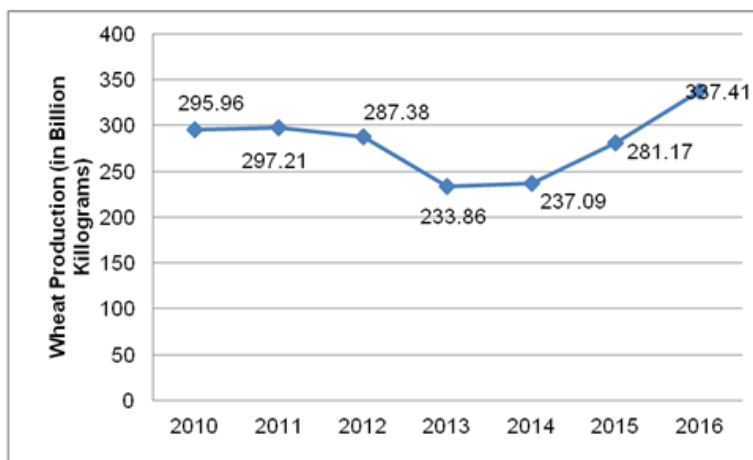
$$\Rightarrow \left(\frac{100+x}{100}\right)^3 = \frac{388.02}{237.09} = 1.64$$

$$\Rightarrow x = 17.85$$

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

Question No. : 57

The annual Wheat production (in billion kilograms) in country Joyland for the period 2010-2016 is shown in the line graph given below.



Out of the following years, which year has shown the highest percentage increase in wheat production in Joyland compared to the previous year?

- A) 2011 B) 2014 C) 2015 D) 2016

$$\text{For 2011, \% change} = \left(\frac{297.21 - 295.96}{295.96} \right) \times 100 = 0.422\%$$

$$\text{For 2014, \% change} = \left(\frac{237.09 - 233.86}{233.86} \right) \times 100 = 1.38\%$$

$$\text{For 2015, \% change} = \left(\frac{281.17 - 237.09}{237.09} \right) \times 100 = 18.59\%$$

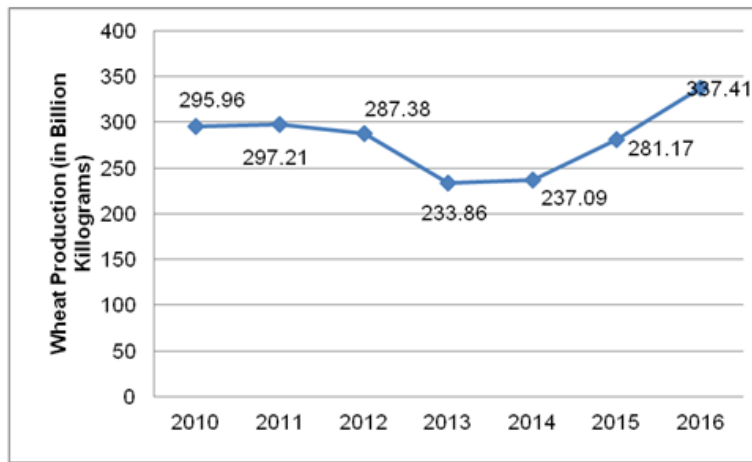
$$\text{For 2016, \% change} = \left(\frac{337.41 - 281.17}{281.17} \right) \times 100 = 20\%$$

Explanation:-

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

Question No. : 58

The annual Wheat production (in billion kilograms) in country Joyland for the period 2010-2016 is shown in the line graph given below.



What is the net percentage growth for the given period?

- ✓A) 14% B) 15% C) 10% D) 11%

Explanation:- Net percentage growth = $\left(\frac{337.41 - 295.96}{295.96} \right) \times 100 = 14\%$

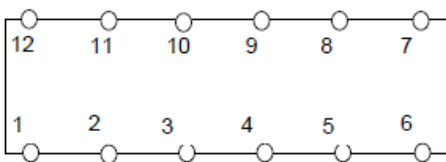
DIRECTIONS for the question: Read the information given below and answer the question that follows.

Question No. : 59

Twelve people Abhishek, Bachchan, Varun, Dhawan, Shahrukh, Khan, Ranbir, Kapoor, Deepika, Padukon, Priyanka and Chopra are sitting at a rectangular table which has 12 chairs numbered from 1 to 12 (as shown in the figure). Each person is sitting at one of the chair and no chair is empty.

It is also observed that

1. Khan, sitting at chair number 1, is diagonally opposite Varun who is sitting opposite Dhawan.
2. Shahrukh is sitting opposite Deepika who is the only person sitting between Abhishek and Chopra.
3. Bachchan is sitting opposite Priyanka who is the only person sitting between Varun and Padukon.



If Padukon is not sitting opposite Chopra, then who is sitting next to Khan?

- A) Abhishek B) Shahrukh C) Chopra ✓D) Either Shahrukh or Chopra

Explanation:- Statement 1 indicates that Varun and Dhawan are at seat number 7 and 6 respectively. Priyanka is the only person between Varun and Padukon while Bachchan is opposite Priyanka (Statement 3). Hence, Bachchan, Priyanka and Padukon must be at seat number 5, 8 and 9 respectively. From Statement 2 we get the following possible cases

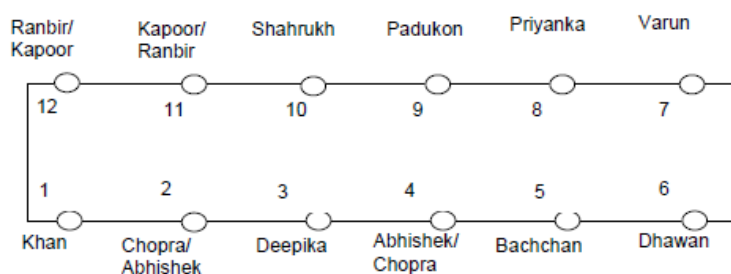


Figure 1 (Total $2 \times 2 = 4$ possible seating arrangements)

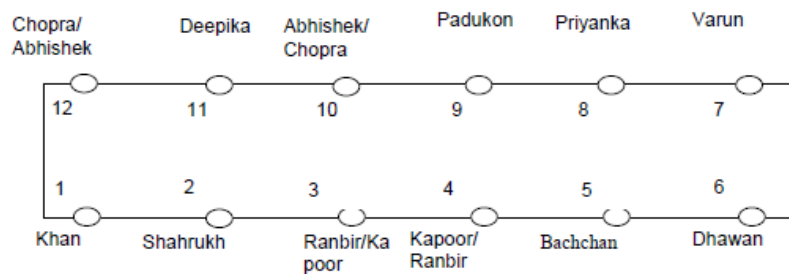


Figure 2 (Total $2 \times 2 = 4$ possible seating arrangements)

If Padukon is not sitting opposite Chopra, then either Chopra (from figure 1) or Shahrukh (from figure 2) is sitting next to Khan.

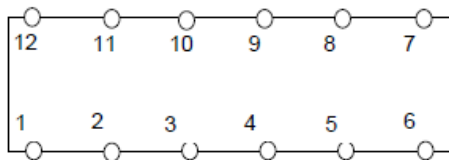
DIRECTIONS for the question: Read the information given below and answer the question that follows.

Question No. : 60

Twelve people Abhishek, Bachchan, Varun, Dhawan, Shahrukh, Khan, Ranbir, Kapoor, Deepika, Padukon, Priyanka and Chopra are sitting at a rectangular table which has 12 chairs numbered from 1 to 12 (as shown in the figure). Each person is sitting at one of the chair and no chair is empty.

It is also observed that

1. Khan, sitting at chair number 1, is diagonally opposite Varun who is sitting opposite Dhawan.
2. Shahrukh is sitting opposite Deepika who is the only person sitting between Abhishek and Chopra.
3. Bachchan is sitting opposite Priyanka who is the only person sitting between Varun and Padukon.



How many different seating arrangements are possible if Khan is not sitting next to Chopra? (write the ans key)

1. Two
2. Three
3. Four
4. Six

A) 4 B) C) D)

Explanation:- Statement 1 indicates that Varun and Dhawan are at seat number 7 and 6 respectively. Priyanka is the only person between Varun and Padukon while Bachchan is opposite Priyanka (Statement 3). Hence, Bachchan, Priyanka and Padukon must be at seat number 5, 8 and 9 respectively. From Statement 2 we get the following possible cases

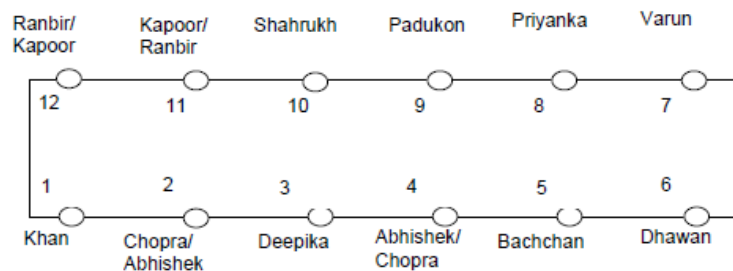


Figure 1 (Total $2 \times 2 = 4$ possible seating arrangements)

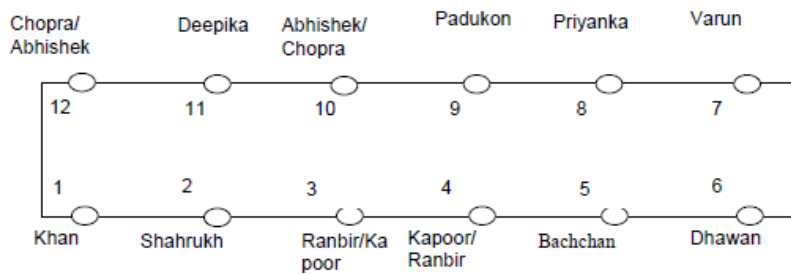


Figure 2 (Total $2 \times 2 = 4$ possible seating arrangements)

If Khan is not sitting next to Chopra, then there are six possible arrangements (2 from figure 1 and 4 from figure 2).

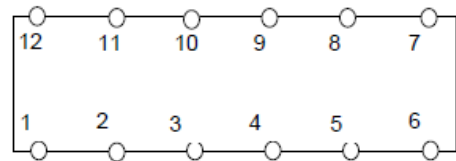
DIRECTIONS for the question: Read the information given below and answer the question that follows.

Question No. : 61

Twelve people Abhishek, Bachchan, Varun, Dhawan, Shahrukh, Khan, Ranbir, Kapoor, Deepika, Padukon, Priyanka and Chopra are sitting at a rectangular table which has 12 chairs numbered from 1 to 12 (as shown in the figure). Each person is sitting at one of the chair and no chair is empty.

It is also observed that

1. Khan, sitting at chair number 1, is diagonally opposite Varun who is sitting opposite Dhawan.
2. Shahrukh is sitting opposite Deepika who is the only person sitting between Abhishek and Chopra.
3. Bachchan is sitting opposite Priyanka who is the only person sitting between Varun and Padukon.



If Kapoor is sitting at one of the corner seats, then who is sitting opposite him?

- ✓ A) Khan B) Shahrukh C) Dhawan D) Bachchan

Explanation:- Statement 1 indicates that Varun and Dhawan are at seat number 7 and 6 respectively. Priyanka is the only person between Varun and Padukon while Bachchan is opposite Priyanka (Statement 3). Hence, Bachchan, Priyanka and Padukon must be at seat number 5, 8 and 9 respectively. From Statement 2 we get the following possible cases

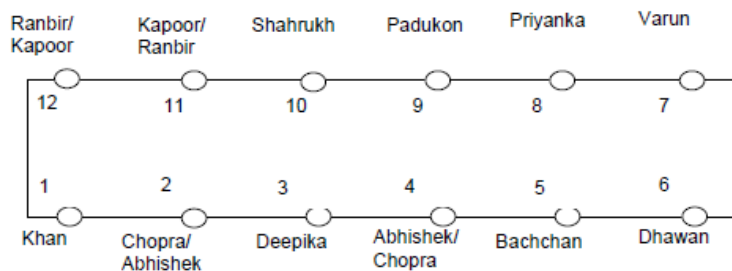


Figure 1 (Total $2 \times 2 = 4$ possible seating arrangements)

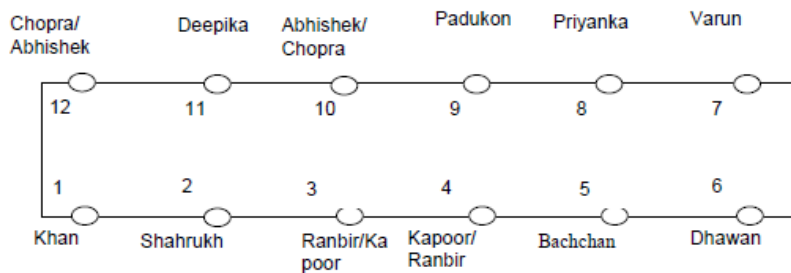


Figure 2 (Total $2 \times 2 = 4$ possible seating arrangements)

Khan, Varun and Dhawan occupy three of the four corner seats and it is known that Varun is sitting opposite Dhawan. Hence, Kapoor can only sit opposite Khan. This can also be seen from figure 1.

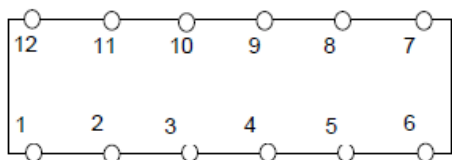
DIRECTIONS for the question: Read the information given below and answer the question that follows.

Question No. : 62

Twelve people Abhishek, Bachchan, Varun, Dhawan, Shahrukh, Khan, Ranbir, Kapoor, Deepika, Padukon, Priyanka and Chopra are sitting at a rectangular table which has 12 chairs numbered from 1 to 12 (as shown in the figure). Each person is sitting at one of the chair and no chair is empty.

It is also observed that

1. Khan, sitting at chair number 1, is diagonally opposite Varun who is sitting opposite Dhawan.
2. Shahrukh is sitting opposite Deepika who is the only person sitting between Abhishek and Chopra.
3. Bachchan is sitting opposite Priyanka who is the only person sitting between Varun and Padukon.



If Shahrukh is sitting next to Ranbir, how many seating arrangements are possible? (in numerical value)

- A) 4 B) C) D)

Explanation:- Statement 1 indicates that Varun and Dhawan are at seat number 7 and 6 respectively. Priyanka is the only person between Varun and Padukon while Bachchan is opposite Priyanka (Statement 3). Hence, Bachchan, Priyanka and Padukon must be at seat number 5, 8 and 9 respectively. From Statement 2 we get the following possible cases

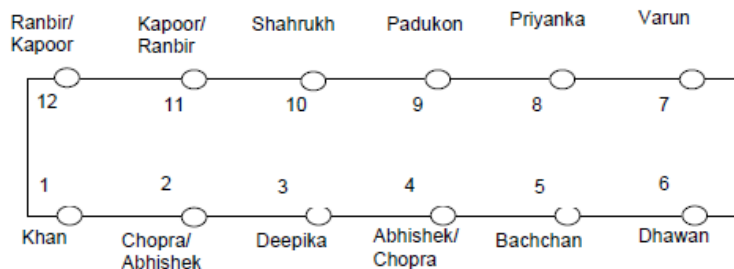


Figure 1 (Total $2 \times 2 = 4$ possible seating arrangements)

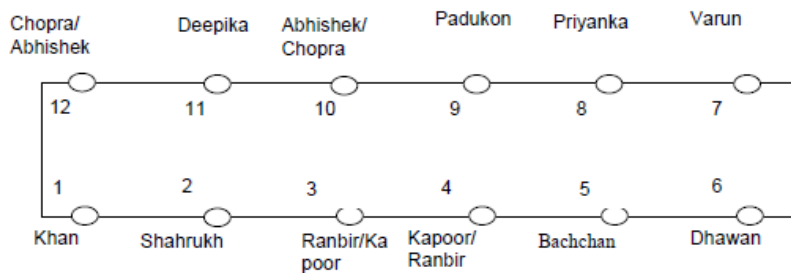


Figure 2 (Total $2 \times 2 = 4$ possible seating arrangements)

It can be inferred from two figures that if Shahrukh is sitting next to Ranbir, 4 seating arrangements are possible.

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

Question No. : 63

Eight floors in a building (from 1 to 8) are occupied by persons Aala, Bala, Cala, Dala, Eala, Fala, Gala and Hala, with each person occupying a distinct floor. Further it is known that:

1. Aala lives 5 floors above Bala.
2. Hala lives on the only floor between Cala and Eala.
3. Dala and Fala live on adjacent floors.
4. Bala does not live on the 1st floor.

How many different values of difference between the floor numbers of Cala and Dala are possible? (in numerical value)

- A) 5 B) C) D)

Explanation:- According to Statement 1, Bala can only live on the 2nd or the 3rd floor (Statement 4 says that Bala does not live on 1st floor).

But if Bala lives on the 2nd floor and hence Aala on the 7th, is not possible to fit in the floors for Dala, Fala, Hala, Cala and Eala (see Statements 2 and 3).

Hence Bala and Aala must live on 3rd and 8th floor respectively.

Hala, Cala and Eala live on 3 adjacent floors, so they must live on floors between Bala and Aala.

Subsequently as Dala and Fala are also on adjacent floors, they must live on 1st and 2nd floor (not necessarily in that order).

Some of the possible distributions are:

Floor	1	2	3	4	5	6	7	8
		D	F	B	G	E	H	C
		D	F	B	C	H	E	G
Person	F	D	B	E	H	C	G	A
	F	D	B	G	C	H	E	A

It can be seen that Dala will live on either the 1st or the 2nd floor.

Also, Cala's floor would be one of 4th, 5th, 6th or 7th. So the possible values of difference: 6, 5, 4, 3, 2. Total possible values of difference = 5

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

Question No. : 64

Six beads, each of different variety, are equally distributed among three girls Riya, Rekha and Risha. The beads are of variety

Acrylic, Crystal, Bugle, Glass, Spacer and Pearl. All the girls make three Statements each. All the Statements are true except Statement 3 made by two of the girls.

Riya	Statement 1 : I don't have the spacer bead.
	Statement 2 : I have the crystal bead.
	Statement 3 : Risha does not have the glass bead
Rekha	Statement 1 : I don't have the pearl bead
	Statement 2 : I have the spacer bead
	Statement 3 : Riya does not have the acrylic bead
Risha	Statement 1 : I don't have the bugle bead
	Statement 2 : I have the pearl bead
	Statement 3 : Rekha does not have the acrylic bead

Who speaks the truth in all the three statements?

- A) Riya B) Rekha C) Risha D) Cannot be determined

Explanation:- If Statement III made by Rekha and Risha are not true then in that case both Riya and Rekha will be having the acrylic bead which is not possible.

Hence, Riya's third Statement is definitely not true.

If we assume that Rekha's 3rd Statement is also not true (and hence Risha's is true), the arrangement will be:

Riya	Rekha	Risha
crystal, acrylic	spacer, bugle	glass, pearl

If we assume that Risha's 3rd Statement is not true (and hence Rekha's is true), the arrangement will be:

Riya	Rekha	Risha
crystal, bugle	spacer, acrylic	glass, pearl

Hence, it cannot be determined.

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

Question No. : 65

A book rack contains four novels of different genres, mystery, horror, comedy and thriller. The novels are written by Raja, Ram, Mohan and Rai and published by Babbu, Meshi, Sanjeev and Pawan, not necessarily in the same order. The horror novel is published by Meshi and the thriller novel is written by Mohan. Each novel is written by a different author and published by a different publisher. It is also known that Raja and Ram get their books published by Babbu or Meshi only.

If the mystery novel is written by Rai, then who can be the publisher of the comedy novel?

- A) Babbu or Meshi B) Only Babbu C) Babbu or Sanjeev D) Babbu or Sanjeev or Pawan

Explanation:- If the mystery novel is written by Rai, then the arrangement looks like:

Genre	Mystery	Horror	Comedy	Thriller
Publisher	Sanjeev/ Pawan	Meshi	Babbu	Pawan/Sanjeev

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

Question No. : 66

A book rack contains four novels of different genres, mystery, horror, comedy and thriller. The novels are written by Raja, Ram, Mohan and Rai and published by Babbu, Meshi, Sanjeev and Pawan, not necessarily in the same order. The horror novel is published by Meshi and the thriller novel is written by Mohan. Each novel is written by a different author and published by a different publisher. It is also known that Raja and Ram get their books published by Babbu or Meshi only.

How many combinations of publisher and author are possible for the mystery novel? (in numerical value)

- A) 4 B) C) D)

Explanation:- The author of the mystery novel can be Raja or Ram or Rai.
If the author is either Raja or Ram then the publisher can be Babbu only.
If the author is Rai then the publisher can be either Sanjeev or Pawan.

Section : Quantitative Ability

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

Question No. : 67

Find the digit at unit place of $(327)^{448} \times (78)^{664}$. (in numerical value)

- A) 6 B) C) D)

Explanation:- Cycle of 7 for unit place is 7, 9, 3, 1 and Cycle of 8 for unit place is 8, 4, 2, 6. So cyclicity is 4. Since 448 and 664 are exactly divisible by 4, so, digit at unit place is $1 \times 6 = 6$.

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

Question No. : 68

A 14-digit number has all 5's. Find the remainder when the number is divided by 74.

- A) 1 B) 55 C) 73 D) None of these

Explanation:- Any number of the form aaa , where a is a single digit number is always divisible by $111 = 3 \times 37$. So, 555 is divisible by 37. Hence, the number formed by repeating the digit 5, 12 times (multiple of 3) is divisible by 37.

Hence the remainder $555 \text{ ----- } 14 \text{ times} = 100 \frac{(555 \text{ ----- } 5)}{12 \text{ times}} (\text{say } x) + 55_x$ is divisible by 37 as well as by 2 i.e. by 74.
Hence the required remainder = remainder of 55 divided by 74 = 55.

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

Question No. : 69

Both roots of the quadratic equation $x^2 - 33x + k = 0$ are prime. Find the possible value of k .

- A) 95 B) 33 C) -62 D) None of these

Explanation:- Let a, b be 2 prime roots of equation. Sum of roots = $a + b = 33$. Since 33 is odd & sum of two primes. So, one of the primes is 2 and the other is 31. Thus there is exactly one possible value of $k = 2 \times 31 = 62$. So, answer is 4th option.

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

Question No. : 70

If July of any year has five Sundays, which of the following must occur 5 times in August of the same year?

- ✓A) Wednesday B) Thursday C) Tuesday D) Friday

Explanation:- Since July has $31 = 4 \times 7 + 3$ days, Sunday must be one of the last three days of July. So, Wednesday must be one of the first 3 days of August which also has 31 days. So, Wednesday must occur 5 times in August. So, answer is 1st option.

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

Question No. : 71

ABC10
+ABC12
123422 for digits A, B, C above addition holds good. Find $A + B + C$. (in numerical value)

- A) 14 B) C) D)

Explanation:- Since $ABC10 + ABC12 = 123422 \Rightarrow (ABC \times 100) + 10 + (ABC \times 100) + 12 = 123400 + 22 \Rightarrow 2(ABC) = 1234$

$\Rightarrow ABC = 617$. So, $A + B + C = 14$

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

Question No. : 72

A cuboid is of dimensions $45\text{m} \times 30\text{m} \times 24\text{m}$. A new solid is formed by removing a cube of 9m side from each corner of this cuboid. What percent of the volume is removed?

- A) 0% ✓B) 18% C) 54% D) 9%

Explanation:- The total volume of 8 corner small cubes = $8 \times 9^3 \text{ m}^3$. Volume of original cuboid = $45 \times 30 \times 24 \text{ m}^3$
So, volume reduced by = $\frac{8 \times 9^3}{45 \times 30 \times 24} = 18\%$
So, answer is 18%

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

Question No. : 73

Let $g(x)$ be a linear function for which $g(5) - g(2) = 12$. Find $g(7.5) - g(3.5)$.

- ✓A) 16 B) 0 C) 12 D) Cannot be determined

Explanation:- Let $g(x) = ax + b$

$$g(5) - g(2) = (5a + b) - (2a + b) \Rightarrow 3a = 12$$

$$\text{So, } a = 4$$

$$\text{Now } g(7.5) - g(3.5) = (7.5a + b) - (3.5a + b) = 4a = 4 \times 4 = 16$$

So, answer is 1st option.

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

Question No. : 74

Shruti & Monika are two friends. One day they realized that the two digits in Shruti's age are the same as the digits in Monika's age, but in reverse order. In 5 years, Shruti will be twice as old as Monika will be then. Find sum of their ages. (in numerical value)

- A) 44 B) C) D)

Explanation:- Let Shruti's age = $10a + b$

Then Monika's age = $10b + a$

Therefore $10a + b + 5 = 2(10b + a + 5)$

$$\Rightarrow 8a = 19b + 5 = 16b + 8 + (3b - 3)$$

$$\Rightarrow 8a = 8(2b + 1) + 3(b - 1)$$

To satisfy above equation, $b - 1$ should also be a multiple of 8. But b is a digit

So, $b = 9$ or 1

But a is also a digit. So, $b = 9$ is rejected.

$$\Rightarrow a = 3 \text{ \& } b = 1$$

\therefore Shruti & Monika's ages are 31 and 13 respectively. Their sum = 44.

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

Question No. : 75

A digital watch displays hours and minutes with A.M. & P.M. What is the largest possible sum of all the digits in display? (in numerical value)

- A) 23 B) C) D)

Explanation:- The largest possible sum of the two digits representing the minutes is $5 + 9 = 14$. The largest sum of digits representing the hour is $0 + 9 = 9$. So, required sum = $14 + 9 = 23$

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

Question No. : 76

Mr. & Mrs. Harinder have 2 kids. When they get into car for a picnic, 2 persons sit in the front seats, and the other two sit in the back seats. Either Mr. Harinder or Mrs. Harinder must drive the car. How many seating arrangements are possible? (in numerical value)

- A) 12 B) C) D)

Explanation:- There are 2 options for driver's seat. Remaining 3 persons can be seated in $3!$ ways. Thus there are $2 \times 3! = 12$ ways.

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

Question No. : 77

For real numbers x & y , define $x \Delta y = (x + y)(x - y)$. Find $3 \Delta (4 \Delta 5) + (3 \Delta 4) \Delta 5$

- A) -144 B) 48 C) -9 D) -48

Explanation:- $4 \Delta 5 = (4 + 5)(4 - 5) = -9$
 $3 \Delta (-9) = (3 - 9)(3 + 9) = -72$
Also, $3 \Delta 4 = (3 + 4)(3 - 4) = -7$
 $(3 \Delta 4) \Delta 5 = (-7) \Delta 5 = (-7 + 5)(-7 - 5) = (-2)(-12) = 24$
Thus, $3 \Delta (4 \Delta 5) + (3 \Delta 4) \Delta 5 = -72 + 24 = -48$

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

Question No. : 78

The cost of 40 hens, 44 dogs and 50 goats is Rs. 392. The cost of 46 hens, 54 dogs and 60 goats is Rs. 466. If the cost of 109 hens, 140 goats and 125 dogs is Rs N, find N.

- A) 545.5 B) 2182 C) 1091 D) Cannot be determined

Explanation:- Let cost of 1 hen, 1 dog & 1 goat is h, d & g respectively.
 $40h + 44d + 50g = 392$ -----(1)
 $46h + 54d + 60g = 466$ -----(2)
Multiply (1) by x & (2) by y and add
 $109h + 125d + 140g = N$ -----(3)
Put $x(1) + y(2) = (3)$
 $40x + 46y = 109$
 $44x + 54y = 125$
Solving these 2 equations, we get $x = 1, y = 3/2$
Hence $N = 392 \times 1 + 466 \times 3/2 = 392 + 699 = 1091$

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

Question No. : 79

Rohit has a bag full of red and green balls. If 50% of the red balls were green, then there would be 50% more green balls than red balls. What percentage of the total balls is green?

- A) 20% B) 25% C) 60% D) 33.33%

Explanation:- Let number of red balls = x (after applying condition)

Then by given condition = number of green balls = $1.5x$

Total balls = $2.5x$

Original number of red balls = $2x$

Original number of green balls = $0.5x$

So, percentage of green balls = $\frac{0.5x}{2.5x} \times 100 = 20\%$

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

Question No. : 80

Riya borrows Rs. 45000 from Siya at 10% Compound Interest for 3 years. Later she settled the committed amount in three annual installments which form an A.P. She ends up paying Rs. 54000 totally. How much does she pay in 1st year (in Rs.)?

A) 18000 B) 19500 C) 16500 D) None of these

Explanation:- Let installments be $a - d, a, a + d$. So $a - d + a + a + d = 54000$

$$\Rightarrow a = 18000$$

The payment at the end of year 2 = 18000

Borrowed amount = 45000

Amount outstanding at the end of year 1 = $45000 \times 1.1 - (18000 - d) = 31500 + d$

Amount outstanding at the end of year 2 = $(31500 + d) (1.1) - 18000 = 16650 + 1.1d$

Similarly amount outstanding at the end of year 3 = $(16650 + 1.1d) (1.1) = (18000 + d)$

$$\Rightarrow d = -1500$$

So, installments paid are 19500, 18000, 16500. So, answer is 19500.

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

Question No. : 81

$\frac{1}{\log_x 2} + \frac{1}{\log_x 4} = \frac{1}{\log_{\sqrt{6}} 0.25}$ where $x > 0$, then x is

A) $\frac{1}{6^6}$ B) $\frac{-1}{6^6}$ C) $\frac{1}{6^3}$ D) $\frac{-1}{6^3}$

Explanation:- Given equation can be written as

$$\log_2 x + \log_4 x = \log_{0.25} \sqrt{6}$$

$$\begin{aligned} \Rightarrow \log_2 x + \frac{\log_2 x}{\log_2 4} &= \log_{0.25} \sqrt{6} \\ \Rightarrow \log_2 x + \frac{\log_2 x}{2} &= \log_{0.25} \sqrt{6} \\ \Rightarrow \frac{3}{2} \log_2 x &= \frac{\log_2 6^{1/2}}{\log_2 0.25} \\ \Rightarrow \frac{3}{2} \log_2 x &= \frac{1}{2} \frac{\log_2 6}{-\log_2 4} \\ \Rightarrow 3 \log_2 x &= \frac{\log_2 6}{-2} \\ \Rightarrow \log_2 x &= \frac{-1}{6} \log_2 6 \\ \Rightarrow x &= 6^{-\frac{1}{6}} \end{aligned}$$

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

Question No. : 82

P and Q work together and finish a work in 12 days. If P worked half as efficiently as he usually does and Q works thrice as efficiently as he usually does, the work gets completed in 9 days. In how many days P can complete the same work independently?

- A) 27 B) 24 C) 18 D) 12

Explanation:- Let P and Q take x and y days respectively to complete the work.

$$\Rightarrow \text{P's one day work} = 1/x$$

$$\Rightarrow \text{Q's one day work} = 1/y$$

According to given conditions,

$$\frac{1}{x} + \frac{1}{y} = \frac{1}{12}$$

$$\frac{1}{2x} + \frac{3}{y} = \frac{1}{9}$$

By solving, x = 18 days, y = 36 days

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

Question No. : 83

The sum of 3 natural numbers is 16. Find their maximum product. (in numerical value)

1. 125 2. $\left(\frac{16}{3}\right)^3$ 3. 150 4. 180

- A) 150 B) C) D)

Explanation:- Let the 3 natural numbers be a, b & c.

We know that $\overline{a+b+c} = 16$.

We also know product will be maximum if numbers are closest. Should $a = b = c = \frac{16}{3}$?

No, because a, b & c should be natural numbers. So, closest natural numbers will be 5, 5, 6.

Thus product = $5 \times 5 \times 6 = 150$.

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

Question No. : 84

Aman buys 20 bananas and sells 16 of them at the cost price of 20 bananas. What is his loss/profit%?

- ✓A) Profit, 25% B) Loss, 25% C) Profit 20% D) Loss, 20%

Explanation:- Let C.P. of each banana = 1 Re ∴total C.P = Rs. 20.

He sells 16 bananas for Rs. 20.

So, he will sell 20 bananas for Rs. $\frac{20}{16} \times 20 = 25$ Rs.

So, profit % = $\frac{25 - 20}{20} \times 100 = 25\%$

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

Question No. : 85

Vandana is going to be four years on 29th February 2016. When she was born, it was a Sunday. If she lives up to 101 years, how many birthdays would she celebrate on Sunday (Ignoring the day, she was born)? (in numerical value)

- A) 4 B) C) D)

Explanation:- She was born on 29th February 2012

February 29th 2012 = Sunday

February 28th 2012 = Saturday

February 28th 2013 = Monday (2 odd days)

February 28th 2014 = Tuesday

February 28th 2015 = Wednesday

February 28th 2016 = Thursday

February 29th 2016 = Friday

In span of 4 years, there are 5 odd days.

2020 birthdays = 1 ≡ 3 odd days

2024 birthdays = 8 ≡ 1

2028 birthdays = 6 odd days

2032 birthdays = 11 ≡ 4 odd days

2036 birthdays = 9 ≡ 2 odd days

2040 birthdays = 7 ≡ 0 odd days.

So, after 28 years, she would have a birthday on Sunday.

So, she will have birthday on Sunday in 2040, 2068, 2096.

But answer is not 3. Because 2100 is not a leap year after 2096, her birthday will be in 2104 (i.e. 9 odd days) & in 2108, no. of odd days = 9 + 5 = 14 = 0 odd days

Her next birthday will be in 2108.

So, her 4 birthdays will come on Sundays

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

Question No. : 86

Find the number of ways of choosing 4 cards from pack of 52 playing cards at random, such that all four cards belong to same

suits and none of the cards is a diamond card. (in numerical value)

A) 2145 B) C) D)

Explanation:- There are four suits diamond, heart, club & spade and there are 13 cards of each suit. But as per the condition of the question, no card should be of diamonds. That implies we can take all the four cards to be of any suit but diamonds. Therefore there are ${}^{13}C_4$ ways of choosing four cards of each suit and there are three eligible suits. So, answer is ${}^{13}C_4 + {}^{13}C_4 + {}^{13}C_4 = 2145$

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

Question No. : 87

For a series $t_1, t_2, t_3, \dots; t_n = n(n + 3)$. Find S_n

✓A) $\frac{n(n+1)(n+5)}{3}$ B) $\frac{n(n+1)(2n+1)}{6}$ C) $\frac{n(n+2)(n+5)}{6}$ D) $\frac{n(n+1)(n+5)}{6}$

Explanation:- Go by value putting

$$t_1 = 1(1 + 3) = 4$$

$$t_2 = 2(2 + 3) = 10$$

$$S_2 = t_1 + t_2 = 4 + 10 = 14. \text{ Put } n = 2 \text{ in each option.}$$

$$\text{So, 1}^{\text{st}} \text{ option} \rightarrow \frac{2 \times 3 \times 7}{3} = 14$$

$$\text{So, 2}^{\text{nd}} \text{ option} \rightarrow \frac{2 \times 3 \times 5}{6} = 5, \text{ rejected}$$

$$\text{So, 3}^{\text{rd}} \text{ option} \rightarrow \frac{2 \times 4 \times 7}{6} = \frac{28}{3}, \text{ rejected}$$

$$\text{So, 4}^{\text{th}} \text{ option} \rightarrow \frac{2 \times 3 \times 7}{6} = 7 \text{ rejected}$$

So, 1st option is the answer.

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

Question No. : 88

Line through the points (-2, 6) & (4, 8) is perpendicular to the line through the points (8, 12) and (x, 24). Find the value of x. (in numerical value)

A) 4 B) C) D)

$$\text{Slope of line through the points } (-2, 6) \text{ and } (4, 8) \text{ is } \frac{8-6}{4-(-2)} = \frac{2}{6} = \frac{1}{3} = m_1 \text{ (say)}$$

$$\text{Slope of line through } (8, 12) \text{ and } (x, 24) \text{ is } \frac{24-12}{x-8} = \frac{12}{x-8} = m_2 \text{ (say)}$$

Explanation:- Since 2 lines are perpendicular, $m_1 m_2 = -1$ gives $\frac{1}{3} \times \frac{12}{x-8} = -1 \Rightarrow x = 4$.

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

Question No. : 89

x is a perfect square and is a factor of $1! \times 2! \times 3! \dots 8! \times 9!$. Find number of possible values of x. (in numerical value)

A) 672 B) C) D)

Explanation:- $1! \times 2! \times 3! \dots 8! \times 9! = 1^9 \times 2^8 \times 3^7 \times 4^6 \times 5^5 \times 6^4 \times 7^3 \times 8^2 \times 9 = 2^{30} \times 3^{13} \times 5^5 \times 7^3 = N(\text{say})$

x is a divisor of N & is a perfect square.

$$\text{So, } x = 2^{2a} \times 3^{2b} \times 5^{2c} \times 7^{2d}.$$

With $0 \leq 2a \leq 30$; $0 \leq 2b \leq 13$; $0 \leq 2c \leq 5$; $0 \leq 2d \leq 3$.

Thus there are $16 \times 7 \times 3 \times 2 = 672$ such numbers.

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

Question No. : 90

If $x = 27 \sqrt[4]{9} \sqrt[3]{9}$, find $\log_3 x$.

- A) $8\frac{1}{2}$ B) $4\frac{1}{6}$ C) 1 D) 0

Explanation:- $\log_3 x = \log_3 (27 \times \sqrt[4]{9} \sqrt[3]{9}) = \log_3 (3^3 \times 3^{2/2} \times 3^{2/3}) = \log_3 3^{25/6} = \frac{25}{6} = 4\frac{1}{6}$

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

Question No. : 91

At what time between 7 & 8'o clock, minute and hour hand of a clock will form an angle of 84° ?

- A) 7 : 20 & 7 : 50 B) 7 : 23 & 7 : 53 C) 7 : 21 & 7 : 49 D) 7 : 20 & 7 : 53

Explanation:- Let the time be 7 : x .

$$\text{So, } \frac{210 \pm 84}{11/2} = x$$

$$\Rightarrow \frac{11}{2}x = 294 \text{ or } 126$$

$$\Rightarrow x = \frac{588}{11} \text{ or } \frac{252}{11}$$

$\Rightarrow x = 53 \text{ or } 23 \text{ approx.}$

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

Question No. : 92

Deepak has Rs. 10,000 to invest. He invests Rs. 4000 at 5% and Rs. 3500 at 4%. In order to have Rs. 500 per annum as income, he must invest the remainder at

- A) 6% B) 6.1% C) 6.2% D) 6.4%

Explanation:- Let the required % is x

$$\text{Then } \frac{5}{100} \times 4000 + \frac{4}{100} \times 3500 + \frac{x}{100} \times 2500 = 500$$

$$\Rightarrow 25x = 160 \Rightarrow x = 6.4$$

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

Question No. : 93

Find $x + y + z$, where x, y, z are positive integers which satisfies the following equations. (in numerical value)

$$xy + zy - 81 = 0$$

$$xz + yz - 17 = 0$$

A) 18 B) C) D)

Explanation:- $z(x + y) = 17$

$$\Rightarrow z(x + y) = 1 \times 17 \text{ [}\because 17 \text{ has no other factor]}$$

Since x and y both are positive integers.

$$\Rightarrow x + y \neq 1$$

$$\text{So, } z = 1 \text{ and } x + y = 17$$

$$\Rightarrow x = 17 - y$$

$$\text{Put in } xy + zy = 81$$

$$(17 - y)y + y \cdot 1 = 81$$

$$\Rightarrow 17y - y^2 + y = 81$$

$$\Rightarrow y^2 - 18y + 81 = 0$$

$$\Rightarrow (y - 9)^2 = 0$$

$$\Rightarrow y = 9. \text{ So, } x = 17 - 9 = 8$$

$$\text{Hence } x + y + z = 8 + (9) + (1) = 18$$

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

Question No. : 94

Dilwale and Prem are at opposite ends of a 90 meter long road. They start to run the length of the road; one at the rate of 3 mts per second, the other at 2 mts per second. They run back and forth for 12 minutes. If we neglect the time in turning, find the number of times they pass each other. (in numerical value)

A) 20 B) C) D)

Explanation:- Faster runner comes back to his original position for the first time in $\frac{180}{3} = 60$ seconds.

Slower runner comes back to his original position for the first time in $\frac{180}{2} = 90$ seconds.

L.C.M (60, 90) = 180 sec. So, after 180 secs, they both will be back to their original points. So, after every 3 minutes, cycle will repeat.

$$\text{Time to 1st meeting point} = \frac{90 \times 1}{2 + 3} = 18 \text{ secs}$$

$$\text{Time to 2nd meeting point} = \frac{90 \times 3}{2 + 3} = 54 \text{ secs.}$$

$$\text{Time to 3rd meeting point} = \frac{90 \times 5}{2 + 3} = 90 \text{ secs.}$$

$$\text{Time to 4th meeting point} = \frac{90 \times 7}{2 + 3} = 126 \text{ secs.}$$

$$\text{Time to 5th meeting point} = \frac{90 \times 9}{2 + 3} = 162 \text{ secs.}$$

⇒ In first 3 mins, they will meet at 5 points. So, in 12 mins, they will meet $5 \times 4 = 20$ times.

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

Question No. : 95

Preet covered a distance of 100 kms on her first journey. On a later journey she travelled 600 kms while going 3 times as fast. If her new time is equal to x times the old time, find x. (in numerical value)

- A) 2 B) C) D)

Explanation:- Let t_1, t_2 and s be the old time, new time and old speed.

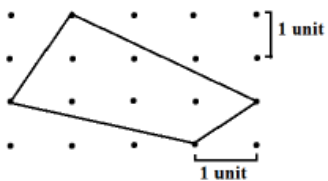
$$t_1 = \frac{100}{s}$$

$$t_2 = \frac{600}{3s} = \frac{200}{s} = 2t_1$$

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

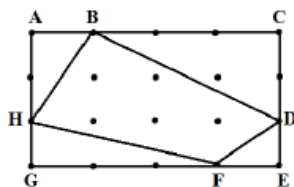
Question No. : 96

Suraj is playing a game. He has placed 20 nails on a rectangular board as shown in figure. Now he has taken a thread and stretched it over 4 pegs as shown forming a quadrilateral. Find its area.



- A) 5 sq. units B) 5.5 sq. units C) 6 sq. units D) 4.5 sq. units

Explanation:- Required area =



$$\begin{aligned} & \text{Area (ACEG)} - \text{Ar}(\Delta ABH) - \text{Ar}(\Delta BCD) - \text{Ar}(\Delta HGF) - \text{Ar}(\Delta DEF) \\ &= 3 \times 4 - 1/2 \times 2 \times 1 - 1/2 \times 3 \times 2 - 1/2 \times 1 \times 3 - 1/2 \times 1 \times 1 \\ &= 12 - 1 - 3 - 3/2 - 1/2 = 6 \text{ sq. units.} \end{aligned}$$

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

Question No. : 97

ab is a two digit positive number such that ab is divisible by a as well as b. Find sum of all possible values of ab. (in numerical value)

- A) 630 B) C) D)

Explanation:- According to question, $10a + b$ must be divisible by a & b .

$\Rightarrow b$ must be divisibly by a & $10a$ is divisible by b .

$$\Rightarrow b = ka, 10a = mb. \Rightarrow 10a = kam \Rightarrow km = 10 \Rightarrow k = 1, 2, 5$$

\Rightarrow thus the required nos. are 11, 22, 33 , 99, 12, 24, 36, 48, 15

So their sum = 630

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

Question No. : 98

Monika walked a certain distance at a constant speed. If she had gone $1/2$ km/hr faster, she would have walked the distance in $4/5$ of usual time. If she had gone $1/2$ km/hr slower, she would have been $2\frac{1}{2}$ hours longer on the road. Find the distance in km. (in numerical value)

- A) 15 B) C) D)

Explanation:- Let s km/hr & t hrs. be the usual speed & time respectively.
Since distance covered is always same.

$$\text{So, } st = \left(s + \frac{1}{2}\right) \frac{4}{5} t = \left(s - \frac{1}{2}\right) \left(t + \frac{5}{2}\right)$$

$$\text{By taking first two expressions, } s = \left(s + \frac{1}{2}\right) \frac{4}{5} \Rightarrow s = 2.$$

$$\text{Now by taking 1st \& 3rd expression, } st = \left(s - \frac{1}{2}\right) \left(t + \frac{5}{2}\right)$$

$$\Rightarrow 2t = \frac{3}{2} \left(t + \frac{5}{2}\right) \Rightarrow t = \frac{15}{2}$$

$$\Rightarrow \text{Distance} = st = 15 \text{ kms.}$$

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

Question No. : 99

Aaliya plans a profit of 10% on the selling price of an article and her expenses are 15% of sales. The rate of markup on an article is:

- A) 20% B) 25% C) 30% D) 33.33%

Explanation:- Let $S = S.P.$ & $C = C.P.$, $P = \text{Profit}$

$$S = C + 0.10S + 0.15S$$

$$\Rightarrow S = \frac{4}{3}C$$

$$\text{So, Markup \%} = \frac{4-3}{3} \times 100 = 33.33\%$$

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

Question No. : 100

Aman rolled 11 fair distinguishable dice. What is the probability that the product of the numbers on the top face is composite?

- A) $\frac{11}{2} \left(\frac{1}{6}\right)^{10}$ B) $\left(\frac{1}{12}\right)^{11}$ C) $1 - \frac{1}{2} \left(\frac{1}{6}\right)^{10}$ D) None of these

Explanation:- $P(\text{Product being composite}) = 1 - P(\text{Product being prime}) - P(\text{product being 1})$

Exactly 1 dice must have a prime face on the top, and the other 10 must have 1's. The prime dice can show 2, 3 or 5.

Thus the probability of a prime face on any one dice is $\frac{3}{6} = \frac{1}{2}$

$$\text{So, } P(\text{Product being prime}) = {}^{11}C_1 \times \left(\frac{1}{2}\right)^1 \times \left(\frac{1}{6}\right)^{10} = \frac{11}{2} \left(\frac{1}{6}\right)^{10}$$

$$\text{Also } P(\text{product being 1}) = \left(\frac{1}{6}\right)^{11}$$

$$\text{So, reqd. probability} = 1 - \frac{11}{2} \left(\frac{1}{6}\right)^{10} - \left(\frac{1}{6}\right)^{11}$$

So answer is None of these.