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VARC

LRDI

QA

Sec 1

Directions for questions (1to 6): The passage below is accompanied by a set of six questions. Choose the best answer to each question.

The concept of administrative accountability implies that administrators are obliged to give a satisfactory account of what they do and in what manner they exercise the powers conferred on them. Its main aim is to check arbitrariness in administrative actions and improve administrative efficiency and effectiveness.

Accountability is one of the three important pillars of a trust society, the other two being participation and transparency. Each of these three pillars is the reason of other and also follows each other. Further, normally each of these pillars exists along with each other. Thus

discussion of one necessarily follows references to others.

The foundation of this concept however is the democracy versus bureaucracy debate. This debate unfolds the argument that in a democracy citizens are at the central point of governance - which exists to safeguard the rights and liberties of the citizens. However, governance operates through bureaucracy which is an institution built on the premise that efficient and effective bureaucracy mandatorily needs some operational autonomy which creates a differential power structure and in turn erodes citizens' freedom up to a certain extent within a society. This debate further extends to the secrecy versus openness argument. The openness argument believes that transparency in administration is the key to good governance while the secrecy argument believes that excessive transparency makes the system so much prone to scrutiny that effectiveness and working itself becomes difficult and in some cases even impossible. Thus if we are for democracy and openness our truly democratic society should have no place for an institution like bureaucracy-which creates power differences and defeats the very reason for which it exists in a democracy.

But bureaucracy is the instrument of governance which if jettisoned would turn the modern society into a Stateless society, which could give birth to problems of even greater magnitude and character in the absence of any regulation enforcing structure, especially at the current levels of human evolution. Thus bureaucracy should necessarily exist and is hence accepted by the modern societies as necessary evil. But this evil cannot be let loose to exercise arbitrary discretion, it has to be put under checks and balances so that its negative tendencies are curtailed and beneficence is unleashed. Thus is born the concept of accountability and control along with its core challenge of balancing bureaucratic autonomy with citizens' rights and liberties.

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Q.1

Which of the following best describes the relationship between accountability, participation, and transparency?

1 **Two pillars standing on the foundation of accountability**

2 **Two roads leading to the destination of accountability**

3 **Three interlinked cycles with a trust society as its centre**

4 **Three interlinked sets within the universal set of governance**

Solution:
Correct Answer : 3
Genre: Political Science / Public Administration
Refer to the second paragraph. It describes the interlinking of the three pillars of a trust society. It doesn't mention that accountability is more important than the other two. So, we can eliminate options 1 and 2. Option 4 uses the word 'governance' which is slightly misleading as the passage talks about democratic governance. Option 3 talks about a trust society. So, option 3 is the correct answer.

Bookmark

Answer key/Solution

FeedBack

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Q.2

Which of the following can be inferred from the passage?

1 **Humans cannot do without bureaucracy.**

2 **Bureaucracy restricts human freedom.**

3 **Transparency makes it difficult for bureaucracy to work.**

4 **Bureaucracy leads to inordinate delays in execution.**

Bookmark

Answer key/Solution

Solution:
Correct Answer : 2
Genre: Political Science / Public Administration
Fourth paragraph states, "…especially at the current levels of human evolution." It suggests that humans cannot do without bureaucracy in their current level of evolution. They may one day be evolved enough to do without bureaucracy. So, option 1 can be eliminated. According to the passage it is 'excessive' transparency that is a problem so Option 3 can be ruled out. Option 4 contradicts the information provided by the penultimate paragraph and is false.

FeedBack

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Q.3

The author of the passage is least likely to agree with which of the following, with respect to bureaucracy?

1 **Bureaucracy is likely to continue its presence in a democracy in the foreseeable future.**

2 **It is important for a civilized society to have a system of checks and balance to control the masses.**

3 **In the absence of bureaucracy, political representatives would be under more pressure to reach their electorate on the ground.**

4 **The debate regarding democracy vs. bureaucracy poses some pertinent questions which are not easy to answer.**

Bookmark

Answer key/Solution

Solution:
Correct Answer : 2
Genre: Political Science / Public Administration
The author has advocated a system of checks and balances for bureaucracy and not for the masses. Options 1, 3, and 4 are points with which the author agrees in the passage. Refer to the last line of the passage. It ends with a question which encompasses options 1 and 4. Option 3 is the main point of the penultimate paragraph.

FeedBack

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Q.4

Why does the author mention the 'democracy versus bureaucracy debate' in the third paragraph?

1 **To trace the origin of why accountability is required**

2 **To put the issue of transparency and participation in perspective**

3 **To talk about an area similar to the relation between accountability and participation**

4 **To introduce the secrecy versus openness debate**

✖

Solution:
Correct Answer : 1
Your Answer : 2
Genre: Political Science / Public Administration
The author calls this debate 'the foundation of this (accountability) concept'. Only option 1 is consistent with it and is, therefore, the answer.

Bookmark

Answer key/Solution

FeedBack

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Q.5

The author ends the paragraph with a question. With which of the following answers is the author least likely to agree?

1 **Devise a system where the response time of the bureaucrat to a problem concerning the citizens on the ground is measured stringently.**

2 **Find a balance between the required levels of openness with adequate measures to ensure deserved secrecy.**

3 **Devise a governance system where the accountability factor doesn't interfere with the actual implementation of necessary policies.**

4 **Find a system of governance where transparency, unnecessary and oppressive, doesn't affect the functioning of bureaucracy.**

Solution:
Correct Answer : 4
Genre: Political Science / Public Administration
The author supports options 1, 2, and 3, directly and indirectly throughout the passage. Option 4 is a distorted one. The author doesn't call transparency either offensive or unnecessary. He criticizes only excessive transparency. So, option 4 is the correct answer.

Bookmark

Answer key/Solution

FeedBack

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Q.6

Which of the following is the core challenge of accountability?

1 **Striking a balance between secrecy and openness**

2 **Ensuring that citizens accept a somewhat restricted freedom caused by bureaucracy**

3 **Striking a balance between the freedom of the citizens and the powers of bureaucracy**

4 **Using the instruments of accountability to ensure operational autonomy of the bureaucracy**

Solution:
Correct Answer : 3
Genre: Political Science / Public Administration
The fifth paragraph of the passage talks about the 'primary issue'. The information of the paragraph supports option 3.

FeedBack

Bookmark

Answer key/Solution

Directions for questions (7 to 12): The passage below is accompanied by a set of six questions. Choose the best answer to each question.

ElonMusk has been pushing this line – Mars colonization as extinction insurance – for more than a decade now, but not without pushback. 'It's funny,' he told me. 'Not everyone loves humanity. Either explicitly or implicitly, some people seem to think that humans are a blight on the Earth's surface. They say things like, "Nature is so wonderful; things are always better in the countryside where there are no people around." But I'm not in that school,' he said. 'I think we have a duty to maintain the light of consciousness, to make sure it continues into the future.'

People have been likening light to consciousness since the days of Plato and his cave because, like light, consciousness illuminates. It makes the world manifest. It is, in the formulation of the great Carl Sagan, the Universe knowing itself. But the metaphor is not perfect. Unlike light, whose photons permeate the entire cosmos, human-grade consciousness appears to be rare in our Universe. It appears to be something akin to a single candle flame, flickering weakly in a vast and drafty void.

Musk told me he often thinks about the mysterious absence of intelligent life in the observable Universe. Humans have yet to undertake an exhaustive, or even vigorous, search for extraterrestrial intelligence, of course. But we have gone a great deal further than a casual glance skyward. For more than 50 years, we have trained radio telescopes on nearby stars, hoping to detect an electromagnetic signal, a beacon beamed across the abyss. We have searched for sentry probes in our solar system, and we have examined local stars for evidence of alien engineering. Soon, we will begin looking for synthetic pollutants in the atmospheres of distant planets, and asteroid belts with missing metals, which might suggest

mining activity.

The failure of these searches is mysterious, because human intelligence should not be special. Ever since the age of Copernicus, we have been told that we occupy a uniform Universe, a web-like structure stretching for tens of billions of light years, its every strand studded with starry discs, rich with planets and moons made from the same material as us. If nature obeys identical laws everywhere, then surely these vast reaches contain many cauldrons where energy is stirred into water and rock, until the three mix magically into life.

Life's early emergence on Earth, only half a billion years after the planet coalesced and cooled, suggests that microbes will arise wherever Earthlike conditions obtain. But even if every rocky planet were slick with unicellular slime, it wouldn't follow that intelligent life is ubiquitous. Evolution is endlessly inventive, but it seems to feel its way toward certain features, like wings and eyes, which evolved independently on several branches of life's tree. So far, technological intelligence has sprouted only from one twig. It's possible that we are merely the first in a great wave of species that will take up tool-making and language. But it's also possible that intelligence just isn't one of natural selection's preferred modules. We might think of ourselves as nature's pinnacle, the inevitable endpoint of evolution, but beings like us could be too rare to ever encounter one another. Or we could be the ultimate cosmic outliers, lone minds in a Universe that stretches to infinity.

Musk has a more sinister theory. 'The absence of any noticeable life may be an argument in favor of us being in a simulation,' he told me. 'Like when you're playing an adventure game, and you can see the stars in the background, but you can't ever get there. If it's not a simulation, then maybe we're in a lab and there's some advanced alien civilization that's just watching how we develop, out of curiosity, like mould in a *Petri* dish.'

It is true that no civilization can last long in this Universe if it stays confined to a single planet. The science of stellar evolution is complex, but we know that our mighty star, the ball of fusing hydrogen that anchors Earth and powers all of its life, will one day grow so large that its outer atmosphere will singe and sterilize our planet, and maybe even engulf it. This event is usually pegged for 5-10 billion years from now, and it tends to mark Armageddon in secular eschatologies. But our biosphere has little chance of surviving until then.

Q.7

In the penultimate paragraph, the author talks about an "alien civilization" to highlight that:

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1 ○ **may be the civilization existing on Earth is nothing but an object of fancy for these aliens.**

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2 ○ **may be the humans on earth are just simulations providing intellectual relief to the far more advanced aliens and the lack of any evidence in this must be ignored.**

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3 ○ **life on earth is to be studied like a mould in a *Petri* dish in order to understand the curiosity of the aliens.**

---

4 ○ **the lack of any corroborative evidence to support the existence of another intelligence enhances the possibility of its reverse being the case.**

Bookmark

Answer key/Solution

Solution:
Correct Answer : 4
Genre: Science and Technology / Current Affairs / Space Exploration
Option 1 uses the word 'fancy' to substitute 'curiosity' making it a distorted option. It also uses the word 'nothing' to highlight an extreme point of view which is not the intention of Musk. Option 2 talks about 'intellectual relief' and 'must be ignored' which make this a distorted option. The meaning of this option doesn't match that of the quotation by Musk. Option 3 is incorrect as it states a certainty, however, such a fact cannot be claimed. "Is to be" is not consistent with the tentative tone of the quotation under question. Option 4 is the main idea behind the quotation. Hence, it is the correct answer.

FeedBack

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Q.8

The author comes to the conclusion that:

1 **there are numerous dead, one planet civilizations.**

2 **holding on to a single planet will put an end to the existing civilization.**

3 **no civilization can exist forever and everything will ultimately come to an end.**

4 **switching to other planets is the only way to ensure that civilizations continue to exist.**

Bookmark

Answer key/Solution

Solution:
Correct Answer : 2
Genre: Science and Technology / Current Affairs / Space Exploration
The passage states- "It is true that no civilization can last long in this Universe if it stays confined to a single planet". Hence option 2 is the correct answer. Option 3 misses a vital point – "if it stays confined".

FeedBack

Directions for questions (7 to 12): The passage below is accompanied by a set of six questions. Choose the best answer to each question.

ElonMusk has been pushing this line – Mars colonization as extinction insurance – for more than a decade now, but not without pushback. 'It's funny,' he told me. 'Not everyone loves humanity. Either explicitly or implicitly, some people seem to think that humans are a blight on the Earth's surface. They say things like, "Nature is so wonderful; things are always better in the countryside where there are no people around." But I'm not in that school,' he said. 'I think we have a duty to maintain the light of consciousness, to make sure it continues into the future.'

People have been likening light to consciousness since the days of Plato and his cave because, like light, consciousness illuminates. It makes the world manifest. It is, in the formulation of the great Carl Sagan, the Universe knowing itself. But the metaphor is not perfect. Unlike light, whose photons permeate the entire cosmos, human-grade consciousness appears to be rare in our Universe. It appears to be something akin to a single candle flame, flickering weakly in a vast and drafty void.

Musk told me he often thinks about the mysterious absence of intelligent life in the observable Universe. Humans have yet to undertake an exhaustive, or even vigorous, search for extraterrestrial intelligence, of course. But we have gone a great deal further than a casual glance skyward. For more than 50 years, we have trained radio telescopes on nearby stars, hoping to detect an electromagnetic signal, a beacon beamed across the abyss. We have searched for sentry probes in our solar system, and we have examined local stars for evidence of alien engineering. Soon, we will begin looking for synthetic pollutants in the atmospheres of distant planets, and asteroid belts with missing metals, which might suggest mining activity.

The failure of these searches is mysterious, because human intelligence should not be special. Ever since the age of Copernicus, we have been told that we occupy a uniform Universe, a web-like structure stretching for tens of billions of light years, its every strand studded with starry discs, rich with planets and moons made from the same material as us. If nature obeys identical laws everywhere, then surely these vast reaches contain many cauldrons where energy is stirred into water and rock, until the three mix magically into life.

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Q.9

Which of the following statements best reflects the author's arguments?

1 **Elon Musk wants to manipulate the future of humanity.**

2 **Elon Musk wants to colonize Mars.**

3 **Elon musk wants to safeguard the existence of humanity.**

4 **Elon Musk wants to prove that life can exist anywhere beyond Earth.**

Solution:
Correct Answer : 3
Genre: Science and Technology / Current Affairs / Space Exploration
Option 1 is incorrect since it does not specify how Musk wants to manipulate humanity (it can both be good or bad); the passage suggests that Musk wants to protect humanity. Hence 3 is correct. Options 2 and 4 are factually incorrect.

Bookmark

Answer key/Solution

FeedBack

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Q.10

Why does the author say that "evolution is endlessly inventive"?

1 **Because evolution as a process is not too intricate.**

2 **Because evolution will happen wherever environment is akin to that of earth.**

3 **Because the process of evolution is ubiquitous on most of the existing planets.**

4 **Because evolution is a gradual process and cannot stop at any point of time.**

Solution:
Correct Answer : 2
Genre: Science and Technology / Current Affairs / Space Exploration
The passage states- "microbes will arise wherever Earth like conditions obtain." Other options are beyond the scope of the passage and cannot be verified.

Bookmark

Answer key/Solution

FeedBack

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Q.11

Why does the author say that the metaphor of light and consciousness is imperfect?

1 **As the two spread through segments whose limits are specific**

2 **As consciousness carries the inherent sense of existence, while light carries the sense of non-existence**

3 **As the two illuminate two highly distinct segments of human life**

4 **As the constancy of the two cannot be studied**

Bookmark

Answer key/Solution

Solution:
Correct Answer : 1
Genre: Science and Technology / Current Affairs / Space Exploration
The passage states- "Unlike light, whose photons permeate the entire cosmos, human-grade consciousness appears to be rare in our Universe." This means that their limits and boundaries are specific, but saying that their segments are distinct, is incorrect. One may be a subset of the other. This makes 1 correct, and 3 incorrect. Option 2 and 4 are vague.

FeedBack

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Q.12

What does the author mean when he says that "some people seem to think that humans are a blight on the Earth's surface"?

1 **According to some people, humanity and civilization should exist on Mars.**

2 **According to some people, humanity and civilization are less good than their absence.**

3 **According to some people, existence of humanity is paramount.**

4 **According to some people, absence of humanity and civilization is less good than their survival.**

Solution:
Correct Answer : 2
Genre: Science and Technology / Current Affairs / Space Exploration
According to the quoted statement, human being are considered a blot, a negative aspect on the Earth's surface. This is conveyed only in option 2, which states that humanity and civilization are worse than their absence. This means that prefer humanity being totally vanished from the face of Earth. Options 3 and 4 state exactly its opposite. 1 is factually in compatible to the statement.

Bookmark

Answer key/Solution

FeedBack

Directions for questions (13 to18): The passage below is accompanied by a set of six questions. Choose the best answer to each question.

Humans like to think we are rational. Some of us are more rational than others. But, essentially, we are all slaves to our feelings and emotions. Often, the feelings and emotions that form the basis of our important views aren't so very fine. Sometimes humans understand and control their emotions so little that they sooner or later coagulate into a roiling soup of anxiety, fear, sadness, self-loathing, resentment and anger which expresses itself however it can, finding objects to project its hurt and confusion on to. Like immigrants. Or transsexuals.Or liberals.Or Tories.Or women.Or men.

Even if the desire to find living, breathing scapegoats is resisted, untrammelled emotion can result in unwise and self-defeating decisions, devoid of any rationality. Rationality is a tool we have created to govern our emotions. That's why education, knowledge, information is the cornerstone of democracy. And that's why despots love ignorance.

Sometimes we can identify and harness the emotions we need to get us through the thing we know, rationally, that we have to do. It's great when you're in the zone. Even negative emotions can be used rationally. I, for example, use anger a lot in my work. I'm writing on it at this moment. I'll stop in a moment. I'll reach for facts to calm myself. I'll reach for facts to make my emotions seem rational. Or maybe that's just me. Whatever that means!

It's a fact that I can find some facts to back up my feelings about people. Just writing that down helps me to feel secure and in control. The irrationality of humans has been considered a fact since the 1970s, when two psychologists, Amos Tversky and Daniel Kahneman, showed that human decisions were often completely irrational, not at all in their own interests and based on "cognitive biases".

More recent research – or more recent theory, to be precise – has rendered even Tversky and Kahneman's ideas about the unreliability of the human mind overly rational. *Chasing the Rainbow: The Non-Conscious Nature of Being*, a research paper by David Oakley and Peter

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Which can only mean that even when we think we're being rational, we're not even really thinking. That thing we call thinking – we don't even know what it really is.

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Q.13

Why, as per the author, do despots love ignorance?

1 **By staying ignorant about the impact of their actions, they are able to rationalise them.**

2 **They exploit the ignorant governed who lack any emotion about their surroundings.**

3 **The ignorance of the governed allows the despots to make unwise, self-defeating decisions.**

4 **They exploit the ignorant governed who are unable to think rationally.**

Solution:
Correct Answer : 4
Genre: Psychology / Abstract / Cultural Studies
Option 4can be easily inferred from the last three lines of the third paragraph. Option 1 is ruled out as the argument in the passage is about the ignorance of the people who are being ruled. Option 3 is ruled out as the implication of the paragraph is that the governed make unwise decisions. Option 2 goes against the passage. The passage clearly mentions untrammelled emotions, not the lack of them.

Bookmark

Answer key/Solution

FeedBack

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Q.14

What can be inferred from the line "That thing we call thinking – we don't even know what it really is."?

1 **People's minds have become so entrenched with emotions that they have forgotten to think by employing the attributes of rational thinking and psychological processes.**

2 **Even when we think we are being rational, we are acting irrationally.**

3 **Thinking is an unknown process as people's minds do not follow the processes ascribed to them.**

4 **The random nature of consciousness makes thinking an unknowable process.**

✔

Solution:
Correct Answer : 3
Your Answer : 3
Genre: Psychology / Abstract / Cultural Studies
Option 2 is not mentioned in the passage. Option 4 is incorrect because of the words 'random' and 'unknowable'. The passage says that we don't know what thinking is, not that we can't know it. Option 1 is out of scope. The answer to this question comes from the fifth paragraph.

Bookmark

Answer key/Solution

FeedBack

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Q.15

What is the purpose of the author behind writing the passage?

1 **To assert that people often make irrational decisions and even when they think they are being rational, they don't know what that is**

2 **To assert that people base their views on their feelings often resulting in their hating, criticising, or suppressing other's opinions**

3 **To assert that human beings are mostly irrational and their views and decisions are based on their emotions**

4 **To argue that people cannot be trusted to think as they do not know what thinking is**

Bookmark

Answer key/Solution

Solution:
Correct Answer : 1
Your Answer : 1
Genre: Psychology / Abstract / Cultural Studies
Option 3 is incomplete as it does not talk about the fact that humans do not know what thinking is. Option 2 is an aspect mentioned in the first two paragraphs but it is not the focus of the passage. Option 4 skips the discussion on the irrationality of human beings. Option 1 covers the aspects of both 3 and 4 and comprehensively describes the central idea.

FeedBack

Directions for questions (13 to18): The passage below is accompanied by a set of six questions. Choose the best answer to each question.

Humans like to think we are rational. Some of us are more rational than others. But, essentially, we are all slaves to our feelings and emotions. Often, the feelings and emotions that form the basis of our important views aren't so very fine. Sometimes humans understand and control their emotions so little that they sooner or later coagulate into a roiling soup of anxiety, fear, sadness, self-loathing, resentment and anger which expresses itself however it can, finding objects to project its hurt and confusion on to. Like immigrants. Or transsexuals.Or liberals.Or Tories.Or women.Or men.

Even if the desire to find living, breathing scapegoats is resisted, untrammelled emotion can result in unwise and self-defeating decisions, devoid of any rationality. Rationality is a tool we have created to govern our emotions. That's why education, knowledge, information is the cornerstone of democracy. And that's why despots love ignorance.

Sometimes we can identify and harness the emotions we need to get us through the thing we know, rationally, that we have to do. It's great when you're in the zone. Even negative emotions can be used rationally. I, for example, use anger a lot in my work. I'm writing on it at this moment. I'll stop in a moment. I'll reach for facts to calm myself. I'll reach for facts to make my emotions seem rational. Or maybe that's just me. Whatever that means!

It's a fact that I can find some facts to back up my feelings about people. Just writing that down helps me to feel secure and in control. The irrationality of humans has been considered a fact since the 1970s, when two psychologists, Amos Tversky and Daniel Kahneman, showed that human decisions were often completely irrational, not at all in their own interests and based on "cognitive biases".

More recent research – or more recent theory, to be precise – has rendered even Tversky and Kahneman's ideas about the unreliability of the human mind overly rational. *Chasing the Rainbow: The Non-Conscious Nature of Being*, a research paper by David Oakley and Peter Halligan, argues "that 'consciousness' contains no top-down control processes and that 'consciousness' involves no executive, causal, or controlling relationship with any of the

familiar psychological processes conventionally attributed to it".

Which can only mean that even when we think we're being rational, we're not even really thinking. That thing we call thinking – we don't even know what it really is.

When I started out in journalism, opinion columns weren't a big thing. Using the word "I' in journalism was frowned upon. The dispassionate dissemination of facts was the goal to be reached for.

Now so much opinion is published, in print and online, and so many people offer their opinions about the opinions, that people in our government feel comfortable in declaring that experts are overrated, and powerful people in governments can deride anything they don't like as being "fake news".

So, people. They're a problem. That's what I've decided. I'm part of a big problem. All I can do now is get my message out there.

Q.16

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

1 **Our emotions can be harnessed to achieve our goals.**

2 **Powerful people in governments label journalistic opinions "fake news".**

3 **Tories and liberals are amongst the groups that become victims of people's uncontrolled emotions.**

4 **Education and knowledge help us in becoming more rational.**

✔

Solution:
Correct Answer : 2
Your Answer : 2
Genre: Psychology / Abstract / Cultural Studies
Refer to the line – "...powerful people in governments can deride anything they don't like as being "fake news"." Journalistic opinions is an extreme substitute for the underlined portion. For option 1, refer to the third paragraph. For option 3, refer to the last line of the first paragraph. Option 4 can be inferred from the second and third lines of the second paragraph.

Bookmark

Answer key/Solution

FeedBack

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Q.17

Which of the following options is the paradox brought out by the last two paragraphs?

1 **The author is expressing her opinion even though there is a risk of its being labelled "fake news".**

2 **The author is expressing her opinion on something that has already been researched and discussed a lot.**

3 **The assertion that opinions have lost their credibility because of their glut is the author's opinion.**

4 **The author calls people a problem, yet doesn't shy away from including herself in it.**

✖

Solution:
Correct Answer : 3
Your Answer : 2
Genre: Psychology / Abstract / Cultural Studies
No other statement presents a paradox i.e. two logically contradictory situations existing together.

FeedBack

Bookmark

Answer key/Solution

Directions for questions (13 to18): The passage below is accompanied by a set of six questions. Choose the best answer to each question.

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Q.18

Based on the author's views, which of the following would she support?

1 **Giving a voice to the opinions of the immigrants, transsexuals, liberals, Tories, men, and women**

2 **Rationalising our views by selectively looking for facts that support them**

3 **Instituting curbs on social media so that not everyone feels entitled to an opinion**

4 **Critically reasoning before exercising the freedom of speech and expression**

✖

Bookmark

Answer key/Solution

Solution:
Correct Answer : 4
Your Answer : 2
Genre: Psychology / Abstract / Cultural Studies
Refer the first paragraph. Option 1 is eliminated as the problem is not that these groups do not have a voice. The problem is with the people raising their voice against them. Their voice and views happen to be based on uncontrolled emotions and not a result of their thought and understanding. In fact, this is what makes option 4 correct. Option 2 is eliminated because while the author does talk about searching for facts that make her emotions seem rational (third paragraph), she doesn't talk about searching 'selectively'. That would result in a distorted opinion. In the second last paragraph, the author mentions that there is a glut of opinions online and in print. Yet, she would not advocate option 3 as the whole passage talks about a person's thinking and decision. So a solution would also be related to a change in the way people think. Curbs may not ensure that.

FeedBack

Directions for questions (19 to 21): The passage below is accompanied by a set of three questions. Choose the best answer to each question.

For many years, armchair watchers of Test cricket have preferred to sit in front of the screen with the TV commentary muted but the Test Match Special radio commentary turned up. The current Test between India and England in Ahmedabad is likely to have encouraged this practice even further, sincea dispute about broadcasting payments has meant Sky's commentators are working from a studio in west London while the TMS team is installed on the ground in India. But why stop there? Most people who actually attend sports – not just cricket but football, rugby, tennis and the rest – manage to view the action in real time without the need for any commentary at all. So why don't the broadcasters give the viewers at home the same authentic experience? Muting the sound is not a satisfactory option, since it gets rid of the atmospheric ambient noise of the crowd as well as the commentary. Since few will want to watch their cricket or football in total silence, sports broadcasters should give television viewers the option of a viewing experience that retains the crowd noise but is wholly commentary free. If you don't like listening to Nasser Hussain or Martin Tyler, you shouldn't have to. For many of those watching at home, the stress of the game is bad enough without the extra wind-up from the commentators and summarisers. Modern media give viewers multiple choices in many other ways. Banishing the commentators would take TV sports coverage to the next level of viewer empowerment.

Q.19
According to the passage, which of the following is not true?

1 **For some people, commentary creates stress.**

2 **Commentary-less matches is a form of viewer-empowerment.**

3 **Matches without commentary will make the experience more real-time and lifelike.**

4 **The lack of commentary doesn't diminish the enjoyment of the game for many sports enthusiasts in the stadium.**

✔

Solution:
Correct Answer : 3
Your Answer : 3
Genre: Sports Management / Marketing and Advertisement / Opinion Column
The author mentions options 1 and 2. Option 4 is correct because it talks about people who are there in the stadium. It is clearly mentioned in the passage. Option 3 is a twisted one. Only removing commentary without substituting it with actual noise from the stadium will not be fruitful. The option fails to mention that. So, option 3 is the correct answer.

Bookmark

Answer key/Solution

FeedBack

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Q.20
Which of the following is the main conclusion of the author in the passage?

1 **Matches must be telecast without any distracting sound.**

2 **There should be an option of muting the crowd noise.**

3 **Commentaries ruin the fun of the match by increasing the stress levels of the viewers.**

4 **Broadcasting commentary free matches is an idea worth exploring.**

✔

Solution:
Correct Answer : 4
Your Answer : 4
Genre: Sports Management / Marketing and Advertisement / Opinion Column
The correct answer is option 4. It is the main idea of the passage too. The whole passage suggests that matches should be commentary free and muting is not an option because it removes the crowd noise as well.

Bookmark

Answer key/Solution

FeedBack

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Q.21
The author has mentioned Test Match Special radio commentary because:

1 **the Test Match Special radio commentary proves people still like commentaries in matches.**

2 **the author wants to show the irony of muting the commentary to increase in number of radio listeners.**

3 **the author wants to build the foundation of suggesting matches without commentary.**

4 ○ **the author wants to show how the dispute about broadcasting payments has affected the market.**

✔

Solution:
Correct Answer : 3
Your Answer : 3
Genre: Sports Management / Marketing and Advertisement / Opinion Column
The author brings up the example of radio commentary to form a case that the number of listeners has gone up but immediately says 'why stop there'. He then tries to discover other aspects of matches where one can watch a match without commentary.

Bookmark

Answer key/Solution

FeedBack

Directions for questions (22 to 24): The passage below is accompanied by a set of three questions. Choose the best answer to each question.

Allen's Oscar record speaks for itself: two best actress winners (Diane Keaton in *Annie Hall*, Cate Blanchett in *Blue Jasmine*); four best supporting actresses; and six more nominations for women, not to mention mature, female-centred films such as *Hannah and Her Sisters* and *Interiors*. You can see why, until recently, women considered it a great honour to be cast in Allen's movies. This apparent contradiction takes some unpicking.

But there is another facet to Allen's record with women: he is the laziest director in town. Allen's one-movie-a-year work rate is often praised as heroic, but in order to maintain it, he barely directs his movies at all these days. This was revealed, perhaps inadvertently, by the recent book *Start to Finish: Woody Allen and the Art of Movie making*, in which long-time Allen chronicler Eric Lax shadowed him through the making of 2015's *Irrational Man*. Allen doesn't rehearse or prepare. He does the minimum number of takes and camera setups, never does reshoots, and likes to be finished by six every evening. What's more, he barely gives his actors any instructions at all. No wonder big stars happily work with him: compared to other directors, it's a holiday.

Knowing Allen's hands-off approach, his films become a litmus test of acting ability. Some actors sink: Ewan McGregor and Colin Farrell in *Cassandra's Dream*, for example; or Justin Timber lake in *Wonder Wheel*. Others swim magnificently. Either way, Allen is like the disinterested pool attendant over in the corner. Hayley At well said on working with him: "I didn't feel directed by him at all. I didn't have any kind of relationship with him." And Cate Blanchett on *Blue Jasmine:*"First day, [Allen] said, 'It's awful. You're awful.'" But Blanchett took matters into her own hands, researched the role, and put in the Oscar-winning performance, despite rather than because of the director. That's what good actors do. We can't take away all of Allen's credit as a writer or director, but we should give a lot more to the actors themselves. Often they have been the one to hold his movies together.

Q.22

Which of the following is the main point of the author in the passage?

1 **Allen is an incompetent director who owes his success primarily to the proficiency of his actors.**

2 **For some reason female actors are reluctant to work with Allen, despite his track record of making ground breaking female-centric films.**

3 **The lack of rehearsal and background research gives Allen's work a magical authenticity, which is the primary cause of his success.**

4 **Allen's worthiness as a director stems from many factors and the skill of his actors has been a reason behind his success.**

Bookmark

Answer key/Solution

Solution:
Correct Answer : 4
Genre: Films and Culture/ Women's Issues/ Review
In the last two lines, the author clearly states that we can't take all the credit away from Allen, the director and writer. So, option 1 is eliminated. Option 3 talks about something which is not discussed in the passage. Option 2 is a narrow point mentioned in one line of the passage. Option 4 is the best choice.

FeedBack

Directions for questions (22 to 24): The passage below is accompanied by a set of three questions. Choose the best answer to each question.

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Q.23

Which of the following can be a possible explanation of the 'contradiction' mentioned by the author in the first paragraph?

1 **Allen's track record as a creator of strong female characters and his being accused of sexual harassment**

2 **Female actors not wanting to work with Allen despite his background of creating strong female characters**

3 **Allen's brilliance as a maker of women-centric films and his lack of respect for women in his personal life**

4 **Allen is a great maker of strong female characters who, as a director, derides his female actors.**

Bookmark

Answer key/Solution

Solution:
Correct Answer : 2
Genre: Films and Culture/ Women's Issues/ Review
It is the only possible answer. Options 1 and 3 are speculative in nature. The passage doesn't provide any information regarding the reason for the reluctance of women to work with Allen. Option 4 is a twisted option. It takes an incident on the set of *Blue Jasmine* and draws a generic conclusion. Option 2 is the best answer.

FeedBack

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Q.24
Why does the author give the example of Ewan McGregor and Colin Farrell in the passage?

1 **To highlight that these two are incompetent actors**

2 To stress on the fact that Cate Blanchett is a far superior actor compared to these two

3 To raise the issue that some actors fail the litmus test of acting

4 To discuss the impact a detached director can have over his actors

Bookmark

Answer key/Solution

Solution:
Correct Answer : 4
Genre: Films and Culture/ Women's Issues/ Review
Options 1 and 2 are extreme conclusions and the not the reason the author gives the examples of these two actors in the first place. Option 3 is slightly twisted. It doesn't match the central idea of the passage. Option 4 is the correct answer.

FeedBack

Q.25

Directions for question 25: The passage given below is followed by four summaries. Choose the option that best captures the author's position.

Most of us agree that the presumption of innocence is an important standard. We are taught early on that it's essential to see all sides, to give everyone a chance to explain and to check for exculpatory evidence that may have been missed. At a time when improper interactions between men and women, particularly in the workplace, are part of a national conversation, we must find a way to ensure that everyone — the public, private and public institutions, and the accusers and alleged accused — is given the opportunity for a swift and fair review.

1 **The logic behind the teaching of 'presumption of innocence' needs to be upheld, especially now.**

2 **Everyone must be treated fairly and under no circumstance should an innocent be prosecuted.**

3 **It is important to uphold the law of 'presumption of innocence' in order to check the prosecution of an innocent man.**

4 **Everyone must be given a chance to prove his/her innocence and no one must be tried by media.**

Bookmark

Answer key/Solution

Solution:
Correct Answer : 1
Your Answer : 1
The paragraph talks about two main points: why we were taught about the 'presumption of innocence' and why it is relevant today.
Only option 1 talks about both the issues. Hence, it is the correct summary.

FeedBack

Q.26

Directions for question 26: The passage given below is followed by four summaries. Choose the option that best captures the author's position.

Liberality without the reputation of it is hurtful; because, though it be worthily and rightly used, still if it be not known, you escape not the reproach of its opposite vice. Hence, to have credit for liberality with the world at large, you must neglect no circumstance of sumptuous display; the result being, that a person of a liberal disposition will consume his whole substance in things of this sort, and, after all, be obliged, if he would maintain his reputation for liberality, to burden others, and to resort to all means whereby money is raised. But in this way he becomes hateful to many, and growing impoverished is held in little esteem by any. So that in the end, having by his liberality offended many and obliged few, he is worse off than when he began, and is exposed to all his original dangers. Recognizing this, and endeavouring to retrace his steps, he at once incurs the infamy of miserliness.

1 **A reputation for generosity is thought to be desirable, but developing it can be dangerous and exercising it in truly virtuous ways is never seen by others, so if one wants to be thought of as generous, one must keep up a lavish public display.**

2 **A person should put on a public image of being generous as being generous is thought desirable, but supporting such displays eventually makes a person poor, forcing him to exploit others, which brings him the real harm.**

3 **A person should resort to certain activities in order to appear generous as true generosity would not get any person a reputation for being generous, because no one would see it.**

4 **True generosity is not advisable as in order to develop a public image of being generous, a person must put on a forced public display.**

Bookmark

Answer key/Solution

Solution:
Correct Answer : 2
Option 1 is incorrect as it summaries only the first half of the above paragraph. It does not explain how one can create public display and its ultimate consequences. Similarly, options 3 and 4 are too brief and fail to capture the essence of the entire paragraph. Only option 2 justifies all the important things covered in the above paragraph: what are the pitfalls of not showing one's liberalism, how the lack of it impacts one's future, and how to avoid these.

FeedBack

Q.27

Directions for question 27: The passage given below is followed by four summaries. Choose the option that best captures the author's position.

Corporate training programs need to be redesigned to better engage learners and empower them to admit what they don't know. Too many online training modules miss the mark here because they rely on static content, which most people try to click through as quickly as possible, especially if they think they already know it. These programs also make assumptions about what students understand and where they need reinforcement, offering a "one-size-fits-all" approach that's highly ineffective since every learner is different, with variations in knowledge, experiences, background and the ability to take in new information, even from moment to moment.

1 **Corporate training programs these days are of no use and end up sending wrong messages to the students.**

2 **Corporate training programs need to be redesigned as they are based on incorrect assumptions.**

3 **Corporate training programs need to be revamped in order to make them more adaptive and individualized.**

4 **There is no need of the outdated training programs that exist today.**

Bookmark

Answer key/Solution

Solution:
Correct Answer : 3
Your Answer : 3
Option 3 summarizes the paragraph correctly as it correctly mentions about the need to revamp the corporate training programs. The other options are incorrect. Option 1 is incorrect because the paragraph doesn't talk about the training programs being of no use. Option 2 talks about incorrect assumptions, which is not mentioned in the paragraph. Option 4 is completely out of context.

FeedBack

Q.28

Directions for question 28: The five sentences (labelled 1, 2, 3, 4, 5) given in this question, when properly sequenced, form a coherent paragraph. Each sentence is labelled with a number. Decide on the proper order for the sentences and key in this sequence of five numbers as your answer.

1. Richard Dawkins in 1976, proposed an idea in his book "The Selfish Gene", where he compared the ideas or information that flows from one individual to another with that of organismic traits.
2. He later shortened the word 'mimeme' to 'meme' to make it rhyme with gene and also the shortened version of memory.
3. Its etymology lies in the Greek word 'mimeme' which means to replicate.
4. By natural selection, the weak idea dies while the strong ones survive and evolve.
5. The word 'meme' has become so common in our daily usage of social networking life that we barely express our sentiments without them.

✔

Bookmark

Answer key/Solution

Solution:
Correct Answer : 53142
Your Answer : 53142
Statement 5 opens the paragraph as it introduces the topic of discussion-'meme'. 5 and 3 form a mandatory pair as 3 talks about the etymology of 'meme' and refers to 'meme' as 'its'. Similarly, 1 and 4 become a mandatory pair as both of them talk about the nature of ideas through natural selection. 2 is a concluding statement as it does not make pair with any of the given statements. 1 cannot be the opening statement because if it was, it would leave no space for statements 5 and 3 to appear.

FeedBack

Q.29

Directions for question 29: The five sentences (labelled 1, 2, 3, 4, 5) given in this question, when properly sequenced, form a coherent paragraph. Each sentence is labelled with a number. Decide on the proper order for the sentences and key in this sequence of five numbers as your answer.

1. The National Capital Region's Okhla Bird Sanctuary is a favourite with early morning walkers of east Delhi's MayurViharneighbourhood and Noida.
2. About a kilometre from where I live is a bird sanctuary.
3. Slowly, this became a stopover for migratory birds during winters and somebody got the idea of converting it into a bird sanctuary.
4. It is basically a wetland that came into being after the construction of the Okhla barrage across the river Yamuna more than 30 years ago.
5. Ornithologists claim to have sighted pelicans, spot-billed ducks, geese and Eurasian teals here.

✖

Bookmark

Answer key/Solution

Solution:
Correct Answer : 21435
Your Answer : 24351
The paragraph opens with sentence 2 which describes the location of Okhla Bird Santcuary. It is followed by sentence 1 which elaborates the importance of this Sanctuary. It is followed by 4 and 3 which form a mandatory pair describing the origin of the sanctuary. Sentence 5 concludes the given paragraph.

FeedBack

Q.30

Directions for question 30: The five sentences (labelled 1, 2, 3, 4, 5) given in this question, when properly sequenced, form a coherent paragraph. Each sentence is labelled with a number. Decide on the proper order for the sentences and key in this sequence of five numbers as your answer.

1. Little did Osborne know that the project he was so eagerly promoting would end in limbo, with investors out of pocket, contractors in administration and the council taking the developer to court.
2. "Liverpool's reputation has been trashed," says Cllr Richard Kemp, leader of the city's Liberal Democrats.
3. Deputy mayor Gary Millar, meanwhile, denies any wrongdoing.
4. They were there to sell the Northern Pitchbook, a £24bn catalogue of investment opportunities, one highlight of which was Liverpool's New Chinatown.
5. In 2015, then-chancellor George Osborne led a UK government trade mission to China, accompanied by the Mayor of Liverpool, Joe Anderson, to trumpet the "golden era" of Sino-British relations.

Solution:
Correct Answer : 54123
5 and 4 form a mandatory pair. 5 opens with how Osborne wanted to enter into trade relations with China and 4 expands on the investment. 1 comes next as it mentions how that failed. 2 talks about the consequence of this failure. 3 comes next as it denies the accusation in 2.

Bookmark

Answer key/Solution

FeedBack

Q.31

Directions for question 31: The five sentences (labelled 1, 2, 3, 4, 5) given in this question, when properly sequenced, form a coherent paragraph. Each sentence is labelled with a number. Decide on the proper order for the sentences and key in this sequence of five numbers as your answer.

1. Such an odd and striking thing to hear in a room where most of the time what comes from the mouths of the performers is soaked in self-conscious irony.
2. I've never seen a four-pints-down crowd focus like that; there was a stillness to the place – a wonder, really – as she sang.
3. And what a reaction!
4. It was incredible: the clarity of her voice, the pureness, the emotion.
5. And when she finished, they went crazy. Standing screaming crazy.

✖

Bookmark

Answer key/Solution

Solution:
Correct Answer : 41325
Your Answer : 12435
There are two main points in the paragraph: someone singing and the reaction of the audience to her singing. 3 introduces the reaction. 2 and 5 create a sequential pair in describing the audience's reaction. So, 325 is a mandatory sequence. 4 introduces the singer. 4 and 1 both talk about the singer. So 41 is a mandatory pair. If 3 comes first, 4 becomes redundant. So, 41235 is the right order.

FeedBack

Q.32

Directions for question 32: Five sentences related to a topic are given below. Four of them can be put together to form a meaningful and coherent short paragraph. Identify the odd one out.

1. Around 25m slices of bread are thrown away every day in the UK – more than a million an hour – because people do not get around to using it in time and worry it is stale.
2. Now a new campaign from the anti-waste charity Love Food Hate Waste is urging consumers to freeze bread and toast it straight from the freezer, and to consider eating toast as a snack at any time of day.
3. With changing dietary habits and better understanding of snacking, this could be an unseen boon for the group.
4. The campaign, run by the government's food waste advisory body Wrap, is focusing on adults between 18 and 34 after a new poll found that 69% of Britons in that age bracket admit to throwing bread away every week.
5. Some 26% in this age group say they know you can freeze bread, but do not do it themselves.

✔

Bookmark

Answer key/Solution

Solution:
Correct Answer : 3
Your Answer : 3
Sentence 3 talks about snacking and dietary habits. The other sentences can be formed into a meaningful passage which talks about food wastage and how to curb it. Thus, 3 is the odd one out here.

FeedBack

Q.33

Directions for question 33: Five sentences related to a topic are given below. Four of them can be put together to form a meaningful and coherent short paragraph. Identify the odd one out.

1. The only thing the leader of the tiny Gaulish village in the Asterix comics was afraid of was the sky falling on his head.
2. Remember Vitalstatistix?
3. Large pieces, such as Tiangong-1 or fragments thereof, always make the headlines because they might partially survive their fall to Earth and possibly land on a populated area, with a tiny risk of hitting someone.
4. If not the sky, a man-made object will soon fall on someone's head.
5. How we all laughed at that recurring joke! Now the joke's on us.

✖

Bookmark

Answer key/Solution

Solution:
Correct Answer : 3
Your Answer : 5
Except sentence 3, the remaining sentences if arranged logically- 2154- talk about Vitalstatistics's fear that the sky might fall on his head. And it also states that this fear might come true. Sentence 3 may seem to talk about the same subject matter but contextually it's the odd one out

FeedBack

Q.34

Directions for question 34: Five sentences related to a topic are given below. Four of them can be put together to form a meaningful and coherent short paragraph. Identify the odd one out.

1. Given their pervasive and persistent nature, micro plastics have become a global environmental concern and a potential risk to human populations.
2. The number of tiny plastic pieces polluting the world's oceans is vastly greater than thought, new research indicates.
3. The surge of such a vast amount of micro plastic from one small river catchment in a single event led the scientists to conclude that the current estimate for the number of particles in the ocean – five trillion – is a major underestimate.
4. It also shows that the major floods in the area in 2015-16 flushed more than 40bn pieces of micro plastic into the sea.
5. The work reveals the highest micro plastic pollution yet discovered anywhere in the world in a river near Manchester in the UK.

✖

Bookmark

Answer key/Solution

Solution:
Correct Answer : 1
Your Answer : 5
The correct sequence is 2543. 2 and 5 form a mandatory pair, as 2 talks about a research, and 5 talks about the same 'work'. The two talk about the harmful effects of micro plastic to water bodies. Statements 4 and 3 talk about the same. Though 1 talks about micro plastics, it talks about a general concern because of the same. It is not specific to the discussion initiated in the other sentences. It is the odd sentence and hence the correct answer.

FeedBack

Sec 2

Directions for questions 35 to 38: Answer the questions on the basis of the information given below.

In an Italian restaurant there are three employees namely P, Q and R, and whoever is free works on the order available at that time. There are 2 ordering counters each with a person, other than P, Q and R, only to take orders and to serve the completed orders. The restaurant serves 3 dishes - Pizza, Garlic Bread and Tacho - which are first prepared and then baked. An employee can work on a single quantity of any dish at a time, and also when a dish is in oven for baking, the employee is free and can take another dish to work on. The following table provides information regarding the preparation time and the baking time for the 3 dishes:

	Pizza	Garlic Bread	Tacho
Preparation Time	4 min	3 min	5 min
Bake Time	8 min	5 min	10 min
Total Time	**12 min**	**8 min**	**15 min**

Customer	Counter	Order	Time
C-1	A	Pizza + Garlic Bread	10:00
C-2	A	Garlic Bread + Tacho	10:03
C-3	A	3-Pizzas	10:07
C-4	B	2-Tachos	9:56
C-5	B	2-Pizzas	10:01
C-6	B	1-Pizza + 1-Tacho + 1-Garlic Bread	10:05

• The table shown above provides the records of the orders placed by the six customers C-1, C-2, C-3, C- 4, C-5 and C-6 on a particular day.
• If the restaurant requires two dishes to be prepared simultaneously, then any employee start working on the one that requires greater preparation time.
• If an employee has orders available from two different customers, then he will prefer working on the order that was placed first.
• The number of ovens is not limited.

Q.35
The order of C-3 at counter - A will be served completely at what time?

1 **10 : 25**

2 **10 : 24**

3 **10 : 19**

4 **10 : 20**

Solution:

Correct Answer : 1

Let us tabulate the sequence in which the three employees processed the dishes of orders placed by the six customers:

Time	Employee P	Time	Employee Q	Time	Employee R
9:56	1 Tacho by C-4: 5 min	9:56	1 Tacho by C-4:5 min	10:00	1 Pizza by C-1: 4 min
10:01	1 Garlic Bread by C-1:3 min	10:01	1 Pizza by C-5:4 min	10:04	1 Pizza by C-5: 4 min
10:04	1 Tacho by C-2:5 min	10:05	1 Garlic Bread by C-2:3 min	10:08	1 Tacho by C-6: 5 min
10:09	1 Garlic Bread by C-6:3 min	10:08	1 Pizza by C-6: 4 min	10:13	1 Pizza by C-3: 4 min
10:12	1 Pizza by C-3: 4 min	10:12	1 Pizza by C-3: 4 min	10:17	free
10:16	free	10:16	free		

Last pizza of the order placed by C-3 was prepared by R who started working on it at 10:13. As it would take total 12 minutes, C-3 would be served completely at 10:25.

FeedBack

Bookmark

Answer key/Solution

Directions for questions 35 to 38: Answer the questions on the basis of the information given below.

In an Italian restaurant there are three employees namely P, Q and R, and whoever is free works on the order available at that time. There are 2 ordering counters each with a person, other than P, Q and R, only to take orders and to serve the completed orders. The restaurant serves 3 dishes - Pizza, Garlic Bread and Tacho - which are first prepared and then baked. An employee can work on a single quantity of any dish at a time, and also when a dish is in oven for baking, the employee is free and can take another dish to work on. The following table provides information regarding the preparation time and the baking time for the 3 dishes:

	Pizza	Garlic Bread	Tacho
Preparation Time	4 min	3 min	5 min
Bake Time	8 min	5 min	10 min
Total Time	**12 min**	**8 min**	**15 min**

Customer	Counter	Order	Time
C-1	A	Pizza + Garlic Bread	10:00
C-2	A	Garlic Bread + Tacho	10:03
C-3	A	3-Pizzas	10:07
C-4	B	2-Tachos	9:56
C-5	B	2-Pizzas	10:01
C-6	B	1-Pizza + 1-Tacho + 1-Garlic Bread	10:05

• The table shown above provides the records of the orders placed by the six customers C-1, C-2, C-3, C- 4, C-5 and C-6 on a particular day.
• If the restaurant requires two dishes to be prepared simultaneously, then any employee start working on the one that requires greater preparation time.
• If an employee has orders available from two different customers, then he will prefer working on the order that was placed first.
• The number of ovens is not limited.

Q.36

If C-6 at counter B says, "serve my order items one by one and as soon as they are ready", then what will be the time gap (in minutes) between the first dish and the last dish served to him?

Solution:

Correct Answer : 6

Let us tabulate the sequence in which the three employees processed the dishes of orders placed by the six customers:

Time	Employee P	Time	Employee Q	Time	Employee R
9:56	1 Tacho by C-4: 5 min	9:56	1 Tacho by C-4:5 min	10:00	1 Pizza by C-1: 4 min
10:01	1 Garlic Bread by C-1:3 min	10:01	1 Pizza by C-5:4 min	10:04	1 Pizza by C-5: 4 min
10:04	1 Tacho by C-2:5 min	10:05	1 Garlic Bread by C-2:3 min	10:08	1 Tacho by C-6: 5 min
10:09	1 Garlic Bread by C-6:3 min	10:08	1 Pizza by C-6: 4 min	10:13	1 Pizza by C-3: 4 min
10:12	1 Pizza by C-3: 4 min	10:12	1 Pizza by C-3: 4 min	10:17	free
10:16	free	10:16	free		

Tacho, pizza and garlic bread of C-6's order were taken in hand by the employees at 10:08, 10:08 and 10:09 respectively. And hence got ready and was served at 10:23, 10:20 and 10:17. So, maximum time gap is of 6 minutes.

FeedBack

Bookmark

Answer key/Solution

Directions for questions 35 to 38: Answer the questions on the basis of the information given below.

In an Italian restaurant there are three employees namely P, Q and R, and whoever is free works on the order available at that time. There are 2 ordering counters each with a person, other than P, Q and R, only to take orders and to serve the completed orders. The restaurant serves 3 dishes - Pizza, Garlic Bread and Tacho - which are first prepared and then baked. An employee can work on a single quantity of any dish at a time, and also when a dish is in oven for baking, the employee is free and can take another dish to work on. The following table provides information regarding the preparation time and the baking time for the 3 dishes:

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Customer	Counter	Order	Time
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C-2	A	Garlic Bread + Tacho	10:03
C-3	A	3-Pizzas	10:07
C-4	B	2-Tachos	9:56
C-5	B	2-Pizzas	10:01
C-6	B	1-Pizza + 1-Tacho + 1-Garlic Bread	10:05

• The table shown above provides the records of the orders placed by the six customers C-1, C-2, C-3, C- 4, C-5 and C-6 on a particular day.
• If the restaurant requires two dishes to be prepared simultaneously, then any employee start working on the one that requires greater preparation time.
• If an employee has orders available from two different customers, then he will prefer working on the order that was placed first.
• The number of ovens is not limited.

Q.37

For maximum how many minutes between 10:00 and 10:30 any of the employees was free?

1 **1**

2 **13**

3 **10**

4 **14**

Solution:

Correct Answer : 4

Let us tabulate the sequence in which the three employees processed the dishes of orders placed by the six customers:

Time	Employee P	Time	Employee Q	Time	Employee R
9:56	1 Tacho by C-4: 5 min	9:56	1 Tacho by C-4:5 min	10:00	1 Pizza by C-1: 4 min
10:01	1 Garlic Bread by C-1:3 min	10:01	1 Pizza by C-5:4 min	10:04	1 Pizza by C-5: 4 min
10:04	1 Tacho by C-2:5 min	10:05	1 Garlic Bread by C-2:3 min	10:08	1 Tacho by C-6: 5 min
10:09	1 Garlic Bread by C-6:3 min	10:08	1 Pizza by C-6: 4 min	10:13	1 Pizza by C-3: 4 min
10:12	1 Pizza by C-3: 4 min	10:12	1 Pizza by C-3: 4 min	10:17	free
10:16	free	10:16	free		

As it can be seen from the table above, P and Q were free from 10:17 to 10:30 and R was free from 10:18 to 10:30, so for maximum 14 minutes any of the employees was free.

FeedBack

Bookmark

Answer key/Solution

Directions for questions 35 to 38: Answer the questions on the basis of the information given below.

In an Italian restaurant there are three employees namely P, Q and R, and whoever is free works on the order available at that time. There are 2 ordering counters each with a person, other than P, Q and R, only to take orders and to serve the completed orders. The restaurant serves 3 dishes - Pizza, Garlic Bread and Tacho - which are first prepared and then baked. An employee can work on a single quantity of any dish at a time, and also when a dish is in oven for baking, the employee is free and can take another dish to work on. The following table provides information regarding the preparation time and the baking time for the 3 dishes:

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Customer	Counter	Order	Time
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C-4	B	2-Tachos	9:56
C-5	B	2-Pizzas	10:01
C-6	B	1-Pizza + 1-Tacho + 1-Garlic Bread	10:05

• The table shown above provides the records of the orders placed by the six customers C-1, C-2, C-3, C- 4, C-5 and C-6 on a particular day.
• If the restaurant requires two dishes to be prepared simultaneously, then any employee start working on the one that requires greater preparation time.
• If an employee has orders available from two different customers, then he will prefer working on the order that was placed first.
• The number of ovens is not limited.

Q.38

How many customers were served completely by 10 : 20?

Solution:

Correct Answer : 4

Let us tabulate the sequence in which the three employees processed the dishes of orders placed by the six customers:

Time	Employee P	Time	Employee Q	Time	Employee R
9:56	1 Tacho by C-4: 5 min	9:56	1 Tacho by C-4:5 min	10:00	1 Pizza by C-1: 4 min
10:01	1 Garlic Bread by C-1:3 min	10:01	1 Pizza by C-5:4 min	10:04	1 Pizza by C-5: 4 min
10:04	1 Tacho by C-2:5 min	10:05	1 Garlic Bread by C-2:3 min	10:08	1 Tacho by C-6: 5 min
10:09	1 Garlic Bread by C-6:3 min	10:08	1 Pizza by C-6: 4 min	10:13	1 Pizza by C-3: 4 min
10:12	1 Pizza by C-3: 4 min	10:12	1 Pizza by C-3: 4 min	10:17	free
10:16	free	10:16	free		

4 customers were served by this time because 4th order was placed by C-2 at 10:03. As employees started working on it at 10:04 and 10:05 and the total time taken by any of these dishes was less than 15 minutes, all of them were served before 10:20. Now the 5th order, placed by C-6, was started by employees at 10:08 and would be finished by 10:23. So, only 4 customers were served completely by 10:20.

FeedBack

Bookmark

Answer key/Solution

Direction for questions 39 to 42: Answer the questions on the basis of the information given below.

Seven people: Afjal, Bashir, Chaman, Deewana, Ehsan, Faizal and Ghayal are leaders of marketing teams in companies namely - Phyron, Quatar, Romboxy, Sentinel, Tesla, Urbanico and Vertigo - in any order. Each of these leaders has a certain number of team members in their team. The number of team members in any team must be a multiple of 5 and should be less than 50. No two leaders have equal number of team members.
Further the following information is also known:
1. Team of Urbanico company has maximum number of members.
2. Teams of Afzal and Bashir have number of members which are two consecutive multiples of 5 in any order. The same is also true for teams of Faizal and Ghayal.
3. Only three teams have number of members that is an even multiple of 5.
4. Afzal, who is from Phyron, has 10 members in his team.
5. Sum of number of members from Urbanico and Tesla is equal to twice the number of members from Quatar.
6. Deewana has the lowest number of team members.
7. For only three teams, the number of members are prime multiples of 5 and also these are consecutive prime multiples of 5.
8. Sum of team members of Afzal and Bashir is equal to number of team members from Sentinel.
9. Team of Ehsan, who is from Quatar, has number of members which is equal to the sum of members of Chaman's team and the team from Romboxy.

Q.39
For how many team leaders we can exactly determine the company they work for and the number of members in their teams?

Solution:
Correct Answer : 5

Bookmark

Answer key/Solution

Using (4) and (6), we can say Afzal has 10 members in his team and Deewana has 5.
Using (2), Bashir can have 15 members.
Using (8), team from Sentinel has 25 members.
As 10 and 15 are prime multiples of 5, and using (7), the next consecutive prime multiple has to be 25 and therefore, no team has 35 members in it.
Using (3), any two out of 20, 30 and 40, are possible team members in any team.

Company	Leader	Number of Members
	Deewana	5
Phyron	Afzal	10
	Bashir	15
		20
Sentinel		25
		30
		40
		45

Using (9) and (5), team of Ehsan, who is from Quatar, has more members than Chaman's team. Also, by (2) and (5), either Faizal or Ghayal is from Urbanico.
Since Ehsan is from Quatar and has more members than Chaman's team, only possibility is that Chaman has 25 members and is from Sentinel, and Ehsan has 30 members. And hence, no team has 20 members in his team.
The final table is as follows:

Leader	Company	Number of members
Deew ana	Romboxy	5
Afzal	Phyron	10
Bashir	Tesla	15
Chaman	Sentinel	25
Ehsan	Quatar	30
Faizal	Urbanico/Vertigo	45/40
Ghayal	Vertigo/Urbanico	40/45

For exactly 5 people, we can determine the companies they work for and number of their team members.

FeedBack

Direction for questions 39 to 42: Answer the questions on the basis of the information given below.

Seven people: Afjal, Bashir, Chaman, Deewana, Ehsan, Faizal and Ghayal are leaders of marketing teams in companies namely - Phyron, Quatar, Romboxy, Sentinel, Tesla, Urbanico and Vertigo - in any order. Each of these leaders has a certain number of team members in their team. The number of team members in any team must be a multiple of 5 and should be less than 50. No two leaders have equal number of team members.
Further the following information is also known:
1. Team of Urbanico company has maximum number of members.
2. Teams of Afzal and Bashir have number of members which are two consecutive multiples of 5 in any order. The same is also true for teams of Faizal and Ghayal.
3. Only three teams have number of members that is an even multiple of 5.
4. Afzal, who is from Phyron, has 10 members in his team.
5. Sum of number of members from Urbanico and Tesla is equal to twice the number of members from Quatar.
6. Deewana has the lowest number of team members.
7. For only three teams, the number of members are prime multiples of 5 and also these are consecutive prime multiples of 5.
8. Sum of team members of Afzal and Bashir is equal to number of team members from Sentinel.
9. Team of Ehsan, who is from Quatar, has number of members which is equal to the sum of members of Chaman's team and the team from Romboxy.

Q.40
If Ghayal has maximum team members, then what is the sum of members in Faizal, Quatar and Sentinel's teams?

Solution:
Correct Answer : 95

Bookmark

Answer key/Solution

Using (4) and (6), we can say Afzal has 10 members in his team and Deewana has 5.
Using (2), Bashir can have 15 members.
Using (8), team from Sentinel has 25 members.
As 10 and 15 are prime multiples of 5, and using (7), the next consecutive prime multiple has to be 25 and therefore, no team has 35 members in it.
Using (3), any two out of 20, 30 and 40, are possible team members in any team.

Company	Leader	Number of Members
	Deewana	5
Phyron	Afzal	10
	Bashir	15
		20
Sentinel		25
		30
		40
		45

Using (9) and (5), team of Ehsan, who is from Quatar, has more members than Chaman's team. Also, by (2) and (5), either Faizal or Ghayal is from Urbanico.
Since Ehsan is from Quatar and has more members than Chaman's team, only possibility is that Chaman has 25 members and is from Sentinel, and Ehsan has 30 members. And hence, no team has 20 members in his team.
The final table is as follows:

Leader	Company	Number of members
Deew ana	Romboxy	5
Afzal	Phyron	10
Bashir	Tesla	15
Chaman	Sentinel	25
Ehsan	Quatar	30
Faizal	Urbanico/Vertigo	45/40
Ghayal	Vertigo/Urbanico	40/45

If Ghayal has the highest number of members i.e, 45, then Faizal will have 40 members.
So, the required sum = 25 + 30 + 40 = 95.

FeedBack

Direction for questions 39 to 42: Answer the questions on the basis of the information given below.

Seven people: Afjal, Bashir, Chaman, Deewana, Ehsan, Faizal and Ghayal are leaders of marketing teams in companies namely - Phyron, Quatar, Romboxy, Sentinel, Tesla, Urbanico and Vertigo - in any order. Each of these leaders has a certain number of team members in their team. The number of team members in any team must be a multiple of 5 and should be less than 50. No two leaders have equal number of team members.
Further the following information is also known:
1. Team of Urbanico company has maximum number of members.
2. Teams of Afzal and Bashir have number of members which are two consecutive multiples of 5 in any order. The same is also true for teams of Faizal and Ghayal.
3. Only three teams have number of members that is an even multiple of 5.
4. Afzal, who is from Phyron, has 10 members in his team.
5. Sum of number of members from Urbanico and Tesla is equal to twice the number of members from Quatar.
6. Deewana has the lowest number of team members.
7. For only three teams, the number of members are prime multiples of 5 and also these are consecutive prime multiples of 5.
8. Sum of team members of Afzal and Bashir is equal to number of team members from Sentinel.
9. Team of Ehsan, who is from Quatar, has number of members which is equal to the sum of members of Chaman's team and the team from Romboxy.

Q.41
20 new members were to join such that they can be divided in any four teams in the ratio 1 : 2 : 3 : 4, but teams that originally have number of team members as prime multiple of 5 cannot receive new members that are prime multiple of 2.
What can be the maximum possible sum of team members now in Afzal, Bashir, Chaman and Ghayal's team?(Here team members need not be multiple of 5, and number of members in each team is still less than 50)

1 **111**

2 **103**

3 **109**

4 **106**

Solution:
Correct Answer : 3

Bookmark

Answer key/Solution

Using (4) and (6), we can say Afzal has 10 members in his team and Deewana has 5.
Using (2), Bashir can have 15 members.
Using (8), team from Sentinel has 25 members.
As 10 and 15 are prime multiples of 5, and using (7), the next consecutive prime multiple has to be 25 and therefore, no team has 35 members in it.
Using (3), any two out of 20, 30 and 40, are possible team members in any team.

Company	Leader	Number of Members
	Deewana	5
Phyron	Afzal	10
	Bashir	15
		20
Sentinel		25
		30
		40
		45

Using (9) and (5), team of Ehsan, who is from Quatar, has more members than Chaman's team. Also, by (2) and (5), either Faizal or Ghayal is from Urbanico.
Since Ehsan is from Quatar and has more members than Chaman's team, only possibility is that Chaman has 25 members and is from Sentinel, and Ehsan has 30 members. And hence, no team has 20 members in his team.
The final table is as follows:

Leader	Company	Number of members
Deew ana	Romboxy	5
Afzal	Phyron	10
Bashir	Tesla	15
Chaman	Sentinel	25
Ehsan	Quatar	30
Faizal	Urbanico/Vertigo	45/40
Ghayal	Vertigo/Urbanico	40/45

The new members that could join a team would be in groups of 2, 4, 6 and 8 members, where 4 and 6 are prime multiple of 2.
So Afzal, Bashir and Chaman cannot have 4 or 6 new members in their teams. So group of 2 and 8 members can join with any two of these teams. Now, Ghayal can have maximum 45 existing members and 4 new members making total of 49, as adding 6 new members will make his team members total more than 50.
So, their total sum equals to maximum of 109.

FeedBack

Direction for questions 39 to 42: Answer the questions on the basis of the information given below.

Seven people: Afjal, Bashir, Chaman, Deewana, Ehsan, Faizal and Ghayal are leaders of marketing teams in companies namely - Phyron, Quatar, Romboxy, Sentinel, Tesla, Urbanico and Vertigo - in any order. Each of these leaders has a certain number of team members in their team. The number of team members in any team must be a multiple of 5 and should be less than 50. No two leaders have equal number of team members.
Further the following information is also known:
1. Team of Urbanico company has maximum number of members.
2. Teams of Afzal and Bashir have number of members which are two consecutive multiples of 5 in any order. The same is also true for teams of Faizal and Ghayal.
3. Only three teams have number of members that is an even multiple of 5.
4. Afzal, who is from Phyron, has 10 members in his team.
5. Sum of number of members from Urbanico and Tesla is equal to twice the number of members from Quatar.
6. Deewana has the lowest number of team members.
7. For only three teams, the number of members are prime multiples of 5 and also these are consecutive prime multiples of 5.
8. Sum of team members of Afzal and Bashir is equal to number of team members from Sentinel.
9. Team of Ehsan, who is from Quatar, has number of members which is equal to the sum of members of Chaman's team and the team from Romboxy.

Q.42
20 new members were to join such that they can be divided in any four teams in the ratio 1 : 2 : 3 : 4, but teams that originally have number of team members as prime multiple of 5 cannot receive new members that are prime multiple of 2.
Also if each member of the team, having maximum number of team members, receives salary equal to number of members with the team having lowest number of members; similarly each member of team, having 2nd highest number of team members, receive salary equal to number of members with the team having second lowest number of members; and so on, then what could be the maximum amount spent on salary by any team?

1 **765**

2 **1089**

3 **612**

4 **450**

Solution:
Correct Answer : 2

Bookmark

Answer key/Solution

Using (4) and (6), we can say Afzal has 10 members in his team and Deewana has 5.
Using (2), Bashir can have 15 members.
Using (8), team from Sentinel has 25 members.
As 10 and 15 are prime multiples of 5, and using (7), the next consecutive prime multiple has to be 25 and therefore, no team has 35 members in it.
Using (3), any two out of 20, 30 and 40, are possible team members in any team.

Company	Leader	Number of Members
	Deewana	5
Phyron	Afzal	10
	Bashir	15
		20
Sentinel		25
		30
		40
		45

Using (9) and (5), team of Ehsan, who is from Quatar, has more members than Chaman's team. Also, by (2) and (5), either Faizal or Ghayal is from Urbanico.
Since Ehsan is from Quatar and has more members than Chaman's team, only possibility is that Chaman has 25 members and is from Sentinel, and Ehsan has 30 members. And hence, no team has 20 members in his team.
The final table is as follows:

Leader	Company	Number of members
Deew ana	Romboxy	5
Afzal	Phyron	10
Bashir	Tesla	15
Chaman	Sentinel	25
Ehsan	Quatar	30
Faizal	Urbanico/Vertigo	45/40
Ghayal	Vertigo/Urbanico	40/45

The case when Chaman gets 8 new members Ehsan gets 4 new members, and remaining can be distributed to any two leaders. The Chaman will have 33 members and Ehsan has 34 members. Then Chaman will be the fourth highest in terms of team members and also the fourth lowest in the same term. So, each of the 33 members in his team will receive 33 amount.
So, maximum amount spent on salary will be $33 \times 33 = 1089$.

FeedBack

Directions for questions 43 to 46: Answer the questions on the basis of the information given below.

There are 6 friends – Gaurav, Saurabh, Mahi, Bharat, Hari and Jogi. Each friend is married to one among - Sheela, Ramya, Dolly, Mona, Trisha and Kavya. Each of these 6 couples belongs to exactly one city out of Agra, Jaipur, Guntur, Kamalganj, Nagpur and Jodhpur, in any order. Each of them plays exactly one of the games - Cricket, Football, Volleyball, Snooker, TT and Badminton - not necessarily in the same order.
Some additional information provided is as follows:
1. Husbands of Dolly, Trisha or Kavya do not play Football or Volleyball.
2. The one who is from Guntur plays Cricket.
3. Jogi, who is from Jodpur, plays football.
4. Mahi and Hari are married to Sheela and Mona respectively, but are not from Guntur.
5. The men from Jaipur and Kamalganj play TT and Volleyball respectively.
6. Bharat is from Nagpur.
7. Ramya is married to the man who is from Jodhpur.
8. Mahi plays Snooker.

Q.43
Who is the husband of Ramya?

1 **Gaurav**

2 **Jogi**

3 **Saurabh**

4 **Bharat**

✔

Solution:
Correct Answer : 2
Your Answer : 2

As per the information given in the question, we can form the following table about the six friends:

	Gaurav	Saurabh	Mahi	Bharat	Hari	Jogi
Wife			Sheela		Mona	Ramya
Place	Jaipur/Guntur	Guntur/Jaipur	Agra	Nagpur	Kamalganj	Jodhpur
Game	TT/Cricket	Cricket/TT	Snooker	Badminton	Volleyball	Football

Jogi is the husband of Ramya.

FeedBack

Bookmark

Answer key/Solution

Directions for questions 43 to 46: Answer the questions on the basis of the information given below.

There are 6 friends – Gaurav, Saurabh, Mahi, Bharat, Hari and Jogi. Each friend is married to one among - Sheela, Ramya, Dolly, Mona, Trisha and Kavya. Each of these 6 couples belongs to exactly one city out of Agra, Jaipur, Guntur, Kamalganj, Nagpur and Jodhpur, in any order. Each of them plays exactly one of the games - Cricket, Football, Volleyball, Snooker, TT and Badminton - not necessarily in the same order.
Some additional information provided is as follows:
1. Husbands of Dolly, Trisha or Kavya do not play Football or Volleyball.
2. The one who is from Guntur plays Cricket.
3. Jogi, who is from Jodpur, plays football.
4. Mahi and Hari are married to Sheela and Mona respectively, but are not from Guntur.
5. The men from Jaipur and Kamalganj play TT and Volleyball respectively.
6. Bharat is from Nagpur.
7. Ramya is married to the man who is from Jodhpur.
8. Mahi plays Snooker.

Q.44
The man who lives in Nagpur plays

1 **Cricket**

2 **Snooker**

3 **Badminton**

4 **Football**

✔

Solution:
Correct Answer : 3
Your Answer : 3

Bookmark

Answer key/Solution

As per the information given in the question, we can form the following table about the six friends:

	Gaurav	Saurabh	Mahi	Bharat	Hari	Jogi
Wife			Sheela		Mona	Ramya
Place	Jaipur/Guntur	Guntur/Jaipur	Agra	Nagpur	Kamalganj	Jodhpur
Game	TT/Cricket	Cricket/TT	Snooker	Badminton	Volleyball	Football

Bharat, who lives in Nagpur, plays badminton.

FeedBack

Directions for questions 43 to 46: Answer the questions on the basis of the information given below.

There are 6 friends – Gaurav, Saurabh, Mahi, Bharat, Hari and Jogi. Each friend is married to one among - Sheela, Ramya, Dolly, Mona, Trisha and Kavya. Each of these 6 couples belongs to exactly one city out of Agra, Jaipur, Guntur, Kamalganj, Nagpur and Jodhpur, in any order. Each of them plays exactly one of the games - Cricket, Football, Volleyball, Snooker, TT and Badminton - not necessarily in the same order.
Some additional information provided is as follows:
1. Husbands of Dolly, Trisha or Kavya do not play Football or Volleyball.
2. The one who is from Guntur plays Cricket.
3. Jogi, who is from Jodpur, plays football.
4. Mahi and Hari are married to Sheela and Mona respectively, but are not from Guntur.
5. The men from Jaipur and Kamalganj play TT and Volleyball respectively.
6. Bharat is from Nagpur.
7. Ramya is married to the man who is from Jodhpur.
8. Mahi plays Snooker.

Q.45
Who is the wife of Bharat?

1 **Sheela**

2 **Dolly**

3 **Trisha**

4 **Cannot be determined**

✔

Solution:
Correct Answer : 4
Your Answer : 4

As per the information given in the question, we can form the following table about the six friends:

	Gaurav	Saurabh	Mahi	Bharat	Hari	Jogi
Wife			Sheela		Mona	Ramya
Place	Jaipur/Guntur	Guntur/Jaipur	Agra	Nagpur	Kamalganj	Jodhpur
Game	TT/Cricket	Cricket/TT	Snooker	Badminton	Volleyball	Football

Bharat can be the husband of any of Dolly, Trisha and Kavya.

FeedBack

Bookmark

Answer key/Solution

Directions for questions 43 to 46: Answer the questions on the basis of the information given below.

There are 6 friends – Gaurav, Saurabh, Mahi, Bharat, Hari and Jogi. Each friend is married to one among - Sheela, Ramya, Dolly, Mona, Trisha and Kavya. Each of these 6 couples belongs to exactly one city out of Agra, Jaipur, Guntur, Kamalganj, Nagpur and Jodhpur, in any order. Each of them plays exactly one of the games - Cricket, Football, Volleyball, Snooker, TT and Badminton - not necessarily in the same order.
Some additional information provided is as follows:
1. Husbands of Dolly, Trisha or Kavya do not play Football or Volleyball.
2. The one who is from Guntur plays Cricket.
3. Jogi, who is from Jodpur, plays football.
4. Mahi and Hari are married to Sheela and Mona respectively, but are not from Guntur.
5. The men from Jaipur and Kamalganj play TT and Volleyball respectively.
6. Bharat is from Nagpur.
7. Ramya is married to the man who is from Jodhpur.
8. Mahi plays Snooker.

Q.46
Who is married to the man from Kamalganj?

1 **Mona**

2 **Sheela**

3 **Ramya**

4 **Dolly**

✔

Solution:
Correct Answer : 1
Your Answer : 1

Bookmark

Answer key/Solution

As per the information given in the question, we can form the following table about the six friends:

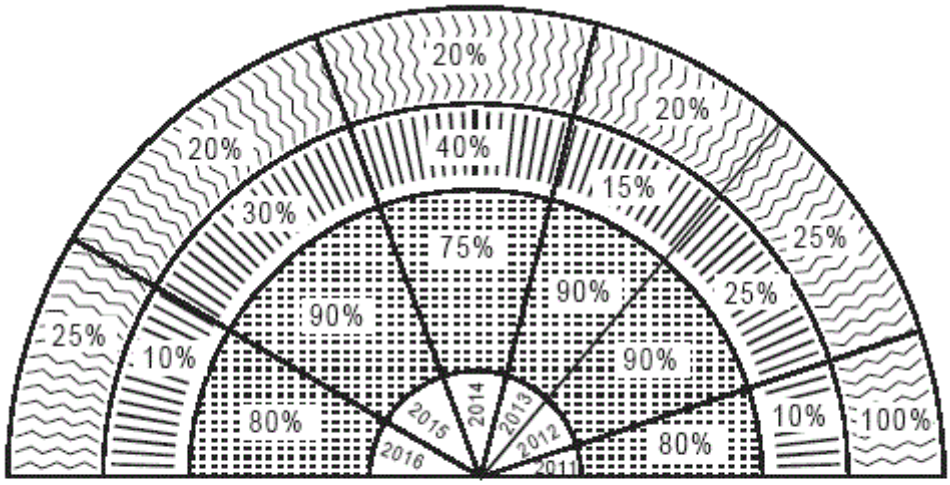
	Gaurav	Saurabh	Mahi	Bharat	Hari	Jogi
Wife			Sheela		Mona	Ramya
Place	Jaipur/Guntur	Guntur/Jaipur	Agra	Nagpur	Kamalganj	Jodhpur
Game	TT/Cricket	Cricket/TT	Snooker	Badminton	Volleyball	Football

Hari, who is from Kamalganj, is married to Mona.

FeedBack

Direction for questions 47 to 50: Answer the questions on the basis of the information given below.

• The international school of organised crimes is a great centre for producing well qualified and trained thieves.
• Mr. Ramji Tallya, the dean of the organisation, provides a graph and based on that framed questions for the last semester examination.
• The data pertained to the organisation for each year was dependent on the previous year's tests.



The number of trainees who qualified in year 2010 was 5000.

Example: In 2011, number of qualified trainees is increased by 100% of 5000; 10% of number of eligible trainees equal number of qualified trainees; number of trainees who appeared for the exam equals 80% of number of eligible trainees.

Q.47
The annual compounding growth rate in 2016 as compared to 2012 for trainees who qualified for the test is

1 **19.15%**

2 **28.60%**

3 **14.28%**

4 **21.23%**

Solution:

Correct Answer : 4

The number of qualified trainees in 2010 is given as 5000. Now as per the given chart, in 2011 it was increased by 100% as that of 2010 i.e, in 2011, number of qualified trainees = 10000.

Similarly, number of eligible trainees = $\frac{10000}{10\%}$ = 100000,

and number of trainees who appeared for the test = 80% of 100000 = 80000.

Similarly, we can solve for the remaining years and get the following results:

Year	2011	2012	2013	2014	2015	2016
Qualified	10000	12500	15000	18000	21600	27000
Eligible	100000	50000	100000	45000	72000	270000
Appeared	80000	45000	90000	33750	64800	216000

$$27000 = 12500\left(1+\frac{r}{100}\right)^4$$

$$\Rightarrow \left(\frac{27000}{12500}\right)^{\frac{1}{4}} = 1+\frac{r}{100} \Rightarrow r = 21.23\%.$$

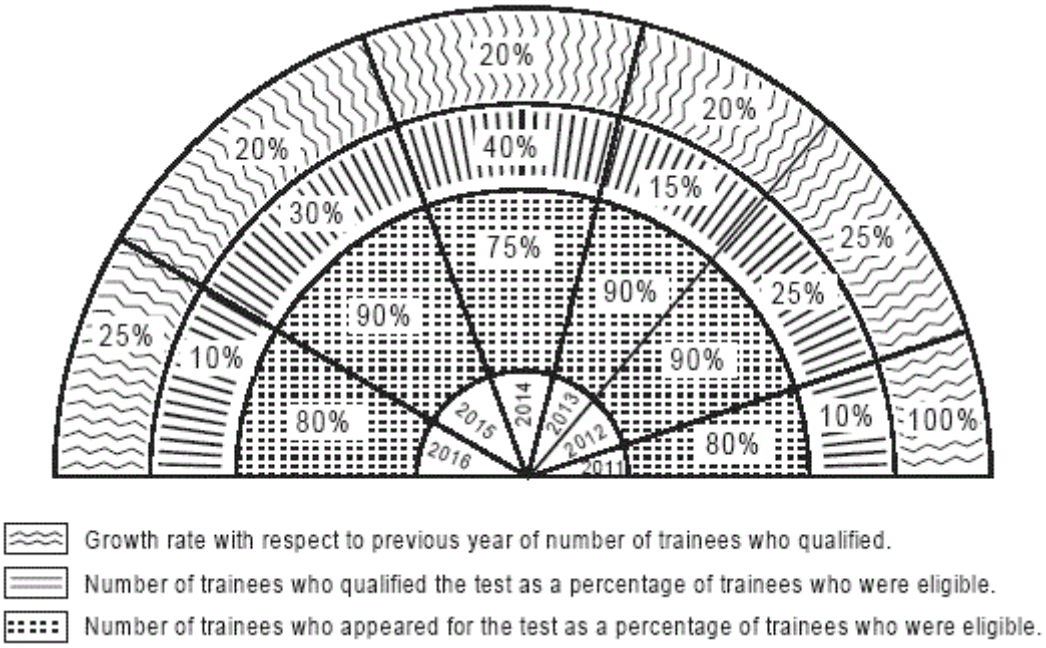
FeedBack

Bookmark

Answer key/Solution

Direction for questions 47 to 50: Answer the questions on the basis of the information given below.

• The international school of organised crimes is a great centre for producing well qualified and trained thieves.
• Mr. Ramji Tallya, the dean of the organisation, provides a graph and based on that framed questions for the last semester examination.
• The data pertained to the organisation for each year was dependent on the previous year's tests.



The number of trainees who qualified in year 2010 was 5000.

Example: In 2011, number of qualified trainees is increased by 100% of 5000; 10% of number of eligible trainees equal number of qualified trainees; number of trainees who appeared for the exam equals 80% of number of eligible trainees.

Q.48
In which year was the total number of trainees who were eligible for the test highest?

1 **2013**

2 **2016**

3 **2014**

4 **2015**

Solution:

Correct Answer : 2

Your Answer : 4

The number of qualified trainees in 2010 is given as 5000. Now as per the given chart, in 2011 it was increased by 100% as that of 2010 i.e, in 2011, number of qualified trainees = 10000.

Similarly, number of eligible trainees = $\frac{10000}{10\%}$ = 100000,

and number of trainees who appeared for the test = 80% of 100000 = 80000.

Similarly, we can solve for the remaining years and get the following results:

Year	2011	2012	2013	2014	2015	2016
Qualified	10000	12500	15000	18000	21600	27000
Eligible	100000	50000	100000	45000	72000	270000
Appeared	80000	45000	90000	33750	64800	216000

In 2016, the number of eligible trainees was highest.

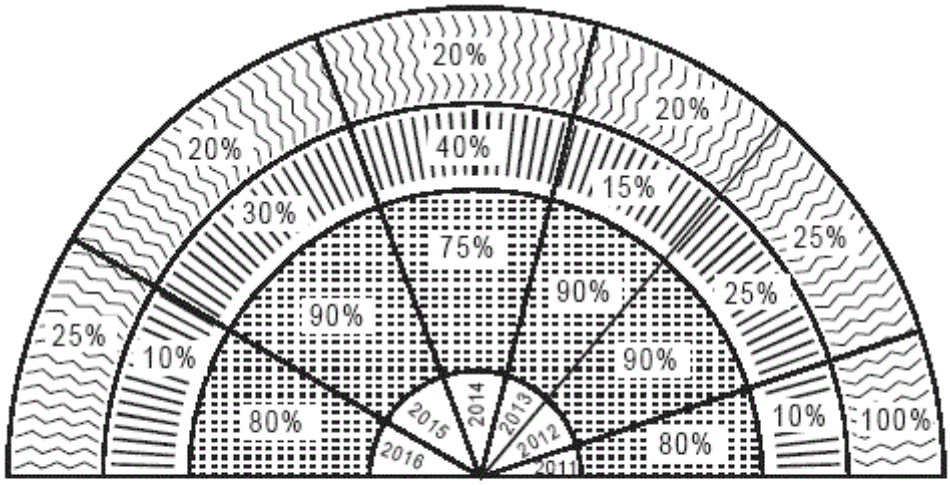
FeedBack

Bookmark

Answer key/Solution

Direction for questions 47 to 50: Answer the questions on the basis of the information given below.

• The international school of organised crimes is a great centre for producing well qualified and trained thieves.
• Mr. Ramji Tallya, the dean of the organisation, provides a graph and based on that framed questions for the last semester examination.
• The data pertained to the organisation for each year was dependent on the previous year's tests.



Growth rate with respect to previous year of number of trainees who qualified.
Number of trainees who qualified the test as a percentage of trainees who were eligible.
Number of trainees who appeared for the test as a percentage of trainees who were eligible.

The number of trainees who qualified in year 2010 was 5000.

Example: In 2011, number of qualified trainees is increased by 100% of 5000; 10% of number of eligible trainees equal number of qualified trainees; number of trainees who appeared for the exam equals 80% of number of eligible trainees.

Q.49
In which year was the number of trainees who appeared for the test 2nd highest?

1 **2013**

2 **2016**

3 **2014**

4 **2012**

Solution:

Correct Answer : 1

Your Answer : 1

The number of qualified trainees in 2010 is given as 5000. Now as per the given chart, in 2011 it was increased by 100% as that of 2010 i.e, in 2011, number of qualified trainees = 10000.

Similarly, number of eligible trainees = $\frac{10000}{10\%}$ = 100000,

and number of trainees who appeared for the test = 80% of 100000 = 80000.

Similarly, we can solve for the remaining years and get the following results:

Year	2011	2012	2013	2014	2015	2016
Qualified	10000	12500	15000	18000	21600	27000
Eligible	100000	50000	100000	45000	72000	270000
Appeared	80000	45000	90000	33750	64800	216000

In 2013, the number of appeared trainees was 2nd highest.

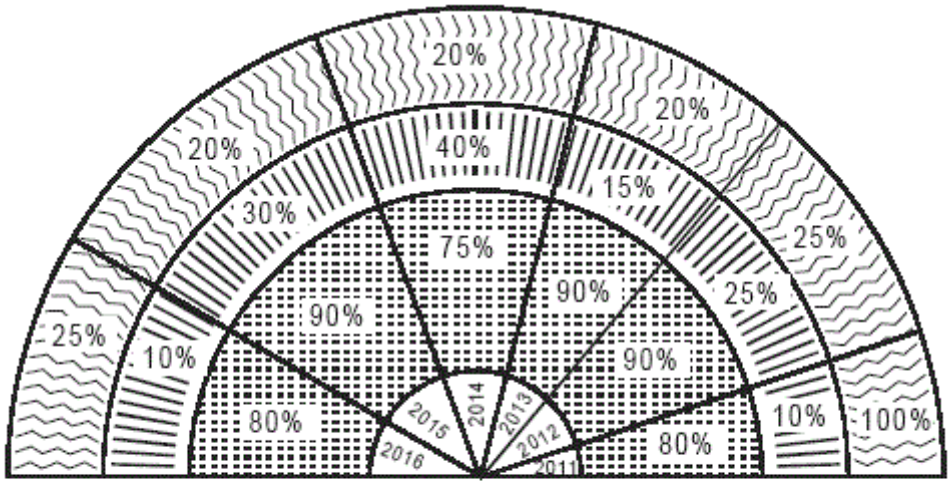
FeedBack

Bookmark

Answer key/Solution

Direction for questions 47 to 50: Answer the questions on the basis of the information given below.

• The international school of organised crimes is a great centre for producing well qualified and trained thieves.
• Mr. Ramji Tallya, the dean of the organisation, provides a graph and based on that framed questions for the last semester examination.
• The data pertained to the organisation for each year was dependent on the previous year's tests.



The number of trainees who qualified in year 2010 was 5000.

Example: In 2011, number of qualified trainees is increased by 100% of 5000; 10% of number of eligible trainees equal number of qualified trainees; number of trainees who appeared for the exam equals 80% of number of eligible trainees.

Q.50
The percentage increase in number of trainees who qualified from 2011 to 2016 is

1 **100%**

2 **25%**

3 **170%**

4 **270%**

Solution:

Correct Answer : 3

The number of qualified trainees in 2010 is given as 5000. Now as per the given chart, in 2011 it was increased by 100% as that of 2010 i.e, in 2011, number of qualified trainees = 10000.

Similarly, number of eligible trainees = $\frac{10000}{10\%}$ = 100000,

and number of trainees who appeared for the test = 80% of 100000 = 80000.

Similarly, we can solve for the remaining years and get the following results:

Year	2011	2012	2013	2014	2015	2016
Qualified	10000	12500	15000	18000	21600	27000
Eligible	100000	50000	100000	45000	72000	270000
Appeared	80000	45000	90000	33750	64800	216000

Increase in number of trainees who qualified during the given period

$= \frac{27000-10000}{10000} = 1.7\times100 = 170\%.$

FeedBack

Bookmark

Answer key/Solution

Directions for questions 51 to 54: Answer the questions on the basis of the information given below.

Eight friends- Akbar, Birbal, Chanakya, Drona, Erawat, Arjun, Nakul and Sahdev - participated in a game consisting three rounds – I, II and III. Each friend got a different rank in different rounds and no two friends got the same rank in any round. It is also given that:
(i). The sum of ranks in the three rounds together was equal for Chanakya and Birbal.
(ii). The rank of Sahdev in round II was higher than that in round I but lower than that in round III.
(iii). In each round Birbal, Nakul and Arjun got three consecutive ranks from higher to lower, in that order.
(iv). Akbar was ranked 1st and last in round II and round III, in any order.
(v). Erawat got rank 6 in round III and rank 4 in round I. Drona got rank 2 in round II and rank 1 in round I. Chanakya got rank 3 in round II.

[Note: Rank 1 was the highest and rank 8 was the lowest among them]

Q.51

Which of the following pair of friends must be on two consecutive positions in each round?

1 **Arjun and Sahdev**

2 **Drona and Chanakya**

3 **Akbar and Sahdev**

4 **None of these**

Solution:
Correct Answer : 4

Bookmark

Answer key/Solution

First of all fill the table as per statement V.
Now, from statement III, Birbal, Nakul and Arjun can be ranked at 5th, 6th, 7th or 6th, 7th, 8th in round I. Suppose Birbal got rank 5 in round I, then Sahdev could get rank 8 in this round because of statement II and Chanakya at rank 2 and Akbar at rank 3 in round I.
From statement I, we have following cases:

	Round I	Round II	Round III	
Birbal	5	4	1	Case I
Chanakya	2	3	5	
Birbal	5	4	3	Case II
Chanakya	2	3	7	
Birbal	5	6	1	Case III
Chanakya	2	3	7	
Birbal	5	6	2	Case IV
Chanakya	2	3	8	

Case-I:

Rank \ Round	I	II	III
1	Drona	Akbar	Birbal
2	Chanakya	Drona	Nakul
3	Akbar	Chanakya	Arjun
4	Erawat	Birbal	Sahdev
5	Birbal	Nakul	Chanakya
6	Nakul	Arjun	Erawat
7	Arjun	Sahdev	Drona
8	Sahdev	Erawat	Akbar

Case-II:

Rank \ Round	I	II	III
1	Drona	Erawat	Akbar
2	Chanakya	Drona	Sahdev
3	Akbar	Chanakya	Birbal
4	Erawat	Birbal	Nakul
5	Birbal	Nakul	Arjun
6	Nakul	Arjun	Erawat
7	Arjun	Sahdev	Chanakya
8	Sahdev	Akbar	Drona

Above two cases are possible when Birbal had got rank 5 in round 1. Now, suppose Birbal got rank 6 in round I. You will see that this case is not possible because of statement I and IV.

Out of the given three pairs, no one is on consecutive positions in each round.

FeedBack

Directions for questions 51 to 54: Answer the questions on the basis of the information given below.

Eight friends- Akbar, Birbal, Chanakya, Drona, Erawat, Arjun, Nakul and Sahdev - participated in a game consisting three rounds – I, II and III. Each friend got a different rank in different rounds and no two friends got the same rank in any round. It is also given that:
(i). The sum of ranks in the three rounds together was equal for Chanakya and Birbal.
(ii). The rank of Sahdev in round II was higher than that in round I but lower than that in round III.
(iii). In each round Birbal, Nakul and Arjun got three consecutive ranks from higher to lower, in that order.
(iv). Akbar was ranked 1st and last in round II and round III, in any order.
(v). Erawat got rank 6 in round III and rank 4 in round I. Drona got rank 2 in round II and rank 1 in round I. Chanakya got rank 3 in round II.

[Note: Rank 1 was the highest and rank 8 was the lowest among them]

Q.52
The lowest rank which Sahdev could get in round III was

1 **4**

2 **3**

3 **5**

4 **6**

Solution:
Correct Answer : 1

Bookmark

Answer key/Solution

First of all fill the table as per statement V.
Now, from statement III, Birbal, Nakul and Arjun can be ranked at 5th, 6th, 7th or 6th, 7th, 8th in round I. Suppose Birbal got rank 5 in round I, then Sahdev could get rank 8 in this round because of statement II and Chanakya at rank 2 and Akbar at rank 3 in round I.
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Birbal	5	4	3	Case II
Chanakya	2	3	7	
Birbal	5	6	1	Case III
Chanakya	2	3	7	
Birbal	5	6	2	Case IV
Chanakya	2	3	8	

Case-I:

Rank \ Round	I	II	III
1	Drona	Akbar	Birbal
2	Chanakya	Drona	Nakul
3	Akbar	Chanakya	Arjun
4	Erawat	Birbal	Sahdev
5	Birbal	Nakul	Chanakya
6	Nakul	Arjun	Erawat
7	Arjun	Sahdev	Drona
8	Sahdev	Erawat	Akbar

Case-II:

Rank \ Round	I	II	III
1	Drona	Erawat	Akbar
2	Chanakya	Drona	Sahdev
3	Akbar	Chanakya	Birbal
4	Erawat	Birbal	Nakul
5	Birbal	Nakul	Arjun
6	Nakul	Arjun	Erawat
7	Arjun	Sahdev	Chanakya
8	Sahdev	Akbar	Drona

Above two cases are possible when Birbal had got rank 5 in round 1. Now, suppose Birbal got rank 6 in round I. You will see that this case is not possible because of statement I and IV.

In round III, Sahdev got either rank 4 or rank 2. So, the lowest rank he could get is 4.

FeedBack

Directions for questions 51 to 54: Answer the questions on the basis of the information given below.

Eight friends- Akbar, Birbal, Chanakya, Drona, Erawat, Arjun, Nakul and Sahdev - participated in a game consisting three rounds – I, II and III. Each friend got a different rank in different rounds and no two friends got the same rank in any round. It is also given that:
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(ii). The rank of Sahdev in round II was higher than that in round I but lower than that in round III.
(iii). In each round Birbal, Nakul and Arjun got three consecutive ranks from higher to lower, in that order.
(iv). Akbar was ranked 1st and last in round II and round III, in any order.
(v). Erawat got rank 6 in round III and rank 4 in round I. Drona got rank 2 in round II and rank 1 in round I. Chanakya got rank 3 in round II.

[Note: Rank 1 was the highest and rank 8 was the lowest among them]

Q.53
What was the difference between the highest and the lowest possible sum of the ranks obtained by Akbar in the three rounds?

1 **3**

2 **2**

3 **1**

4 **0**

Solution:
Correct Answer : 4

Bookmark

Answer key/Solution

First of all fill the table as per statement V.
Now, from statement III, Birbal, Nakul and Arjun can be ranked at 5th, 6th, 7th or 6th, 7th, 8th in round I. Suppose Birbal got rank 5 in round I, then Sahdev could get rank 8 in this round because of statement II and Chanakya at rank 2 and Akbar at rank 3 in round I.
From statement I, we have following cases:

	Round I	Round II	Round III	
Birbal	5	4	1	Case I
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Birbal	5	4	3	Case II
Chanakya	2	3	7	
Birbal	5	6	1	Case III
Chanakya	2	3	7	
Birbal	5	6	2	Case IV
Chanakya	2	3	8	

Case-I:

Round / Rank	I	II	III
1	Drona	Akbar	Birbal
2	Chanakya	Drona	Nakul
3	Akbar	Chanakya	Arjun
4	Erawat	Birbal	Sahdev
5	Birbal	Nakul	Chanakya
6	Nakul	Arjun	Erawat
7	Arjun	Sahdev	Drona
8	Sahdev	Erawat	Akbar

Case-II:

Round / Rank	I	II	III
1	Drona	Erawat	Akbar
2	Chanakya	Drona	Sahdev
3	Akbar	Chanakya	Birbal
4	Erawat	Birbal	Nakul
5	Birbal	Nakul	Arjun
6	Nakul	Arjun	Erawat
7	Arjun	Sahdev	Chanakya
8	Sahdev	Akbar	Drona

Above two cases are possible when Birbal had got rank 5 in round 1. Now, suppose Birbal got rank 6 in round I. You will see that this case is not possible because of statement I and IV.

The sum of ranks of Akbar is 12 in both the possible cases. Hence, the required difference = 0.

FeedBack

Directions for questions 51 to 54: Answer the questions on the basis of the information given below.

Eight friends- Akbar, Birbal, Chanakya, Drona, Erawat, Arjun, Nakul and Sahdev - participated in a game consisting three rounds – I, II and III. Each friend got a different rank in different rounds and no two friends got the same rank in any round. It is also given that:
(i). The sum of ranks in the three rounds together was equal for Chanakya and Birbal.
(ii). The rank of Sahdev in round II was higher than that in round I but lower than that in round III.
(iii). In each round Birbal, Nakul and Arjun got three consecutive ranks from higher to lower, in that order.
(iv). Akbar was ranked 1st and last in round II and round III, in any order.
(v). Erawat got rank 6 in round III and rank 4 in round I. Drona got rank 2 in round II and rank 1 in round I. Chanakya got rank 3 in round II.

[Note: Rank 1 was the highest and rank 8 was the lowest among them]

Q.54
Which of the following statement(s) is/are true?

I. The lowest rank which Erawat could get in any round was 6.
II. If Birbal was ranked 3rd in round III, then Sahdev was ranked 1st in that round.
III. If Akbar got 8th rank in round II, then Arjun got rank 5 in round III.

1 **Only II**

2 **Only III**

3 **I and III both**

4 **Either I or II**

Solution:
Correct Answer : 2

Bookmark

Answer key/Solution

First of all fill the table as per statement V.
Now, from statement III, Birbal, Nakul and Arjun can be ranked at 5th, 6th, 7th or 6th, 7th, 8th in round I. Suppose Birbal got rank 5 in round I, then Sahdev could get rank 8 in this round because of statement II and Chanakya at rank 2 and Akbar at rank 3 in round I.
From statement I, we have following cases:

	Round I	Round II	Round III	
Birbal	5	4	1	Case I
Chanakya	2	3	5	
Birbal	5	4	3	Case II
Chanakya	2	3	7	
Birbal	5	6	1	Case III
Chanakya	2	3	7	
Birbal	5	6	2	Case IV
Chanakya	2	3	8	

Case-I:

Round / Rank	I	II	III
1	Drona	Akbar	Birbal
2	Chanakya	Drona	Nakul
3	Akbar	Chanakya	Arjun
4	Erawat	Birbal	Sahdev
5	Birbal	Nakul	Chanakya
6	Nakul	Arjun	Erawat
7	Arjun	Sahdev	Drona
8	Sahdev	Erawat	Akbar

Case-II:

Round / Rank	I	II	III
1	Drona	Erawat	Akbar
2	Chanakya	Drona	Sahdev
3	Akbar	Chanakya	Birbal
4	Erawat	Birbal	Nakul
5	Birbal	Nakul	Arjun
6	Nakul	Arjun	Erawat
7	Arjun	Sahdev	Chanakya
8	Sahdev	Akbar	Drona

Above two cases are possible when Birbal had got rank 5 in round 1. Now, suppose Birbal got rank 6 in round I. You will see that this case is not possible because of statement I and IV.

Only statement (III) is true.

FeedBack

Directions for questions 55 to 58: Answer the questions on the basis of the information given below.

A family of astronauts was selected for a space mission to Mars to discover the possibility of life on the eastern part of the planet. The seven members of the family namely - Puzo, Francis, Ross Geller, Tim, Quenoco, Nafiza and Dothrasky - were specialized in - Iquition Systems (IS), Core Temperature Analysis (CTA), Heating Control (HC), Meteor Spotting (MS), Fire Burst Control (FBA), Jet Speed Analysis (JSA) and Poleautologist (P) - not necessarily in the same order. Each wore a different color space suite – red, blue, green, yellow, pink, orange and grey - in any order.

Further the following information is also known:
1. There were 3 girls in the family.
2. Puzo wore yellow color space suit but did not specialize in (IS) or (HC).
3. The one who specialized in (CTA) wore grey color space suit and was a girl.
4. Quenoco, who is sister of Nafiza, specialized in (MS) and wore pink color space suit.
5. Dothrasky specialized in (P) and wore space suit of red color.
6. Nafiza, the wife of Ross, specialized in (HC), and wore green space suit.
7. Francis wore grey suit, and Ross wore orange. The one who wore blue space suit was specialized in (FBA).

Q.55
Which of following is the group of girls of the family?

1 **Francis, Dothrasky, Nafiza**

2 **Francis, Quenoco, Nafiza**

3 **Quenoco, Nafiza, Puzo**

4 **Cannot be determined**

Solution:
Correct Answer : 2
Your Answer : 2

Bookmark

Answer key/Solution

As per the information given in the question, we can make the following table about the specialization and colour of space suit worn by each family member.

Name	Specialization	Color
Puzo	JSA	Yellow
Francis	CTA	Grey
Ross	IS	Orange
Tim	FBA	Blue
Quenoco	MS	Pink
Nafiza	HC	Green
Dothrasky	P	Red

Quenoco, who is sister of Nafiza, who is wife of Ross, and Francis, who is specialised in CTA, are the three girls in the family.

FeedBack

Directions for questions 55 to 58: Answer the questions on the basis of the information given below.

A family of astronauts was selected for a space mission to Mars to discover the possibility of life on the eastern part of the planet. The seven members of the family namely - Puzo, Francis, Ross Geller, Tim, Quenoco, Nafiza and Dothrasky - were specialized in - Iquition Systems (IS), Core Temperature Analysis (CTA), Heating Control (HC), Meteor Spotting (MS), Fire Burst Control (FBA), Jet Speed Analysis (JSA) and Poleautologist (P) - not necessarily in the same order. Each wore a different color space suite – red, blue, green, yellow, pink, orange and grey - in any order.

Further the following information is also known:
1. There were 3 girls in the family.
2. Puzo wore yellow color space suit but did not specialize in (IS) or (HC).
3. The one who specialized in (CTA) wore grey color space suit and was a girl.
4. Quenoco, who is sister of Nafiza, specialized in (MS) and wore pink color space suit.
5. Dothrasky specialized in (P) and wore space suit of red color.
6. Nafiza, the wife of Ross, specialized in (HC), and wore green space suit.
7. Francis wore grey suit, and Ross wore orange. The one who wore blue space suit was specialized in (FBA).

Q.56
What is the specialization of Ross?

1 **CTA**

2 **FBA**

3 JSA

4 None of these

✔

Solution:
Correct Answer : 4
Your Answer : 4

Bookmark

Answer key/Solution

As per the information given in the question, we can make the following table about the specialization and colour of space suit worn by each family member.

Name	Specialization	Color
Puzo	JSA	Yellow
Francis	CTA	Grey
Ross	IS	Orange
Tim	FBA	Blue
Quenoco	MS	Pink
Nafiza	HC	Green
Dothrasky	P	Red

Ross is specialised in Iquition System (IS).

FeedBack

Directions for questions 55 to 58: Answer the questions on the basis of the information given below.

A family of astronauts was selected for a space mission to Mars to discover the possibility of life on the eastern part of the planet. The seven members of the family namely - Puzo, Francis, Ross Geller, Tim, Quenoco, Nafiza and Dothrasky - were specialized in - Iquition Systems (IS), Core Temperature Analysis (CTA), Heating Control (HC), Meteor Spotting (MS), Fire Burst Control (FBA), Jet Speed Analysis (JSA) and Poleautologist (P) - not necessarily in the same order. Each wore a different color space suite – red, blue, green, yellow, pink, orange and grey - in any order.

Further the following information is also known:
1. There were 3 girls in the family.
2. Puzo wore yellow color space suit but did not specialize in (IS) or (HC).
3. The one who specialized in (CTA) wore grey color space suit and was a girl.
4. Quenoco, who is sister of Nafiza, specialized in (MS) and wore pink color space suit.
5. Dothrasky specialized in (P) and wore space suit of red color.
6. Nafiza, the wife of Ross, specialized in (HC), and wore green space suit.
7. Francis wore grey suit, and Ross wore orange. The one who wore blue space suit was specialized in (FBA).

Q.57

Who specialized in JSA?

1 **Puzo**

2 **Quenoco**

3 **Ross**

4 **Cannot be determined**

✔

Solution:

Correct Answer : 1

Your Answer : 1

As per the information given in the question, we can make the following table about the specialization and colour of space suit worn by each family member.

Name	Specialization	Color
Puzo	JSA	Yellow
Francis	CTA	Grey
Ross	IS	Orange
Tim	FBA	Blue
Quenoco	MS	Pink
Nafiza	HC	Green
Dothrasky	P	Red

Puzo is specialised in JSA.

FeedBack

Bookmark

Answer key/Solution

Directions for questions 55 to 58: Answer the questions on the basis of the information given below.

A family of astronauts was selected for a space mission to Mars to discover the possibility of life on the eastern part of the planet. The seven members of the family namely - Puzo, Francis, Ross Geller, Tim, Quenoco, Nafiza and Dothrasky - were specialized in - Iquition Systems (IS), Core Temperature Analysis (CTA), Heating Control (HC), Meteor Spotting (MS), Fire Burst Control (FBA), Jet Speed Analysis (JSA) and Poleautologist (P) - not necessarily in the same order. Each wore a different color space suite – red, blue, green, yellow, pink, orange and grey - in any order.

Further the following information is also known:
1. There were 3 girls in the family.
2. Puzo wore yellow color space suit but did not specialize in (IS) or (HC).
3. The one who specialized in (CTA) wore grey color space suit and was a girl.
4. Quenoco, who is sister of Nafiza, specialized in (MS) and wore pink color space suit.
5. Dothrasky specialized in (P) and wore space suit of red color.
6. Nafiza, the wife of Ross, specialized in (HC), and wore green space suit.
7. Francis wore grey suit, and Ross wore orange. The one who wore blue space suit was specialized in (FBA).

Q.58
Which of the following combination is correct?

1 **Blue – Tim – (MS)**

2 **Pink – Nafiza – (HC)**

3 **Orange – Ross – (CTA)**

4 **Blue – Tim – (FBA)**

Solution:
Correct Answer : 4
Your Answer : 4

Bookmark

Answer key/Solution

As per the information given in the question, we can make the following table about the specialization and colour of space suit worn by each family member.

Name	Specialization	Color
Puzo	JSA	Yellow
Francis	CTA	Grey
Ross	IS	Orange
Tim	FBA	Blue
Quenoco	MS	Pink
Nafiza	HC	Green
Dothrasky	P	Red

Out of the given combinations, only blue-Tim-FBA is the only correct combination.

FeedBack

Directions for questions 59 to 62: Answer the questions on the basis of the information given below.

Four families: Malik, Udani, Pathak and Singh, went for shopping together and each family purchased at least 1 item out of 3 items: AC, Washing Machine and Fridge. The cost (in Rs.) of these items is 35000, 15000 and 20000, in no particular order. No family purchased more than 1 item of any type. Also, it is known that

i) 1 family did not purchase AC, 1 did not purchase Washing machine, and 2 families did not purchase Fridge.
ii) Malik family spent the most and Pathak family spent the least.
iii) No two families spent the same amount.

Q.59
If the cost (in Rs.) of Fridge is not 35000, then one family definitely spent

1 **20000**

2 **15000**

3 **50000**

4 **35000**

Solution:

Correct Answer : 3

Your Answer : 3

As all families spent different amount, out of the two families who did not purchase a Fridge, one must have not purchased an AC or washing machine as well. This means one family purchased all 3 items and that family must be Malik family as they spent the most. So the two cases are:

Case 1:

Family	AC	Washing Machine	Fridge
Family 1 (Malik)	Yes	Yes	Yes
Family 2 (Pathak)	No	Yes	No
Family 3	Yes	No	Yes
Family 4	Yes	Yes	No

The cost of Washing Machine cannot be 35000 otherwise the expenditure of Family 2 and 3 will be the same.

Case 2:

Family	AC	Washing Machine	Fridge
Family 1 (Malik)	Yes	Yes	Yes
Family 2 (Pathak)	Yes	No	No
Family 3	No	Yes	Yes
Family 4	Yes	Yes	No

The cost of AC cannot be 35000 otherwise the expenditure of Family 2 and 3 will be the same.

If the cost of fridge is not 35000, then the cost of AC will be 35000 in case 1 and hence the total amount spent by the families is (70000, 20000, 55000, 50000) or (70000, 15000, 50000, 55000). In case 2, the cost of washing machine will be 35000 and the total amount spent by the families will be same as above. Hence, out of the given options, 50000 is surely spent by a family.

FeedBack

Bookmark

Answer key/Solution

Directions for questions 59 to 62: Answer the questions on the basis of the information given below.

Four families: Malik, Udani, Pathak and Singh, went for shopping together and each family purchased at least 1 item out of 3 items: AC, Washing Machine and Fridge. The cost (in Rs.) of these items is 35000, 15000 and 20000, in no particular order. No family purchased more than 1 item of any type. Also, it is known that

i) 1 family did not purchase AC, 1 did not purchase Washing machine, and 2 families did not purchase Fridge.
ii) Malik family spent the most and Pathak family spent the least.
iii) No two families spent the same amount.

Q.60
What is the maximum possible difference between the amount spent by the Udani family and the Singh family?

✖

Solution:
Correct Answer : 20000
Your Answer : 2000

Bookmark

Answer key/Solution

As all families spent different amount, out of the two families who did not purchase a Fridge, one must have not purchased an AC or washing machine as well. This means one family purchased all 3 items and that family must be Malik family as they spent the most. So the two cases are:

Case 1:

Family	AC	Washing Machine	Fridge
Family 1 (Malik)	Yes	Yes	Yes
Family 2 (Pathak)	No	Yes	No
Family 3	Yes	No	Yes
Family 4	Yes	Yes	No

The cost of Washing Machine cannot be 35000 otherwise the expenditure of Family 2 and 3 will be the same.

Case 2:

Family	AC	Washing Machine	Fridge
Family 1 (Malik)	Yes	Yes	Yes
Family 2 (Pathak)	Yes	No	No
Family 3	No	Yes	Yes
Family 4	Yes	Yes	No

The cost of AC cannot be 35000 otherwise the expenditure of Family 2 and 3 will be the same.

Udani and Singh families are Family 3 and 4. One of these families do not have a fridge and the other one do not have a Fridge or a washing machine. The maximum difference in their expenditure will be the difference between the price of Fridge and AC/ Washing Machine i.e. 35000 – 15000 = 20000.

FeedBack

Directions for questions 59 to 62: Answer the questions on the basis of the information given below.

Four families: Malik, Udani, Pathak and Singh, went for shopping together and each family purchased at least 1 item out of 3 items: AC, Washing Machine and Fridge. The cost (in Rs.) of these items is 35000, 15000 and 20000, in no particular order. No family purchased more than 1 item of any type. Also, it is known that

i) 1 family did not purchase AC, 1 did not purchase Washing machine, and 2 families did not purchase Fridge.
ii) Malik family spent the most and Pathak family spent the least.
iii) No two families spent the same amount.

Q.61

If Pathak family spent 15000 and Singh family spent the 2nd highest, then the amount that Singh family has spent?

1 **45000**

2 **50000**

3 **55000**

4 **60000**

✔

Bookmark

Answer key/Solution

Solution:

Correct Answer : 3

Your Answer : 3

As all families spent different amount, out of the two families who did not purchase a Fridge, one must have not purchased an AC or washing machine as well. This means one family purchased all 3 items and that family must be Malik family as they spent the most. So the two cases are:

Case 1:

Family	AC	Washing Machine	Fridge
Family 1 (Malik)	Yes	Yes	Yes
Family 2 (Pathak)	No	Yes	No
Family 3	Yes	No	Yes
Family 4	Yes	Yes	No

The cost of Washing Machine cannot be 35000 otherwise the expenditure of Family 2 and 3 will be the same.

Case 2:

Family	AC	Washing Machine	Fridge
Family 1 (Malik)	Yes	Yes	Yes
Family 2 (Pathak)	Yes	No	No
Family 3	No	Yes	Yes
Family 4	Yes	Yes	No

The cost of AC cannot be 35000 otherwise the expenditure of Family 2 and 3 will be the same.

If Pathak family spent 15000, this means Fridge and AC/Washing Machine together costs 55000 and Washing Machine/AC costs 15000. If Singh family spent 2nd highest they must have spent 70000 – 15000 = 55000.

FeedBack

Directions for questions 59 to 62: Answer the questions on the basis of the information given below.

Four families: Malik, Udani, Pathak and Singh, went for shopping together and each family purchased at least 1 item out of 3 items: AC, Washing Machine and Fridge. The cost (in Rs.) of these items is 35000, 15000 and 20000, in no particular order. No family purchased more than 1 item of any type. Also, it is known that

i) 1 family did not purchase AC, 1 did not purchase Washing machine, and 2 families did not purchase Fridge.
ii) Malik family spent the most and Pathak family spent the least.
iii) No two families spent the same amount.

Q.62
Total amount (in Rs.) spent by the Malik family is

✔

Solution:
Correct Answer : 70000
Your Answer : 70000

As all families spent different amount, out of the two families who did not purchase a Fridge, one must have not purchased an AC or washing machine as well. This means one family purchased all 3 items and that family must be Malik family as they spent the most. So the two cases are:

Case 1:

Family	AC	Washing Machine	Fridge
Family 1 (Malik)	Yes	Yes	Yes
Family 2 (Pathak)	No	Yes	No
Family 3	Yes	No	Yes
Family 4	Yes	Yes	No

The cost of Washing Machine cannot be 35000 otherwise the expenditure of Family 2 and 3 will be the same.

Case 2:

Family	AC	Washing Machine	Fridge
Family 1 (Malik)	Yes	Yes	Yes
Family 2 (Pathak)	Yes	No	No
Family 3	No	Yes	Yes
Family 4	Yes	Yes	No

The cost of AC cannot be 35000 otherwise the expenditure of Family 2 and 3 will be the same.

Money spent by Malik family is 70000.

FeedBack

Bookmark

Answer key/Solution

Direction for questions 63 to 66: Answer the questions on the basis of the information given below.

In a square matrix of dimension 5 × 5, alphabets are used to fill its rows and columns. Each alphabet represents the initials of the names of 25 individuals. The alphabets used in the matrix are : a, i, j, m, n, o, r, t and u.

m	a	n	o	j
m	a	n	a	j
a	n	m	a	n
n	a	a	r	t
i	r	i	t	u

Rows are numbered from top to bottom and columns are numbered from left to right. Every initial in the above matrix is given a rank according to their dictionary order. Individuals with same initials are given same rank (e.g., 'a' is given rank 1, 'i' is given rank 2, 'j' is given rank 3, and so on). Also, rank '1' is the highest and '9' is the lowest.
We say first individual can send friend request to the second individual on a social mobile application only if all the following three conditions are satisfied:
(i) Individual first and individual second are in same row or same column.
(ii) First Individual's initial is ranked higher than the second individual's initial.
(iii) If there is/are any other individual(s) between first and second individual in the row/column, such individual(s) must be at least three ranks lower than the first individual.

Thus in the matrix above, consider the individual's initial in first row and first column , i.e., 'm'. He can receive friend request from two individuals: one individual being on his right with initial 'a' and other being the one below him with initial 'a'.

Q.63
How many individual(s) in the matrix can receive exactly two friend requests?

Solution:
Correct Answer : 4

Bookmark

Answer key/Solution

As per the three conditions mentioned in the question, the numbers written in bracket in the matrix drawn below shows the number of friend requests each of the 25 individuals can receive.

m(2)	a(0)	n(3)	o(4)	j(1)
m(2)	a(0)	n(4)	a(0)	j(1)
a(0)	n(5)	m(3)	a(0)	n(2)
n(3)	a(0)	a(0)	r(2)	t(3)
i(1)	r(3)	i(1)	t(3)	u(4)

It can be seen from the table drawn above that 4 individuals can receive exactly 2 friend requests.

FeedBack

Direction for questions 63 to 66: Answer the questions on the basis of the information given below.

In a square matrix of dimension 5 × 5, alphabets are used to fill its rows and columns. Each alphabet represents the initials of the names of 25 individuals. The alphabets used in the matrix are : a, i, j, m, n, o, r, t and u.

m	a	n	o	j
m	a	n	a	j
a	n	m	a	n
n	a	a	r	t
i	r	i	t	u

Rows are numbered from top to bottom and columns are numbered from left to right. Every initial in the above matrix is given a rank according to their dictionary order. Individuals with same initials are given same rank (e.g., 'a' is given rank 1, 'i' is given rank 2, 'j' is given rank 3, and so on). Also, rank '1' is the highest and '9' is the lowest.
We say first individual can send friend request to the second individual on a social mobile application only if all the following three conditions are satisfied:
(i) Individual first and individual second are in same row or same column.
(ii) First Individual's initial is ranked higher than the second individual's initial.
(iii) If there is/are any other individual(s) between first and second individual in the row/column, such individual(s) must be at least three ranks lower than the first individual.

Thus in the matrix above, consider the individual's initial in first row and first column , i.e., 'm'. He can receive friend request from two individuals: one individual being on his right with initial 'a' and other being the one below him with initial 'a'.

Q.64
In which row/column there are maximum individuals who can receive friend requests from at least 3 individuals?

1 **Fifth column**

2 **Third column**

3 **Fifth row**

4 **Both (2) and (3)**

Solution:

Correct Answer : 4

Bookmark

Answer key/Solution

As per the three conditions mentioned in the question, the numbers written in bracket in the matrix drawn below shows the number of friend requests each of the 25 individuals can receive.

m(2)	a(0)	n(3)	o(4)	j(1)
m(2)	a(0)	n(4)	a(0)	j(1)
a(0)	n(5)	m(3)	a(0)	n(2)
n(3)	a(0)	a(0)	r(2)	t(3)
i(1)	r(3)	i(1)	t(3)	u(4)

Both in 5th row, and in 3rd column there are three individuals who can receive at least 3 friend requests.

FeedBack

Direction for questions 63 to 66: Answer the questions on the basis of the information given below.

In a square matrix of dimension 5 × 5, alphabets are used to fill its rows and columns. Each alphabet represents the initials of the names of 25 individuals. The alphabets used in the matrix are : a, i, j, m, n, o, r, t and u.

m	a	n	o	j
m	a	n	a	j
a	n	m	a	n
n	a	a	r	t
i	r	i	t	u

Rows are numbered from top to bottom and columns are numbered from left to right. Every initial in the above matrix is given a rank according to their dictionary order. Individuals with same initials are given same rank (e.g., 'a' is given rank 1, 'i' is given rank 2, 'j' is given rank 3, and so on). Also, rank '1' is the highest and '9' is the lowest.
We say first individual can send friend request to the second individual on a social mobile application only if all the following three conditions are satisfied:
(i) Individual first and individual second are in same row or same column.
(ii) First Individual's initial is ranked higher than the second individual's initial.
(iii) If there is/are any other individual(s) between first and second individual in the row/column, such individual(s) must be at least three ranks lower than the first individual.

Thus in the matrix above, consider the individual's initial in first row and first column , i.e., 'm'. He can receive friend request from two individuals: one individual being on his right with initial 'a' and other being the one below him with initial 'a'.

Q.65

How many individual(s) are common, out of individual(s), who can send friend request to both the individuals having initial 'm' in first column?

Solution:

Correct Answer : 1

As per the three conditions mentioned in the question, the numbers written in bracket in the matrix drawn below shows the number of friend requests each of the 25 individuals can receive.

m(2)	a(0)	n(3)	o(4)	j(1)
m(2)	a(0)	n(4)	a(0)	j(1)
a(0)	n(5)	m(3)	a(0)	n(2)
n(3)	a(0)	a(0)	r(2)	t(3)
i(1)	r(3)	i(1)	t(3)	u(4)

Individual with initial 'm' in first row and first column can receive two friend request, one from 'a' on his right and other from 'a' two place below him. Individual with initial 'm' in second row and first column can receive two friend requests, one from 'a' on his immediate right and other from 'a' below him. Therefore, one individual having initial 'a' in 3rd row and 1st column is common for both of them.

FeedBack

Bookmark

Answer key/Solution

Direction for questions 63 to 66: Answer the questions on the basis of the information given below.

In a square matrix of dimension 5 × 5, alphabets are used to fill its rows and columns. Each alphabet represents the initials of the names of 25 individuals. The alphabets used in the matrix are : a, i, j, m, n, o, r, t and u.

m	a	n	o	j
m	a	n	a	j
a	n	m	a	n
n	a	a	r	t
i	r	i	t	u

Rows are numbered from top to bottom and columns are numbered from left to right. Every initial in the above matrix is given a rank according to their dictionary order. Individuals with same initials are given same rank (e.g., 'a' is given rank 1, 'i' is given rank 2, 'j' is given rank 3, and so on). Also, rank '1' is the highest and '9' is the lowest.
We say first individual can send friend request to the second individual on a social mobile application only if all the following three conditions are satisfied:
(i) Individual first and individual second are in same row or same column.
(ii) First Individual's initial is ranked higher than the second individual's initial.
(iii) If there is/are any other individual(s) between first and second individual in the row/column, such individual(s) must be at least three ranks lower than the first individual.

Thus in the matrix above, consider the individual's initial in first row and first column , i.e., 'm'. He can receive friend request from two individuals: one individual being on his right with initial 'a' and other being the one below him with initial 'a'.

Q.66
Which of the following is false?

1 **Each column has at least one individual who can receive at the most one friend request.**

2 **Each individual with initial 'n', can receive at least two friend request.**

3 **Maximum friend requests received by any individual can be 4.**

4 **Each column has at least two individuals who can receive equal number of friend requests.**

Solution:

Correct Answer : 3

As per the three conditions mentioned in the question, the numbers written in bracket in the matrix drawn below shows the number of friend requests each of the 25 individuals can receive.

m(2)	a(0)	n(3)	o(4)	j(1)
m(2)	a(0)	n(4)	a(0)	j(1)
a(0)	n(5)	m(3)	a(0)	n(2)
n(3)	a(0)	a(0)	r(2)	t(3)
i(1)	r(3)	i(1)	t(3)	u(4)

Maximum friend requests received by any individual can be 5, which is true for the individual having initial 'n' in 3rd row and 2nd column. So, statement 3 is false.

FeedBack

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Answer key/Solution

Sec 3

Q.67

On the opening ceremony of a bakery, Raju sold chocolate cake at a profit of 20%. After few days he gets 10% discount on its ingredients, making its cost price equivalent to 90% of its initial cost price. But even then he decides to sell it at Rs. 18 more than the previous selling price, making him a gain of 40%. Find the initial cost price (in Rs.) of chocolate cake.

✔

Solution:

Correct Answer : 300

Your Answer : 300

Let initially CP be Rs. x $\Rightarrow$ SP = 1.2x

Final CP = 0.9x and SP = 1.2x + 18

Now, according to the question

$1.2x + 18 = (0.9x) \times 1.4$

$\Rightarrow 0.06x = 18 \Rightarrow x = 300.$

Hence, initial cost price is Rs. 300.

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Answer key/Solution

Q.68

A real valued function is defined as f(x + y) = x + f(f(y)) such that f(0) = 0. Find f(402).

1 **400**

2 **401**

3 **402**

4 **403**

Solution:
Correct Answer : 3

f(x + y) = x + f(f(y))
and f(0) = 0
So, f(1) = f(1 + 0) = 1 +f(f(0))
f(2) = f(1+ 1) = 1 + f(f(1)) = 2
Similarly,
f(402) = 402.

FeedBack

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Answer key/Solution

Q.69

Two boys and three girls can complete a task in 8 days, while eleven boys and nine girls can complete the same task in 2 days. If a boy is paid Rs. 435 per day, then find the daily wages of a girl.

1 **Rs. 870**

2 **Rs. 1740**

3 **Rs. 435**

4 **Cannot be determined**

✔

Solution:
Correct Answer : 3
Your Answer : 3

Let 1 boy can do x units of work per day, and 1 girl can do y units of work per day.
Then, (2x + 3y) × 8 = (11x + 9y) × 2
⇒ 16x + 24y = 22x + 18y
⇒ 6y = 6x
⇒ x = y
Since a boy and a girl both have same efficiency, both will get same wages = Rs. 435/day.

FeedBack

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Answer key/Solution

Q.70

One person can complete a particular task in 2601 days. On first day he works alone, on second day he is joined by 2 more people, each having same efficiency as his. Similarly on each consecutive day 2 more people join him. Find the number of days in which the work will get completed.

✔

Solution:

Correct Answer : 51

Your Answer : 51

Suppose total work be 2601 units, one person can do 1 unit of work per day, and work will get completed in 'n' days.
Work done on 1st day = 1 unit
Work done on 2nd day = 3 unit
Work done on 3rd day = 5 unit and so on.
$\therefore 1 + 3 + 5 + ... + n = 2601$

$$\frac{n}{2}\{2+(n-1)2\} = 2601$$

$\Rightarrow n^2 = 2601$
$\Rightarrow n = 51$ days.

FeedBack

Bookmark

Answer key/Solution

Q.71

Find the maximum value of $5^{-(2x^2-8x+6)}$.

Solution:

Correct Answer : 25

Given term will achieve its maximum,
when $2x^2 - 8x + 6$ will be minimum.
Now, $2x^2 - 8x + 6 = 2(x-2)^2 - 2$,
which has its minimum value as '-2'.
So, required maximum value = $5^{-(-2)} = 25$.

FeedBack

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Answer key/Solution

Q.72

If $\log_a (ab) = k$, then $\log_b (ab)$ is

1 ○ $\frac{1}{k}$

2 $\frac{k}{(k+1)}$

3 $\frac{k}{(1-k)}$

4 $\frac{k}{(k-1)}$

Solution:
Correct Answer : 4

Bookmark

Answer key/Solution

$\log_a ab = k$

$\Rightarrow \log_a a + \log_a b = k$

$\Rightarrow \log_a b = k - 1$

$\Rightarrow \log_b a = \frac{1}{k-1}$

$\Rightarrow \log_b ab = \log_b a + 1 = \frac{1}{k-1} + 1 = \frac{k}{k-1}$

FeedBack

Q.73

A regular polygon, with number of diagonals equal to 9, is inscribed inside a circle, which in turn is inscribed inside a square of area 100 square units. Find the ratio of the circumference of the polygon, circle and square.

1 **4 : 2π : 3√6**

2 **3 : π : 4**

3 **2 : π : 4**

4 **20 : 5π : 24√6**

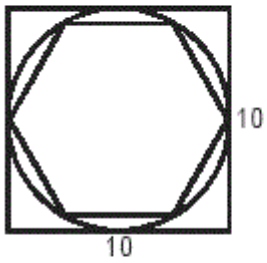
Solution:

Correct Answer : 2

Number of diagonals of an n-sided polygon = ${}^{n}C_{2} - n = 9 \Rightarrow n = 6$

So, the polygon inscribed inside the circle is a hexagon.

Following figure shows the given case:



Since area of square is given as 100 sq. unit, side of square = diameter of circle = 10 unit, and side of hexagon = 5 unit.

So, perimeter of square = (10 + 10) × 2 = 40

Perimeter of circle = 2 × π × 5 = 10π

Perimeter of hexagon = 6 × 5 = 30.

Hence, the required ratio is 3 : π : 4.

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Answer key/Solution

Q.74

If a function is defined as F(x) = |x − 1| + |x + 1|, then the shortest distance of the point (1, 1) from F(x) is

1 **1 unit**

2 **2 unit**

3 **3 unit**

4 **4 unit**

Solution:

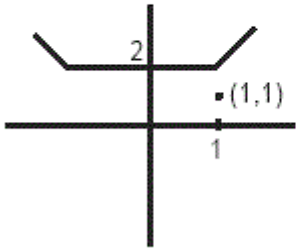
Correct Answer : 1

Bookmark

Answer key/Solution

$F(x) = |x - 1| + |x + 1|$

$$= \begin{cases} 2x & x \geq 1 \\ 2 & -1 \leq x \leq 1 \\ -2x & x \leq -1 \end{cases}$$



Hence, the required shortest distance = 2 – 1 = 1 unit.

FeedBack

Q.75

A large cube is divided into 7 smaller cubes with their volumes in the ratio of 216 : 125 : 64 : 64 : 27 : 8 : 8. By what percent is the sum of the longest diagonals of all the smaller cubes is greater than the longest diagonal of the original cube?

1 **225**

2 **175**

3 **200**

4 **250**

Solution:

Correct Answer : 1

Let the volumes of the smaller cubes be $216k^3$, $125\ k^3$, $64k^3$, $64k^3$, $27k^3$, $8k^3$, $8k^3$

$=(6k)^3, (5k)^3, (4k)^3, (4k)^3, (3k)^3, (2k)^3, (2k)^3$

$\therefore$ Total volume of the original large cube

$= (216 + 125 + 64 + 64 + 27 + 8 + 8)k^3$

$= 512k^3 = (8k)^3$.

Therefore, diagonal of the initial large cube = $8k\sqrt{3}$

Sum of the largest diagonals of all smaller cubes

$= 6k\sqrt{3} + 5k\sqrt{3} + 4k\sqrt{3} + 4k\sqrt{3} + 3k\sqrt{3} + 2k\sqrt{3} + 2k\sqrt{3}$

$= 26k\sqrt{3}$

Therefore, the required percentage

$= \frac{26k\sqrt{3} - 8k\sqrt{3}}{8k\sqrt{3}} \times 100 = 225\%$

FeedBack

Bookmark

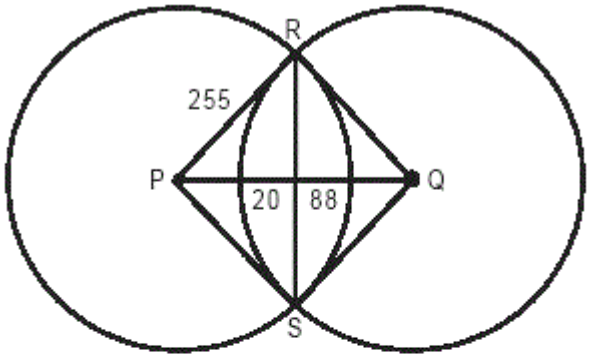
Answer key/Solution

Q.76

Find the length (in cm) of the common chord of two circles whose radii are 136 cm and 255 cm, and their centres are 289 cm apart.

Solution:

Correct Answer : 240



As the radius of two circles and the distance between their centres forms Pythagorean triplet, so ΔPRQ turn out to be a right angled triangle.

So area of $\Delta PRQ = \frac{1}{2} \times PR \times RQ = \frac{1}{2} \times PQ \times RO$

$\frac{255 \times 136}{289} = RO$

$\Rightarrow RO = 120$.

So, Length of common chord, $RS = 240$.

FeedBack

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Answer key/Solution

Q.77

A man invests Rs. 5,000 at the time of his son's birth in order to pay for his school in the future. The school fees is Rs. 10,368. At what age will his son be able to go to school, if the rate of return is 20% compounded annually?

1 **2 years**

2 **4 years**

3 **6 years**

4 **8 years**

✔

Solution:
Correct Answer : 2
Your Answer : 2

Principle value = 5000, Final amount = 10368

So, $10368 = 5000\left[1+\frac{20}{100}\right]^T$

$\Rightarrow \left(\frac{10368}{5000}\right) = 2.0736 = (1.2)^4$

So, we get T = 4 years.
Hence, at the age of 4, his son will be able to attend the school.

FeedBack

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Answer key/Solution

Q.78

If Alisha can do a project in 40 days and Vastu can complete the same project in $\frac{200}{7}$ days. In how many days will 90% of the project work be done, if both Alisha and Vastu work together?

1 **45**

2 **90**

3 **15**

4 **10**

✔

Solution:
Correct Answer : 3
Your Answer : 3

Let the total work be 200 units.
Alisha can do 5 units/day and Vastu can do 7 units/day.
⇒ One day work while both working together = 12 units.

⇒ 90% of work will get completed in $\frac{0.9 \times 200}{12}$

= 15 days.

FeedBack

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Answer key/Solution

Q.79
If $5(4^{x+2}) + 3(2^{3x+1}) = 8192$, then find the real value of x.

1 **2**

2 **3**

3 **4**

4 **5**

Solution:
Correct Answer : 2

$5(4^{x+2}) + 3(2^{3x+1}) = 8192$
$\Rightarrow 5(2^{2x+4}) + 3(2^{3x} \times 2) = 8192$
$\Rightarrow 5(2^{2x} \times 2^4) + 3(2^{3x} \times 2) = 8192$
$\Rightarrow 40(2^{2x}) + 3(2^{3x}) = 4096$
Let $2^x = y$
$\Rightarrow 40y^2 + 3y^3 = 4096$
Solving above equation, we get y = 8 as the only real solution.
So, $2^x = 8 \Rightarrow 2^x = 2^3$
$\Rightarrow x = 3$.

FeedBack

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Answer key/Solution

Q.80
The ratio of number of girls and boys in a class is 3 : 1. If 50% of girls and 75% of boys are of height 5 feet or above, then the percentage of students in the class who are below 5 feet is

1 **44.25**

2 **48.25**

3 **47.5**

4 **43.75**

✔

Solution:
Correct Answer : 4
Your Answer : 4

Let total number of students in the class be 400.
∴ 300 girls and 100 boys are there in the class, out of which, 150 girls and 75 boys are of height 5 feet or above.
So, the percentage of students below 5 feet

$= \frac{150+25}{400} \times 100 = 43.75\%$.

FeedBack

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Answer key/Solution

Q.81

If $x^2 - 7x - 8 \leq 0$, then for how many positive even integral values of x the given inequality holds true?

Solution:
Correct Answer : 4

$F(x) = x^2 - 7x - 8 = (x - 8)(x + 1)$
Now, $F(x) \leq 0$ only when $-1 \leq x \leq 8$.
Therefore, we have 4 positive even integral values ,i.e, 2, 4, 6 and 8.

FeedBack

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Answer key/Solution

Q.82

A, B and C are positive integers such that A : B is 2 : 3, and B : C is 2 : 1, then which of the following is a possible value of (A + 2B + 3C)?

1 **305**

2 **275**

3 **169**

4 **260**

✖

Solution:
Correct Answer : 2
Your Answer : 3

$\frac{A}{B}=\frac{2}{3}\Rightarrow A=\frac{2B}{3}$ and $\frac{B}{C}=\frac{2}{1}\Rightarrow B=2C$

Now, $A+2B+3C=\frac{2B}{3}+4C+3C=\frac{4C+21C}{3}=\frac{25C}{3}$

As A, B and C are integers, so out of the given options only 275 will give us integral value of C.

FeedBack

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Answer key/Solution

Q.83

Rob, Bran and Jon plans to go for a picnic. Rob brings 12 chocolates, Bran brings Rs. 320 and Jon brings 20 chocolates. They divide all the chocolates equally among three of them, and Bran pays all his money to Rob and Jon for their contributions. How much money (in Rs.) should Rob and Jon receive from Bran?

1 **120 and 200**

2 **100 and 220**

3 **40 and 280**

4 **60 and 260**

Solution:
Correct Answer : 3
Your Answer : 3

Total chocolates = 32

Each of them should receive $\frac{32}{3}$ chocolates.

After keeping $\frac{32}{3}$, Rob is left with

$= 12 - \frac{32}{3} = \frac{4}{3}$ chocolates,

and Jon is left with $= 20 - \frac{32}{3} = \frac{28}{3}$ chocolates.

As Bran receives chocolates from Rob and Jon in ratio 4 : 28 i.e., 1 :7, so money received by them from Bran should also be in the same ratio.
Therefore, Rob and Jon receive Rs. 40 and Rs. 280 respectively from Bran.

FeedBack

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Answer key/Solution

Q.84

In how many ways 10 identical balls be distributed among 5 kids such that all of them get at least one ball and no one receives more than 4 balls?

1 **101**

2 **105**

3 **126**

4 **121**

Solution:
Correct Answer : 1

Let a, b, c, d and e be the number of chocolates distributed among 5 kids.
Then, a+ b + c + d + e = 10.
Let all 5 of them receive 1 chocolate each
i.e., a + b + c + d + e = 5
Number of solutions = ${}^{9}C_{4}$ = 126
If any one of them receives 5 chocolates, it violates the condition.
So, number of ways in which a child can receive 5 chocolates is as,

$$\underset{(+5)}{a}+\underset{(+1)}{b}+\underset{(+1)}{c}+\underset{(+1)}{d}+\underset{(+1)}{e}=1$$

$$\Rightarrow 5\times{}^{5}C_{4}=5\times5=25 \text{ ways}$$

Therefore, Total required ways = 126 – 25 = 101 ways.

FeedBack

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Answer key/Solution

Q.85

A dishonest shopkeeper claims to be selling wheat at 90% of its cost price. But actually he is making a profit of 25% on his sales by using faulty weight. How many grams of wheat is he selling instead of a kg?

1 **818.18**

2 **720**

3 **777.77**

4 **692**

Solution:
Correct Answer : 2

Let C.P. of 1000 g of wheat be Rs. 1000.

Expected S.P. of 1000 g = $\frac{90\times1000}{100}$ = Rs.900

Since he is making a profit of 25% even on this selling price,

$\Rightarrow x\left[1+\frac{25}{100}\right]=900$, where x is the grams of wheat he is actually selling to earn the profit.
$\Rightarrow$ x = 720 grams.

FeedBack

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Answer key/Solution

Q.86

Find the value of $(\log_{\sqrt{4}} 64 + \log_{\sqrt[3]{5}} 625 + \log_{\sqrt[3]{3}} 81)$.

1 **44**

2 $2\frac{53}{60}$

3 **36**

4 $\frac{55}{59}$

Solution:
Correct Answer : 1

Bookmark

Answer key/Solution

$\log_{4\sqrt{4}} 64 + \log_{5\sqrt{5}} 625 + \log_{3\sqrt{3}} 81$

$= \log_{\left(4^{\frac{1}{4}}\right)} 64 + \log_{\left((5)^{\frac{1}{5}}\right)} 625 + \log_{\left(3^{\frac{1}{3}}\right)} 81$

$= 4\log_4(4)^3 + 5\log_5(5)^4 + 3\log_3(3)^4$

$= 4 \times 3 + 5 \times 4 + 3 \times 4 = 44.$

FeedBack

Q.87

In an equilateral triangle ABC of side $20\sqrt{3}$m, find the minimum time taken (in seconds) to travel the shortest distance from vertex A to its opposite side BC at the speed of 5 m/sec.

Solution:
Correct Answer : 6

Bookmark

Answer key/Solution

Side of equilateral triangle ABC = $20\sqrt{3}$ m

Shortest distance is perpendicular distance

$\therefore$ Height $= \frac{\sqrt{3}}{2} \times 20\sqrt{3} = 30$ m

$\therefore$ Minimum time taken $= \frac{30}{5} = 6$ seconds

FeedBack

Q.88

A person reaches office 12 minutes late than his usual time while driving at 20 km/hr. If he reaches 16 minutes late than his usual time, then find his speed in km/hr.

1 **18 km/hr**

2 **12 km/hr**

3 **30 km/hr**

4 **Data insufficient**

✔

Solution:
Correct Answer : 4
Your Answer : 4

Let s and t be the usual speed and time taken.

So, distance = st = $20\left(t+\frac{12}{60}\right)$

If he reaches 16 min late, time taken = $\left(t+\frac{16}{60}\right)$

But we cant find the speed even using all the above informations.

FeedBack

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Answer key/Solution

Q.89

Three balls are to be picked from a bag containing 6 black, 5 white and 4 red balls. What is the probability that all three balls are of different colour?

1 **67/91**

2 **57/91**

3 **34/91**

4 **24/91**

Solution:
Correct Answer : 4

Bag contains 6 black, 5 white and 4 red balls.
Favourable outcomes = ${}^6C_1 \times {}^5C_1 \times {}^4C_1$
Total outcome = ${}^{15}C_3$

$\therefore$ The required probability = $\frac{6\times5\times4}{\frac{15\times14\times13}{3\times2}} = \frac{24}{91}$.

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Answer key/Solution

Q.90

How many three digit numbers are there which when divided by 2, 3, 5 and 7 leaves remainder 1, 2, 4 and 2 respectively?

Solution:

Correct Answer : 5

Bookmark

Answer key/Solution

We see the different remainders with 2, 3, 5, 7.
On observation we can see that the remainder with 2, 3 and 5 is of –1 and with 7 is 2.
From here we can conclude that

$$30k - 1 = 7n + 2 \Rightarrow \frac{30k - 3}{7} = n$$

On solving the minimum value of k can be 5, so the first number is $3 \times 5 - 1 = 149$. The rest of the numbers are with a difference of 210 (LCM of 2, 3, 5, 7).
So 5 three digit numbers are possible satisfying the given conditions.

Alternative method:

$$\text{Rem}\left(\frac{30k - 1}{7}\right) = 2$$

$$\Rightarrow \text{Rem}\left(\frac{30k}{7}\right) = 3$$

So, k = 5, and hence 149 is the minimum 3-digit number satisfying the given condition.

FeedBack

Q.91

For a right angled triangle XYZ, right angled at Y, the circumradius is 5 cm and inradius is 2 cm. Find the area (in cm^2) of the triangle.

1 **24**

2 **48**

3 **12**

4 **Cannot be determined**

Solution:

Correct Answer : 1

Let us assume b, p and h to be the base, perpendicular and hypotenuse of the right angled triangle.

In a right angle triangle inradius is $\frac{b+p-h}{2}$ and

circumradius is $\frac{h}{2}$.

Also, Area = inradius × semi-perimeter

$\frac{h}{2}=5 \Rightarrow h = 10$

and $\frac{b+p-10}{2}=2$

$\therefore b + p = 14$

So, area = $\left(\frac{14+10}{2}\right)\times 2 = 12\times 2 = 24.$

FeedBack

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Answer key/Solution

Q.92

If α, β are the roots of the equation $ax^2 + bx + c = 0$ such that αβ =30 and α = −2, then which of the following is the value of discriminant of the given equation?

1 **196b**

2 **$289a^2$**

3 **$169a^2$**

4 **289a**

Solution:

Correct Answer : 3

To calculate the discriminant i.e., $b^2 - 4ac$,
we can take a^2 common so that discriminant becomes

$a^2\left(\frac{b^2}{a^2}-4\frac{c}{a}\right)$

$\Rightarrow$ D = a^2((sum of roots)^2 − 4(Product of roots))

As $\alpha\beta = 30$, and $\alpha = -2$, so $\beta = -15$.

$\Rightarrow$ D = $a^2((-17)^2 - 4(30)) = 169a^2$

FeedBack

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Answer key/Solution

Q.93

In what proportion can three varieties of milk solutions, containing 40%, 72% and 90% milk respectively, should be mixed so that the concentration of milk in the final solution is 60%?

1 **3 : 15 : 4**

2 **6 : 5 : 2**

3 **3 : 10 : 2**

4 **Both (1) and (3).**

Solution:
Correct Answer : 2

Going by the option, we can check that only option (2) will give us the desired result.

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Answer key/Solution

Q.94

The sum of 2^{nd} and 3^{rd} term of an A.P. equals its 16^{th} term. Find the ratio of 7^{th} and 9^{th} term of this A.P.

1 **3 : 8**

2 **8 : 17**

3 **9 : 10**

4 **4 : 7**

Solution:
Correct Answer : 3

$a + d + a + 2d = a + 15d$
i.e., $a + 3d = 15d$
$\Rightarrow a = 12d.$

$$\Rightarrow \frac{7\text{thterm}}{9\text{thterm}} = \frac{a+6d}{a+8d} = \frac{18d}{20d} = \frac{9}{10}.$$

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Answer key/Solution

Q.95

There are 15 students in a class, who sat for maths semester exam. Average marks scored by 12 of them was 72. What will be the sum of marks of remaining 3 students, if addition of marks of each subsequent student increases the average by 1 mark.

Solution:

Correct Answer : 261

13th student if gets 72 marks then no change in average, if gets 72 + 13 = 85 average increases by 1. 14th student should get 73 + 14 and 15th student should get 74 + 15.
So, Sum of marks of these 3 students will be 85 + 87 + 89 = 261.

FeedBack

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Answer key/Solution

Q.96

Find the number of positive integral solution(s) of $x^3 - x = 987$.

1 **0**

2 **1**

3 **2**

4 **3**

Solution:

Correct Answer : 1

If x is an integer either odd or even, then x^3 and x both will be either odd or even. Thus, the difference will be always even. But since the number given on right hand side is odd, no positive integral solution exists.
Alternative method:
$x^3 - x = (x-1)x(x+1)$ which is a multiple of 6, but 987 is not.
Hence no integral solution exist.

FeedBack

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Answer key/Solution

Q.97

A and B start moving simultaneously towards each other from points X and Y respectively. A starts at the speed of 2 m/sec in the first second and then increases his speed every second by 3 m/sec . Similarly, B starts at 3 m/sec and increases his speed every second by some integral speed in m/sec . They meet at the end of nth second (n > 2) and speed of B during nth second was decuple of that of A. Find the distance (in meters) between points X and Y. [decuple = ten folds]

Solution:
Correct Answer : 5292

Bookmark

Answer key/Solution

Speed of A = 2 + 3 t
Speed of B = 3 + dt
Now, speed of B = 10 × speed of A
i.e., 3 + dt = 10 (2 + 3t)
$\Rightarrow$ t (d – 30) = 17
As n > 2, t = 17 and d = 31 if the only solution.
Hence, total time taken is 18 seconds.
Therefore, total distance

$$= 18\left(\frac{2+53}{2}+\frac{3+530}{2}\right) = 5292\text{m}.$$

FeedBack

Q.98

Find the sum (upto 2 decimal places) of the series: $\frac{1^3}{1}+\frac{1^3+2^3}{1+3}+\frac{1^3+2^3+3^3}{1+3+5}+\cdots$ to 10 terms.

Solution:
Correct Answer : 126.25

Bookmark

Answer key/Solution

For the given series,

$$Tn = \left(\frac{n(n+1)}{2}\right)^2 \times \frac{1}{n^2} \times \frac{n^2+1+2n}{4}$$

$$\text{So, } Sn = \sum Tn = \frac{1}{4}\left[\sum n^2 + \sum 1 + 2\sum n\right]$$

$$= \frac{1}{4}\left[\frac{n(n+1)(2n+1)}{6}+n+\frac{2.n(n+1)}{2}\right]$$

As we have to calculate the sum upto 10 terms,

$$Sn = \frac{1}{4}\left[\frac{10\times11\times21}{6}+10+10\times11\right]$$

$$= \frac{1}{4}[385+120] = \frac{505}{4} = 126.25$$

FeedBack

Q.99

An alloy of gold, silver and bronze weighs 200 grams. If gold, silver and bronze in the alloy are in ratio 3 : 4 : 3, then how much percentage of silver, as compared to the initial amount of silver, must be added such that their weights are in ratio 1 : 2 : 1 in the final alloy?

1 ○ **50**

2 **75**

3 **40**

4 **20**

Solution:

Correct Answer : 1

Weight of silver originally present in the alloy = 80 g
Weight of gold and bronze is 60 g each.
As only silver is added,
and according to new ratio gold is 50% of silver,
so silver must be 120 g in the alloy after addition.

So, percentage increase in silver $= \frac{40}{80} \times 100 = 50\%$

FeedBack

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Answer key/Solution

Q.100

How many numbers are there in between 200 and 500 which are multiple of 3 but not of 12?

1 **80**

2 **75**

3 **85**

4 **79**

Solution:

Correct Answer : 2

Your Answer : 2

Between 200 and 500 there are 100 numbers which are multiple of 3, and 25 numbers which are multiple of 12.
But those 100 multiple of 3 also contains all the multiples of 12 in this range.
So, required number = 100 - 25 = 75.

Alternative method:

$\left[\frac{300}{3}\right]-\left[\frac{300}{12}\right]=75$, where

$\left[\frac{300}{3}\right]$ gives number of multiples of 3,

and $\left[\frac{300}{12}\right]$ gives number of multiples of 12.

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