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Mock CAT – 11 2018

Scorecard (procreview.jsp?sid=aaa5BycB_LJvH-TdBuPHwSun Jan 20 07:14:43 UTC 2019&qsetId=WkvOGaZg1O8=&qsetName=Mock CAT – 11 2018)

Accuracy (AccSelectGraph.jsp?sid=aaa5BycB_LJvH-TdBuPHwSun Jan 20 07:14:43 UTC 2019&qsetId=WkvOGaZg1O8=&qsetName=Mock CAT – 11 2018)

Qs Analysis (QsAnalysis.jsp?sid=aaa5BycB_LJvH-TdBuPHwSun Jan 20 07:14:43 UTC 2019&qsetId=WkvOGaZg1O8=&qsetName=Mock CAT – 11 2018)

Video Attempt (VideoAnalysis.jsp?sid=aaa5BycB_LJvH-TdBuPHwSun Jan 20 07:14:43 UTC 2019&qsetId=WkvOGaZg1O8=&qsetName=Mock CAT – 11 2018)

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QA

Sec 1

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

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But networking can be extremely draining. Imagine the countless hours entrepreneurs spend talking, travelling, and socializing with contacts and potential investors. Excessive social interaction can be physically and mentally exhausting for anyone — even extroverts. In fact, many of the founders I coach describe networking as draining, saying it sometimes robs them of the energy they need to work on actual business operations.

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Tracking your networking hours and energy levels can help you be aware of your personal limits.

Second, Choose quality over quantity, even if it means meeting fewer people. Networking is often seen as a quantity game: The bigger your network is, the better off you are. But if you're already exhausted, trying to network with every interesting person that comes your way can backfire professionally. If your time is limited and you have an event that doesn't meet the standards, you're probably better off skipping it and conserving your energy for a different opportunity.

Third, Use microbreaks to reenergize during networking events. Research shows that microbreaks, or nonwork periods of less than 10 minutes in duration, can help replenish a person's energy resources so that they're able to continue their work tasks. A one-minute break can be just as effective as taking a longer break of five or nine minutes! This makes microbreaks ideal for busy entrepreneurs.

Following these steps can help entrepreneurs better manage their energy, which is a crucial yet limited resource for many.

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Q.1

As used in the passage, what does the term 'microbreak' mean?

1 ○ **Sleep at work**

2 ○ **Limited leisure**

3 **Passing hobby**

4 **Minimal work**

Solution:
Correct Answer : 2
In the passage it is stated that, 'Third, Use microbreaks to reenergize during networking events. Research shows that microbreaks, or nonwork periods of less than 10 minutes in duration'. The term 'nonwork periods' makes 2 the correct choice. The other options cannot be validated from the given passage.

FeedBack

Bookmark

Answer key/Solution

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Q.2

According to the author all of the following are helpful for networking except:

1 ○ **disregarding personal limitations of interactions.**

2 ○ **attending social functions.**

3 **quality of contacts should be prioritised over quantity.**

4 **taking necessary breaks from work.**

Solution:
Correct Answer : 1
In the passage it is stated that, 'Determine your optimum level of social interaction. Being with others can be enjoyable, but there will always be a point when it becomes too draining for you.' This makes 1 the correct choice. All the other options are discussed by the author as influential towards establishing a successful network.

FeedBack

Bookmark

Answer key/Solution

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Q.3

The author thinks networking can be exhausting because:

1 ○ **it makes you take unnecessary breaks.**

2 ○ **it forces people to travel with or without their consent.**

3 **it includes excessive interactions which can be exhausting.**

4 **it makes one resort to further trainings which increase work burden.**

Solution:
Correct Answer : 3
In the passage it is stated that, 'Excessive social interaction can be physically and mentally exhausting for anyone — even extroverts.' The other options cannot be verified from the data provided.

FeedBack

Bookmark

Answer key/Solution

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Q.4

The article primarily focuses on exhaustions faced by:

1 ○ **enterprisers.**

2 ○ **computer scientists.**

3 **network magnates.**

4 **coaches.**

Solution:
Correct Answer : 1
The article discusses how networking is viewed as a burden by entrepreneurs.
This makes 1 the correct choice.

FeedBack

Bookmark

Answer key/Solution

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Q.5

The most appropriate title for the passage is:

1 ○ **Hack the Network.**

2 ○ **Take It Easy: A guide to lead a tension free business venture.**

3 **Networking: The rules of the game.**

4 **How to Keep Networking Exhaustion at Bay.**

Solution:
Correct Answer : 4
The author throughout the passage discusses methods which can help entrepreneurs from getting drained by networking. The other options go beyond the scope of the passage.

FeedBack

Bookmark

Answer key/Solution

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Q.6

The author's tips are ultimately aimed at:

1 ○ **making the workplace tensions free.**

2 ○ **setting up long term success.**

3 reducing business related stress.

4 making networking palatable among entrepreneurs.

Solution:
Correct Answer : 2
The final line of the passage states that, 'Not only do they provide short-term energy benefits, but they also can help set you up for long-term success.' The other options go beyond the scope of the passage.

Bookmark

Answer key/Solution

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.

A couple of years ago, at a massive conference of neuroscientists — 35,000 attendees, scores of sessions going at any given time — I wandered into a talk that I thought would be about consciousness but proved (wrong room) to be about grasshoppers and locusts. At the front of the room, a bug-obsessed neuroscientist named Steve Rogers was describing these two creatures — one elegant, modest, and well-mannered, the other a soccer hooligan.

The grasshopper, he noted, sports long legs and wings, walks low and slow, and dines discreetly in solitude. The locust scurries hurriedly and hoggishly on short, crooked legs and joins hungrily with others to form swarms that darken the sky and descend to chew the farmer's fields bare.

Related, yes, just as grasshoppers and crickets are. But even someone as insect-ignorant as I could see that the hopper and the locust were radically different animals — different species, doubtless, possibly different genera. So I was quite amazed when Rogers told us that grasshopper and locust are in fact the same species, even the same animal, and that, as Jekyll is Hyde, one can morph into the other at alarmingly short notice.

Not all grasshopper species, he explained (there are some 11,000), possess this morphing power; some always remain grasshoppers. But every locust was, and technically still is, a grasshopper — not a different species or subspecies, but a sort of hopper gone mad. If faced with clues that food might be scarce, such as hunger or crowding, certain grasshopper species can transform within days or even hours from their solitudinous hopper states to become part of a maniacally social locust scourge. They can also return quickly to their original form.

In the most infamous species, Schistocerca gregaria, the desert locust of Africa, the Middle East and Asia, these phase changes (as this morphing process is called) occur when crowding spurs a temporary spike in serotonin levels, which causes changes in gene expression so widespread and powerful they alter not just the hopper's behaviour but its appearance and form. Legs and wings shrink. Subtle camo colouring turns conspicuously garish. The brain grows to manage the animal's newly complicated social world, which includes the fact that, if a locust moves too slowly amid its million cousins, the cousins directly behind might eat it. How does this happen? Does something happen to their genes? Yes, but — and here was the point of Rogers's talk — their genes don't actually change. That is, they don't mutate or in any way alter the genetic sequence or DNA. Nothing gets rewritten. Instead, this bug's DNA — the genetic book with millions of letters that form the instructions for building and operating a grasshopper — gets reread so that the very same book becomes the instructions for operating a locust. Even as one animal becomes the other, as Jekyll becomes Hyde, its genome stays unchanged. Same genome, same individual, but, I think we can all

agree, quite a different beast.

Transforming the hopper is gene expression — a change in how the hopper's genes are 'expressed', or read out. Gene expression is what makes a gene meaningful, and it's vital for distinguishing one species from another. We humans, for instance, share more than half our genomes with flatworms; about 60 per cent with fruit flies and chickens; 80 per cent with cows; and 99 per cent with chimps. Those genetic distinctions aren't enough to create all our differences from those animals — what biologists call our particular phenotype, which is essentially the recognisable thing a genotype builds. This means that we are human, rather than wormlike, flylike, chickenlike, feline, bovine, or excessively simian, less because we carry different genes from those other species than because our cells read differently our remarkably similar genomes as we develop from zygote to adult. The writing varies — but hardly as much as the reading.

This raises a question: if merely reading a genome differently can change organisms so wildly, why bother rewriting the genome to evolve? How vital, really, are actual changes in the genetic code? Do we always need DNA changes to adapt to new environments? Are there other ways to get the job done? Is the importance of the gene as the driver of evolution being overplayed?

Q.7

What is the primary purpose of the author in writing this passage?

1 To show that gene expression and DNA reading as the primary force behind the differences in organisms

2 To prove that gene is not the driver of evolution

3 To highlight the importance of gene expression via the example of grasshoppers and locusts

4 To raise the issue of scientists being wrong about their understanding of evolution and importance of DNA

Solution:

Correct Answer : 1

Option 1 sums up the central them e of the passage. 2 can be negated as gene still is the driver of evolution. Though 3 is factually correct but it is not the main idea it's just an example. 4 is also incomplete.

Bookmark

Answer key/Solution

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Q.8

Which of the following is not a feature of locusts?

---

1 ○ **They are social animals that hunt in swarms.**

---

2 ○ **They change from a grasshopper form to locust when there is a spike in the serotonin levels.**

---

3 ○ **They can return to their original form.**

---

4 They have short, crooked legs.

Solution:
Correct Answer : 2
A spike in the serotonin levels occurs in Schistocera gregaria but it cannot be inferred that this is true for all locusts.

FeedBack

Bookmark

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This raises a question: if merely reading a genome differently can change organisms so wildly, why bother rewriting the genome to evolve? How vital, really, are actual changes in the genetic code? Do we always need DNA changes to adapt to new environments? Are there other ways to get the job done? Is the importance of the gene as the driver of evolution being overplayed?

Q.9

Why does the author cite the example of human gene pool?

1 **To show that humans have derived their gene pool from a variety of animals**

2 **To prove that every species is a combination of various gene pools**

3 **To prove that even we could behave like a worm, a fly or a chicken, just as a grasshopper, if faced with a genetic crisis**

4 **To prove that it is not the actual gene composition but only its expression which determines the behaviour of a species**

Solution:
Correct Answer : 4
Refer to the last two paragraphs. The author gives the example to prove the point mentioned in option 4. 3 is too literal and meaningless in the context of the passage. 2 is too broad; it talks about all species. 1 is distorted. Humans share their gene pool but nothing in the passage states that they have derived it from other animals.

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.

A couple of years ago, at a massive conference of neuroscientists — 35,000 attendees, scores of sessions going at any given time — I wandered into a talk that I thought would be about consciousness but proved (wrong room) to be about grasshoppers and locusts. At the front of the room, a bug-obsessed neuroscientist named Steve Rogers was describing these two creatures — one elegant, modest, and well-mannered, the other a soccer hooligan.

The grasshopper, he noted, sports long legs and wings, walks low and slow, and dines discreetly in solitude. The locust scurries hurriedly and hoggishly on short, crooked legs and joins hungrily with others to form swarms that darken the sky and descend to chew the farmer's fields bare.

Related, yes, just as grasshoppers and crickets are. But even someone as insect-ignorant as I could see that the hopper and the locust were radically different animals — different species, doubtless, possibly different genera. So I was quite amazed when Rogers told us that grasshopper and locust are in fact the same species, even the same animal, and that, as Jekyll is Hyde, one can morph into the other at alarmingly short notice.

Not all grasshopper species, he explained (there are some 11,000), possess this morphing power; some always remain grasshoppers. But every locust was, and technically still is, a grasshopper — not a different species or subspecies, but a sort of hopper gone mad. If faced with clues that food might be scarce, such as hunger or crowding, certain grasshopper species can transform within days or even hours from their solitudinous hopper states to become part of a maniacally social locust scourge. They can also return quickly to their original form.

In the most infamous species, Schistocerca gregaria, the desert locust of Africa, the Middle East and Asia, these phase changes (as this morphing process is called) occur when crowding spurs a temporary spike in serotonin levels, which causes changes in gene expression so widespread and powerful they alter not just the hopper's behaviour but its appearance and form. Legs and wings shrink. Subtle camo colouring turns conspicuously garish. The brain grows to manage the animal's newly complicated social world, which includes the fact that, if a locust moves too slowly amid its million cousins, the cousins directly behind might eat it. How does this happen? Does something happen to their genes? Yes, but — and here was the point of Rogers's talk — their genes don't actually change. That is, they don't mutate or in any way alter the genetic sequence or DNA. Nothing gets rewritten. Instead, this bug's DNA — the genetic book with millions of letters that form the instructions for building and operating a grasshopper — gets reread so that the very same book becomes the instructions for operating a locust. Even as one animal becomes the other, as Jekyll becomes Hyde, its genome stays unchanged. Same genome, same individual, but, I think we can all agree, quite a different beast.

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Q.10

Which of the following is true according to the passage?

---

1 ○ **Gene expression distinguishes one species from another.**

---

2 ○ **The genes in humans and other animals do not vary; it's only the way they are expressed that varies.**

---

3 ○ **Humans share 99% of their Genes with cows, 80% with Chimps and about 60% with fruit flies.**

---

4 All grasshoppers have morphing powers to change into locust, whenever there is a crisis.

Bookmark

Answer key/Solution

Solution:
Correct Answer : 1
option 3 is factually incorrect. Humans share 80% genes with cows and 99% with chimps. For 4 refer to these lines - " Not all grasshopper species possess this morphing power; some always remain grasshoppers. 2 is also factually incorrect.

FeedBack

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Q.11

Which of the following would be most helpful in determining the answer to the questions raised in the last paragraph?

1 **How DNA changes work in humans?**

2 **How genetic codes are evolved in species?**

3 **How writing and reading of genes work?**

4 **How important is genes in the evolution of humans?**

Solution:
Correct Answer : 3
The most important question is raised in the last line. Have we actually overemphasised the role of gene in evolution? 1 will not help a lot because we already have attributed our evolution to DNA. Option 2 will only make the question stronger. Option 4 goes against the spirit of the question. Option 3 will surely help answer the question.

FeedBack

Bookmark

Answer key/Solution

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Q.12

As per the passage, which of the following is not true about gene expression?

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1 ○ **It accounts for the reason why humans don't behave like other species despite the genetic similarities.**

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2 ○ **It is of significantly higher importance than genetic reading and writing.**

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3 It is a factor behind the way we are shaped when we evolve from zygote to adult.

4 It explains to some extent the way different species behave differently and are distinguished from one another.

Solution:
Correct Answer : 2
Options 1, 3, and 4 are mentioned in the passage. Option 2 is incorrect. The passage speaks the exact opposite of option 2.

FeedBack

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Answer key/Solution

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The flaws of the general equilibrium model of economics are well-documented. In his essay 'On the Definition of Political Economy' (1844), John Stuart Mill described Homo economicus (the rational man) as 'an arbitrary definition of man, a being who inevitably does that by which he may obtain the greatest amount of necessaries, conveniences, and luxuries, with the smallest quantity of labour and physical self-denial with which they can be obtained'. In his essay 'Why Is Economics not an Evolutionary Science' (1898), Thorstein Veblen lampooned Homo economicus as 'a lightning calculator of pleasures and pains, who oscillates like a homogenous globule of desire of happiness under the impulse of stimuli that shift about the area, but leave him intact'. Even back then, Veblen regarded this conception of human nature as 'some generations' out of date.

Most social scientists agree that H. economicus bears almost no relation to H. sapiens, and yet, to this day, the general equilibrium model enjoys a dominant position in economic thought and policy. In the classic essay 'The Methodology of Positive Economics' (1953), Milton Friedman confidently assured his readers that the predictions of the orthodox model could be correct even if its assumptions were wrong. Walras's theory prescribed an extreme laissez-faire approach to economic policy, and gave license to Friedman to argue, tirelessly, that just about anything would work better if government got out of the way — and presidents and prime ministers listened.

The current economic paradigm owes its dominance in part to its prestige as a formal mathematical theory. Everything else in economics seems like a mish-mash of ideas by comparison. The strongest challenge to the dominant model comes from behavioural economists, who call for economic theory and policy based on Homo sapiens, not Homo economicus. But, so far, behavioural economists have merely compiled a list of 'anomalies' and 'paradoxes' that are anomalous and paradoxical only against the background of the general equilibrium model, like satellites that cannot escape the orbit of their mother planet. They have not put forth a general theory of their own.

Evolution might have a role to play in filling this theoretical vacuum but, first, it's important to acknowledge that evolutionary theory is not at all like Newtonian physics. In fact, it doesn't have to be. For evolutionary theory achieves its generality in a very different way. Evolutionists have a conceptual toolkit that can be applied to the study of any aspect of any organism. This includes asking four questions in parallel, concerning the function, history, physical mechanism, and development of the trait. For example, species that live in the desert are typically sandy-coloured. How do we go about explaining this fact? First they are sandy-coloured to avoid detection by their predators and prey (a functional explanation). Second, the sandy colouration is achieved by various physical mechanisms, depending upon the species — fur in mammals, chitin in insects, feathers in birds (a physical explanation). What is more, the particular

mechanism is based in part on the lineage of the species (an historical explanation) and develops during the lifetime of the organism by a variety of pathways (a developmental explanation). Answering these four questions results in a fully rounded understanding of colouration in desert species. All branches of biology are unified by this approach.

This kind of thinking might seem far removed from economics and public policy, but it can be applied to core economic concepts, especially when we remember that evolutionary theory includes the study of cultural evolution in addition to genetic evolution. The evolutionary paradigm challenges assumptions that are so deeply embedded in orthodox economic theory that they aren't even recognised as assumptions. For example, the general equilibrium model assumes that individuals strive to maximise their absolute utilities, but by contrast natural selection is based on relative fitness. It doesn't matter how well an organism survives and reproduces in absolute terms. It only matters how well it does relative to organisms that employ alternative strategies. The traits that maximise the advantage of an individual, relative to the members of its group, are typically different from the traits required for the group to function as a co-ordinated unit to achieve shared goals. What's good for me is not necessarily good for my family. What's good for my family is not necessarily good for my clan. What's good for my clan is not necessarily good for my nation. What's good for my nation is not necessarily good for the global environment or economy.

Q.13

Why does the author talk about 'satellites' in the third paragraph?

1 **to show how economics has not been able to escape its mathematical models.**

2 **to point out how behavioural economists supply new information to general equilibrium model in the form of its anomalies and paradoxes.**

3 **to emphasise how the existence of behavioural economics is dependent on that of the general equilibrium model.**

4 **to point out how the paradoxes and anomalies pointed by behavioural economists have pushed them to the margins.**

Solution:
Correct Answer : 3
The phrase 'like satellites that cannot escape the orbit of their mother planet' is an analogy of how behavioural economics is dependent on the general equilibrium model. Hence, 3. The comparison relates to behavioural economics, not economics, so 1 is eliminated. Also, the idea is that of dependence, not of supplying new info. So 2 is eliminated. 4 is factually incorrect.

Bookmark

Answer key/Solution

FeedBack

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Q.14

From the last paragraph, it cannot be inferred that:

1 ○ **it is the traits that maximise the advantage of an individual, relative to the members of its group that lead to equilibrium.**

2 the interests of a clan can be different from its global environment.

3 the fact that evolutionary theory involves the study of cultural evolution has some bearing on its application to basic economic concepts.

4 orthodox economic theory involves some assumptions.

Bookmark

Answer key/Solution

Solution:
Correct Answer : 1
The paragraph does not state that maximising an individual's advantage relative to the members of its group leads to equilibrium. In fact, it goes on to say that such traits can be different from those required to achieve shared goals. It then highlights how the interests of different groups can be different. So the author would perhaps talk about reconciling these differences to achieve equilibrium, rather than simply calling maximising relative advantage as the equilibrium. 2 can be inferred from the last three lines. 3 can be inferred from the first line. And 4 can be inferred from the second line. The fact that orthodox economic theory doesn't recognise them as assumptions doesn't belie the fact that they are assumptions.

FeedBack

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Q.15

Which of the following expressions best captures the assurance given by Friedman to his readers in his essay?

1 **Ends could justify the means.**

2 **The wrong train could lead us to the right destination.**

3 **More often than not, two wrongs could make a right.**

4 **It's all relative.**

Solution:
Correct Answer : 2
The assurance given by Friedman is that the predictions of the orthodox model could be correct even if its assumptions were wrong. He wasn't assuring his readers that these assumptions were justified in the light that they produced correct predictions. Maybe, he believed that himself as is reflected in his tireless arguments of no government interference, but he isn't assuring his readers of the same. 1 is thus eliminated. 2 comes closest to his assurance. 3 talks about two wrongs. That would require a wrong in response to the wrong assumptions of the orthodox model. 4 would mean that right or wrong would depend on a person's viewpoint which is not what has been indicated by his assurance.

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Evolution might have a role to play in filling this theoretical vacuum but, first, it's important to acknowledge that evolutionary theory is not at all like Newtonian physics. In fact, it doesn't have to be. For evolutionary theory achieves its generality in a very different way. Evolutionists have a conceptual toolkit that can be applied to the study of any aspect of any organism. This includes asking four questions in parallel, concerning the function, history, physical mechanism, and development of the trait. For example, species that live in the desert are typically sandy-coloured. How do we go about explaining this fact? First they are sandy-coloured to avoid detection by their predators and prey (a functional explanation). Second, the sandy colouration is achieved by various physical mechanisms, depending upon the species — fur in mammals, chitin in insects, feathers in birds (a physical explanation). What is more, the particular mechanism is based in part on the lineage of the species (an historical explanation) and develops during the lifetime of the organism by a variety of pathways (a developmental explanation). Answering these four questions results in a fully rounded understanding of colouration in desert species. All branches of biology are unified by this approach.

This kind of thinking might seem far removed from economics and public policy, but it can be applied to core economic concepts, especially when we remember that evolutionary theory includes the study of cultural evolution in addition to genetic evolution. The evolutionary paradigm challenges assumptions that are so deeply embedded in orthodox economic theory that they aren't even recognised as assumptions. For example, the general equilibrium model assumes that individuals strive to maximise their absolute utilities, but by contrast natural selection is based on relative fitness. It doesn't matter how well an organism survives and reproduces in absolute terms. It only matters how well it does relative to organisms that employ alternative strategies. The traits that maximise the advantage of an individual, relative to the members of its group, are typically different from the traits required for the group to function as a co-

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Q.16

What do you think is the most likely source of the passage?

1 **A newspaper article**

2 **A research paper in the field of Economics**

3 **An essay in an inter-disciplinary magazine**

4 **A speech by a leading social scientist**

Solution:

Correct Answer : 3

The passage is academic, deep and niche in nature. Newspaper articles generally don't deal with such topics. Further, there aren't any indications in the passage to show that this is a speech. Some conversational tone here and there does not make a passage a speech. 3 is better between 2 and 3 because while we can see citations in the passage, the tone is conversational at places (last three lines) and quite argumentative and critical at others (Everything else in economics seems like a mishmash of ideas by comparison.) Research papers tend to be more analytical and balanced than critical and conversational. Moreover, the passage deals with both the subjects Economic theory and Evolutionary Theory, making 3 a better choice.

Bookmark

Answer key/Solution

FeedBack

Directions for questions (13 to 18): The passage below is accompanied by a set of six questions. Choose the best answer to each question.

The flaws of the general equilibrium model of economics are well-documented. In his essay 'On the Definition of Political Economy' (1844), John Stuart Mill described Homo economicus (the rational man) as 'an arbitrary definition of man, a being who inevitably does that by which he may obtain the greatest amount of necessaries, conveniences, and luxuries, with the smallest quantity of labour and physical self-denial with which they can be obtained'. In his essay 'Why Is Economics not an Evolutionary Science' (1898), Thorstein Veblen lampooned Homo economicus as 'a lightning calculator of pleasures and pains, who oscillates like a homogenous globule of desire of happiness under the impulse of stimuli that shift about the area, but leave him intact'. Even back then, Veblen regarded this conception of human nature as 'some generations' out of date.

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Q.17

Which of the following is not a part of the conceptual toolkit of evolutionists?

1 **History**

2 **Physical mechanism**

3 **Function**

4 **Personality trait**

Solution:
Correct Answer : 4
4 is not mentioned in the second last paragraph.

FeedBack

Bookmark

Answer key/Solution

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Q.18

What is the main idea of the passage?

1 **To establish through examples that the general equilibrium model's idea of Homo Economics is flawed**

2 **To highlight the limitation of the current economic paradigm and suggest the application of the evolutionary paradigm to it**

3 **To highlight that the idea of Homo Economics is flawed and can be refuted by Evolution**

4 **To argue that the current economic paradigm is flawed and offer that evolutionary theory can be used to establish a new economic theory**

Bookmark

Answer key/Solution

Solution:

Correct Answer : 4

1 is narrow. The author doesn't just call the idea of Homo Economics flawed; he also suggests that evolutionary theory can be used to establish an alternative economic theory. 4 is twisted. The author has mentioned evolution with the purpose of developing an alternative theory not for refuting Homo economics. 2 is again twisted as it calls for the application of the new paradigm 'to the old paradigm'. 3 captures the essence.

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.

The 70-year-old Abbas Kiarostami is perhaps the most distinctive of a remarkable generation of Iranian film-makers. The influences on his work range from the Italian neo-realists to Pirandello, and he has developed a highly individual style that involves long takes, working with non-professional casts, and frequently shooting scenes or whole films with the camera fixed to the dashboard to observe the driver and passengers of a car in motion. His recurrent themes include the nature of illusion and reality, the passage of time and its erosions, the closeness of life and death.

The most recent offering from Kiarostami is a full-length film in English, French and Italian, a co-production between France, Italy and Belgium set over two summers in Tuscany. The thoughtful, mysterious, extremely chic Certified Copy is, on the face of it, a characteristically continental art house production, its central characters having the fashionable occupations favoured by the readers of Vogue and the followers of the Nouvelle Vague.

In Certified Copy, Juliette Binoche plays a Frenchwoman identified simply as "she" in the credits, who runs a gallery specialising in antiques in an idyllic Tuscan town. At the beginning of the film she attends a lecture and book signing with her cheeky, precocious 10-year-old son, whose father is nowhere in evidence. The guest of honour is the strikingly handsome, grey-haired, casually tweedy James Miller (William Shimell), a middle-aged English art historian, whose new book Certified Copy deals with the nature of fakes, copies and artistic authenticity. He's a smooth, witty man who disarmingly explains that he'd thought of calling the book "Forget the Original, Get a Good Copy".

The Binoche character leaves him a note suggesting a meeting, an offer very difficult to refuse, and the next morning, a Sunday, he drops into her elegant gallery where the artistic debate continues. She then suggests they drive to another Tuscan hill town, which he agrees to provided he can catch his train at nine in the evening. They talk as she drives and a curious relationship of irritation and intimacy develops which continues at their destination, a place populated with young couples who are virtually queuing up at the town hall and churches to marry. The discourse on art alternates with a discussion of love, marriage and commitment until the two are inseparable, and when an elderly woman serving them in a coffee shop mistakes them for husband and wife, they slip into the roles of a married couple having a reunion.

Q.19

All of the following are true about the film “Certified Copy” EXCEPT:

1 **Juliette Binoche’s character has a son whose father is not present in the story.**

2 **James Miller is a smooth, witty man who was married to Juliette Binoche’s character earlier in the story.**

3 **The discussion on art in the film eventually becomes inseparable from the discussion on marriage and commitment.**

4 **The audience may suspect the two lead characters to be engaged in some sort of matrimonial charade.**

Solution:
Correct Answer : 2
options 1, 3, and 4 are clearly mentioned in the passage. Option 2 is nowhere mentioned. In the original film, the director created the illusion of option 2. But it was not directly mentioned. However, that is irrelevant to the passage. Look at the last line. 'They slip into the role' doesn't clearly account for the veracity of option 2.

FeedBack

Bookmark

Answer key/Solution

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Q.20
With which of the following would the author of the passage most likely agree?

1 **Kiarostami thought to model his characters after professional in Vogue as they are favoured by Nouvelle Vague.**

2 **The nature of reality and illusion is the most common theme running through Kiarostami's films.**

3 The movie “Certified Copy” is a tale of mystery which aims to make the audience think.

4 Juliette Binoche’s character in the movie evokes a sense of suspense and dread.

Bookmark

Answer key/Solution

Solution:
Correct Answer : 3
Option 1 is too broad. The director does it for only this movie. Secondly, 'they are favoured by Nouvelle Vague' is not mentioned in the passage. Option 2 is wrong because the phrase 'the most common theme' can't be verified from the passage. Option 4 is wrong because of the word 'dread'. The author of the passage doesn't discuss her character with this tone. So, option 3, which is closest to the main idea of the passage, is the answer.

FeedBack

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Q.21

The author's point about the occupations of the central characters of the movie (in Para 2) is based on which of the following assumptions?

1 **It is considered fashionable for the central characters of continental art house productions to be followers of Nouvelle Vague.**

2 **Continental art house productions often have their central characters in occupations that are considered fashionable by readers of Vogue.**

3 **Occupations like that of an art historian are a fashionable characteristic of art house productions.**

4 **Continental art house productions often have their central characters in occupations related to art.**

Solution:
Correct Answer : 2
We need to use the negation method (Critical Reasoning - Assumption)to answer this question. Only the negation of option 2 weakens the conclusion or the statement. So, option 2 is the correct assumption.

FeedBack

Bookmark

Answer key/Solution

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

It has long been a blot on Indian society that while leprosy is completely curable, there lingers a social stigma attached to it. Even more shocking is that colonial laws that predate leprosy eradication programmes and medical advancements remain on the statute book. These were unconscionably discriminatory from the beginning, but even in independent India, where the law has been an instrument for social change, the process of removing them has been bafflingly slow. The Lepers Act of 1898 was repealed only two years ago. It is time for concerted action to end the entrenched discrimination in law and society against those afflicted by it. Two recent developments hold out hope. One was the introduction of a Bill in Parliament to remove leprosy as a ground for seeking divorce or legal separation from one's spouse, and the other was the Supreme Court asking the Centre whether it would bring in a positive law conferring rights and benefits on persons with leprosy and deeming as repealed all Acts and rules that perpetuated the stigma associated with it. The Personal Laws (Amendment) Bill, 2018, is only a small step. An affirmative action law that recognises the rights of those affected and promotes their social inclusion will serve a larger purpose. It may mark the beginning of the end to the culture of ostracisation that most of them face and help remove misconceptions about the disease and dispel the belief that physical segregation of patients is necessary. It is sad that it took so long to get such proposals on the legislative agenda.

Since last year, the Supreme Court has been hearing a writ petition by the Vidhi Centre for Legal Policy seeking to uphold the fundamental rights of people with leprosy and the repeal of discriminatory laws against them. The court has been approaching the issue with sensitivity and is seeking to find legal means to ensure a life of dignity for them. The 256th Report of the Law Commission came up with a number of suggestions, including the repeal of discriminatory legal provisions. It listed for abolition personal laws and Acts on beggary. The report cited the UN General Assembly resolution of 2010 on the elimination of discrimination against persons with leprosy. The resolution sought the abolition of laws, rules, regulations, customs and practices that amounted to discrimination, and wanted countries to promote the understanding that leprosy is not easily communicable and is curable. The campaign to end discrimination against those afflicted, and combating the stigma associated with it, is decades old. While governments may have to handle the legislative part, society has an even larger role to play. It is possible to end discrimination by law, but stigma tends to survive reform and may require more than legal efforts to eliminate.

Q.22

Which of the following is the author most likely to agree with?

1 **Legislation alone might not be enough to do away with the stigma associated with leprosy.**

2 **All forms of social evils are best tackled by a combination of legislation and social reform.**

3 **Leprosy, though easily communicable, is easily curable.**

4 **India is lagging behind other countries in dealing with social evils.**

Solution:
Correct Answer : 1
The discrimination that leprosy patients have to face can be dealt with only by a combined effort of the society and the legislative. The last two sentences of the passage says more or less the same thing. Option 2 is beyond the scope of the passage. The passage talks about one issue – leprosy. To extend this to all forms of social evils would be stretching it too far.

Bookmark

Answer key/Solution

FeedBack

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Q.23
Which of the following best sums up the author's opinion on the steps taken by the legislative to tackle the problem of leprosy?

1 **It is a case of too little too late.**

2 **Late action but not without promise.**

3 **Complete apathy for a serious issue.**

4 **Action driven only by immediate necessity.**

Bookmark

Answer key/Solution

Solution:
Correct Answer : 2
In the first paragraph, the author says that it is shocking that discrimination against those afflicted by leprosy lingers on in society and the government has been slow to act on it. He also mentions that there is also a ray of hope. These two excerpts from the passage should clearly lead to the answer - “but even in independent India, where the law has been an instrument for social change, the process of removing them has been bafflingly slow.” & “Two recent developments hold out hope. One was the introduction of a Bill in Parliament to remove leprosy as a ground...”

FeedBack

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Q.24

Which of the following can be inferred about personal laws and Acts on beggary?

1 **They have very little impact on the problem of leprosy.**

2 **They are ineffective in dealing with the problem of leprosy.**

3 **They are very likely to promote discrimination against patients of leprosy.**

4 **They are not in sync with similar acts and laws around the world.**

Solution:
Correct Answer : 3
In the second paragraph, it is mentioned that the 256th report of the Law Commission recommended the repeal of legal provisions that are discriminatory towards the leprosy-afflicted. The same commission in the same context listed for abolition personal laws and Acts of beggary. This clearly means that these laws/Acts would have been discriminatory in some way or the other.

Bookmark

Answer key/Solution

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.

Following a month of media hype that spread from Argentina to Russia, the Messi brand was hyped up while the man on the pitch remained as small, introverted and enigmatic as ever. If the first match against Iceland had left one gasping for air, a solitary point with a new burden for Lionel Messi to live with (the failed penalty), the second act saw him reduced even further. The shadow of Maradona may be a contributing factor to the tiny genius' mental block when it comes to the national team, but he wasn't even able to be a shadow of himself on the night they most needed to recover.

1. Messi's past contributions overshadow his present performances for Argentina.
2. Messi's bloated up image constructed by the media has failed to live up on the pitch.
3. Messi's present performances stand out as a contrast to Maradona's past glories.
4. Messi's genius is failing to shine due to Maradona's presence.

Solution:
Correct Answer : 2
1 is incorrect as the passage does not discuss Messi's past contributions; 3 is similarly incorrect as the passage does not talk about Maradona's achievements either; 4 is beyond the scope of the passage.

Bookmark

Answer key/Solution

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.

The recent killing of a pedestrian by a self-driving Uber vehicle is the source of the latest negative headlines about this company. But there's a much deeper problem. While the leadership has changed — Dara Khosrowshahi replaced Uber's co-founder Travis Kalanick as chief executive last August after a series of scandals — the company itself has not evolved. The problem with Uber was never that the chief executive had created a thuggish "Game of Thrones"-type culture, as Susan Fowler, an engineer, described it in a blog post. The problem was, and still is, Uber's business model: Its modus operandi is to subsidize fares and flood streets with its cars to achieve a transportation monopoly.

1. Uber's leadership change couldn't resolve the prevailing problems because of lack of able governing body who failed to take a strict action when a pedestrian was killed.
2. Uber's business idea to settle for a transportation monopoly is the main flaw which even changes in the leadership couldn't resolve.
3. Uber follows a "Game of Thrones" culture which meant that a change in leadership is not a solution to all the problems but a change in idea is what is required.
4. Uber's recent negative reviews have resulted in the sacking of the then CEO of the company yet the basic problems remain unanswered.

Solution:
Correct Answer : 2
The given extract discusses the flaw in the Uber company which cannot be resolved even by changing the leadership of the company. Option 1 is wrong because of the stated reason. Option 3 is not a summary but a conclusion. We do not know whether the sacking of the recent CEO was because of the recent negative reviews. Only option 2 presents the required summary.

FeedBack

Bookmark

Answer key/Solution

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.

While millions of Americans found this weekend's nationwide marches for gun control inspiring, many others are giving them a skeptical eye — and not just Second Amendment advocates. How could a bunch of teenagers have the wherewithal to make change in America's deadlocked politics? After all, they're just kids. Older people have long grumbled about the young in politics, dismissing them as "baby politicians" or "beardless boys" in the early years of this country. But when American politics were at their darkest, in the late 19th century, it was young people who broke a partisan divide and helped save democracy. Maybe they can do it again.

1. There is no point giving a skeptical eye to teenagers who have marched for the gun control law as they are the future of America.
2. The nationwide marches for gun control law was questioned by most people because of the involvement of teenagers but when time demanded the young people were the only one who saved democracy.
3. Democracy in the 19th century was saved by young people but people are still skeptical about the fact that the teenagers who marched for gun control laws are only kids.
4. The marches for gun control law have been questioned by many as most participants were teenagers who according to them do not have a clue about American politics.

Solution:
Correct Answer : 3
Option 1 is a judgment. 'Most people' makes option 2 incorrect. Option 4 is also incorrect as it uses the phrase 'do not have a clue' which cannot be justified. Only option 3 echoes the tone of the passage.

FeedBack

Bookmark

Answer key/Solution

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. Thousands of students are naturally frustrated that their best shot at these papers has come to nought; they must now make another strenuous effort in a re-examination.
2. The Central Board of Secondary Education faces a serious erosion of credibility with the leak of its annual examination question papers on Economics for Class 12 and Mathematics for Class 10.
3. Clearly, the Ministry of Human Resource Development failed to assign top priority to secrecy and integrity of the process, considering that its standard operating procedure was easily breached, and the questions were circulated on instant messaging platforms.
4. When the HRD Ministry was asked in the Lok Sabha three years ago what it intended to do to secure the CBSE Class 12 and 10 examinations, Smriti Irani, who was the Minister then, asserted the inviolability of the process, since the question papers were sealed and stored in secret places and released to authorised officials with a window of only a few hours
5. Yet, the problem is not new. State board question papers have been leaked in the past.

Solution:
Correct Answer : 21354
The given paragraph if arranged sequentially talks about the credibility issue concerning CBSE because of the leak of the annual examination papers on Economics for class 12 and Mathematics for Class 10. Sentence 2 opens the paragraph. It is followed by 1 which portrays the effect of this incident on the students. 3 searches for the reason behind this mishap. 5 and 4 form a mandatory pair describing why this issue is not a new one.

Bookmark

Answer key/Solution

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 researchers observed these structures in many tissues of the body like gastrointestinal tract, urinary bladder, skin and the lungs.
2. The study published in *Scientific reports* reveals that layers below the skin's surface, which were long thought to be dense, connective tissues are instead interconnected, fluid-filled compartments.
3. By freezing the biopsy tissue, the researchers preserved the structure and demonstrated that this new part was supported by a complex network of thick collagen bundles.
4. The scientists used Confocal laser endomicroscopy (pCLE), which provides real-time images of human tissues, to find these compartments.
5. Researchers from New York University School of Medicine have reported a previously unrecognised structure in the human body which may have implications in the mechanisms of major diseases.

Solution:
Correct Answer : 52431
The paragraph if arranged sequentially discusses a recent report presented by researchers from NYUS about locating an unrecognised structure inside human body which may be the reason behind major diseases. 5 begins the paragraph. It is followed by 2 which represents the location of the unstructured structure. It is followed by 4 and 3 which form a mandatory pair discussing the process of identifying. Sentence 1 concludes the paragraph.

Bookmark

Answer key/Solution

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. A man killed his daughter in Kerala on the eve of her wedding just last week because she was about to marry a boy below her caste – a case in point.
2. Indians bristle with them, nowadays growing a new bristle every week.
3. In everyday life, too, family sensitivities do not always stop at mental cruelty.
4. Sensitivities about caste, sub-caste, faith, clan, community and whatever else are not just the proud possessions of families, they overrun the nation.
5. The violence in Mitra's story is emotional, 'naturalized' through a family structure that uses 'sentiments' about woman's compliance, family honour and male pride as both garb and armour.

Solution:
Correct Answer : 53142
5 and 3 act as a pair and 5 is the introductory sentence. The passage talks about violence on women. 1 takes a factual example and 4 as a reality check. 2 comes next as it shows what happens in real life. 4 and 2 again form a pair. 4 tries to understand the factors which influence such violence and that it is not only women who face the backlash.

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. In a video demonstration, the "written" figures appear on an adjacent screen.
2. In the future, the researchers say the technology could be used to send phone calls to voicemail or answer text messages — all without the wearer reaching for their phone or even looking at it.
3. With the whirl of a thumb, Georgia Tech researchers have created technology that allows people to trace letters and numbers on their fingers and see the figures appear on a nearby computer screen.
4. "When a person grabs their phone during a meeting, even if trying to silence it, the gesture can infringe on the conversation or be distracting," said Thad Starner, the Georgia Tech School of Interactive Computing professor leading the project.
5. The system is triggered by a thumb ring outfitted with a gyroscope and tiny microphone; as wearers strum their thumb across the fingers, the hardware detects the movement.

Solution:
Correct Answer : 35124
3 is the opening sentence as it introduces Georgia Tech researchers. 'The system' in 5 refers to 3. So, 3 and 5 make a mandatory pair. 'The written figures' in 1 makes it the next sentence as it continues to explain the idea mentioned in 5. 2 predicts something on the basis of the previous statements. So, 2 comes next. 4 is just an elaboration of the idea introduced in 2. So, 35124 is the correct sequence.

Bookmark

Answer key/Solution

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. These jobs will require new kinds of skills; people would need to work more closely with intelligent machines and that's why they need to re-skill.
2. Business leaders constantly think about how they can transform their companies to become more lean, agile and innovative.
3. A business will be able to comply only by embracing emerging technologies like artificial intelligence (AI), machine learning, deep learning, Blockchain, sensors and Internet of Things.
4. Today, business is driven by customers who are the new focal point. Customers demand better experiences and innovative products.
5. These technologies will be common in the future workplace, which will have humans and machines coordinating with each other, exchanging information and working synergistically towards a common goal.

Solution:
Correct Answer : 1
Other than 1, all other sentences talk about the pros of strategies applied by business leaders to transform their companies. 1 although seems related but it talks about the requirement of new kinds of skill to work with intelligent machines. Hence it is an anomaly.

Bookmark

Answer key/Solution

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 Indian and Chinese economies are now in two entirely different stages of development.
2. A slowed down China now growing at 6.6% still adds $7-800 billion to global growth, while a speeded up India now growing at more than 7% adds a mere $160 billion.
3. How China moves and acts in the future will affect the developed economies enormously as it has been the major provider of growth for the last two decades, and India's growth had little bearing or derived little benefit from it.
4. For a start, China's GDP is more than four and a half times bigger than India's.
5. China's GDP now is about $12 trillion and India is inching towards $2.4 trillion.

Solution:
Correct Answer : 2
The correct sequence is 1453. 2 is the odd sentence out as all the other sentences show China to be better than India in terms of GDP, while 2 states almost the opposite. 1 opens the paragraph as it introduces that the topic- Indian and Chinese economies in two different stages. 1 and 4 create a mandatory pair as 4 states in what way the two economies differ. 5 is an extension of 4. 3 is a concluding statement and shows China's future actions as important for the developed countries.

Bookmark

Answer key/Solution

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. That's where the value of IoT sensors that collect data and systematically broadcast signals from emergency areas comes into play.
2. Today, disaster responders gain reliable, timely information only when they reach an emergency zone and take stock of the situation.
3. Ineffective communication channels, overburdened response systems, satellite disruptions, and internet blackouts further impede people from getting the help they need.
4. In the case of hurricanes and major weather events, physical and technical roadblocks often prevent response teams from obtaining critical data to track damages, prioritize response needs, and keep the public informed so that people know how to stay safe.
5. Drones could surveil disaster areas during the search-and-rescue phase and then move to data collection to support the recovery effort once the immediate danger has passed.

Solution:
Correct Answer : 5
5 talks about Drones. Every other sentence talks about the sensors. So, 5 is the odd one out. We don't need to arrange the other sentences in any order. It is not important for this question.

Bookmark

Answer key/Solution

FeedBack

Sec 2

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

Eight teams – A, B, C, D, E, F, G and H – participated in a hockey tournament. Each team played against two of the given teams. Four teams won both of their respective matches. Each team scored a distinct total number of goals in both matches out of 0, 1, 2, 4, 5, 6, 7 and 9 not necessarily in this order. (Note: One goal gives one point to the team). Further Information is given as follows:

1. A scored 5 goals in total and won both of the matches and one of them was played against H.
2. F scored the maximum total points among the teams, whereas H lost both their matches.
3. The matches between (A and H) and (E and B) have same identical goal points i.e. score of A against H will be equal to that of E against B, similarly both H and B will have same score against A and E respectively. The same is true for the matches between (C and G) and (E and D).
4. The highest goals difference was in the match between B and F where F scored 4 goals and won by the same number of goals.
5. G did not score a single goal in any of the matches and B scored 1 goal in one of the matches.
6. E scored equal goal points in both the matches. In a game against H, C beats H with 4-3.
7. No match ended in a draw.

Q.35

Which team scored the second highest number of goals in both the matches put together?

1 H

2 E

3 F

4 C

Solution:
Correct Answer : 4

Bookmark

Answer key/Solution

From statement 1 and 6, we can conclude A won both the matches and H lost both their matches.
From statement 3, we can conclude that some matches were played between the following teams with their scores as a, b, c and d (say)
A – H as a - b
E – B as a - b
C – G as c - d
E – D as c - d
From statement 4, we can say B lost its match against F so F is other team who won their both matches. From statements 3, 4 and 5, we can say B, D, H and G are the teams who lost both their matches where as A, C, E and F won their respective matches.
Also using the statement we can say total score of the team in their both matches taken together is as,
A - 5, F - 9, G - 0, H - 4, B - 1.
Since E has equal number of scores in both matches, so its total has to be an even number and also C already scored 4 goals in a match, so his total must be greater than or equal to 4. So, the only possibility for their total score is E - 6, C - 7, D - 2.
Further we can conclude that

Two teams played against each other		Goals scored by respective teams
A – H	→	3 – 1
A – G	→	2 – 0
F – B	→	4 – 0
E – B	→	3 – 1
C – G	→	3 – 0
C – H	→	4 – 3
E – D	→	3 – 0
F – D	→	5 – 2

Second highest number of goals, i.e. 7, were scored by C.

FeedBack

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

Eight teams – A, B, C, D, E, F, G and H – participated in a hockey tournament. Each team played against two of the given teams. Four teams won both of their respective matches. Each team scored a distinct total number of goals in both matches out of 0, 1, 2, 4, 5, 6, 7 and 9 not necessarily in this order. (Note: One goal gives one point to the team). Further Information is given as follows:

1. A scored 5 goals in total and won both of the matches and one of them was played against H.
2. F scored the maximum total points among the teams, whereas H lost both their matches.
3. The matches between (A and H) and (E and B) have same identical goal points i.e. score of A against H will be equal to that of E against B, similarly both H and B will have same score against A and E respectively. The same is true for the matches between (C and G) and (E and D).
4. The highest goals difference was in the match between B and F where F scored 4 goals and won by the same number of goals.
5. G did not score a single goal in any of the matches and B scored 1 goal in one of the matches.
6. E scored equal goal points in both the matches. In a game against H, C beats H with 4-3.
7. No match ended in a draw.

Q.36
Which of the following was the number of goals scored by B in a match?

1 **0**

2 **1**

3 **2**

4 **Cannot be determined**

Solution:
Correct Answer : 4

Bookmark

Answer key/Solution

From statement 1 and 6, we can conclude A won both the matches and H lost both their matches.
From statement 3, we can conclude that some matches were played between the following teams with their scores as a, b, c and d (say)
A – H as a - b
E – B as a - b
C – G as c - d
E – D as c - d
From statement 4, we can say B lost its match against F so F is other team who won their both matches. From statements 3, 4 and 5, we can say B, D, H and G are the teams who lost both their matches where as A, C, E and F won their respective matches.
Also using the statement we can say total score of the team in their both matches taken together is as,
A - 5, F - 9, G - 0, H - 4, B - 1.
Since E has equal number of scores in both matches, so its total has to be an even number and also C already scored 4 goals in a match, so his total must be greater than or equal to 4. So, the only possibility for their total score is E - 6, C - 7, D - 2.
Further we can conclude that

Two teams played against each other		Goals scored by respective teams
A – H	→	3 – 1
A – G	→	2 – 0
F – B	→	4 – 0
E – B	→	3 – 1
C – G	→	3 – 0
C – H	→	4 – 3
E – D	→	3 – 0
F – D	→	5 – 2

B scored 1 goal against E and 0 goal against F. Hence both 1 and 0 are possible.

FeedBack

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

Eight teams – A, B, C, D, E, F, G and H – participated in a hockey tournament. Each team played against two of the given teams. Four teams won both of their respective matches. Each team scored a distinct total number of goals in both matches out of 0, 1, 2, 4, 5, 6, 7 and 9 not necessarily in this order. (Note: One goal gives one point to the team). Further Information is given as follows:

1. A scored 5 goals in total and won both of the matches and one of them was played against H.
2. F scored the maximum total points among the teams, whereas H lost both their matches.
3. The matches between (A and H) and (E and B) have same identical goal points i.e. score of A against H will be equal to that of E against B, similarly both H and B will have same score against A and E respectively. The same is true for the matches between (C and G) and (E and D).
4. The highest goals difference was in the match between B and F where F scored 4 goals and won by the same number of goals.
5. G did not score a single goal in any of the matches and B scored 1 goal in one of the matches.
6. E scored equal goal points in both the matches. In a game against H, C beats H with 4-3.
7. No match ended in a draw.

Q.37
What is the goal difference in the match played between A and H?

1 ○ **0**

2 1

3 2

4 3

Solution:
Correct Answer : 3

Bookmark

Answer key/Solution

From statement 1 and 6, we can conclude A won both the matches and H lost both their matches.
From statement 3, we can conclude that some matches were played between the following teams with their scores as a, b, c and d (say)
A – H as a - b
E – B as a - b
C – G as c - d
E – D as c - d
From statement 4, we can say B lost its match against F so F is other team who won their both matches. From statements 3, 4 and 5, we can say B, D, H and G are the teams who lost both their matches where as A, C, E and F won their respective matches.
Also using the statement we can say total score of the team in their both matches taken together is as,
A - 5, F - 9, G - 0, H - 4, B - 1.
Since E has equal number of scores in both matches, so its total has to be an even number and also C already scored 4 goals in a match, so his total must be greater than or equal to 4. So, the only possibility for their total score is E - 6, C - 7, D - 2.
Further we can conclude that

Two teams played against each other		Goals scored by respective teams
A – H	→	3 – 1
A – G	→	2 – 0
F – B	→	4 – 0
E – B	→	3 – 1
C – G	→	3 – 0
C – H	→	4 – 3
E – D	→	3 – 0
F – D	→	5 – 2

The goal difference between A and H in the match played between them is 2.

FeedBack

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

Eight teams – A, B, C, D, E, F, G and H – participated in a hockey tournament. Each team played against two of the given teams. Four teams won both of their respective matches. Each team scored a distinct total number of goals in both matches out of 0, 1, 2, 4, 5, 6, 7 and 9 not necessarily in this order. (Note: One goal gives one point to the team). Further Information is given as follows:

1. A scored 5 goals in total and won both of the matches and one of them was played against H.
2. F scored the maximum total points among the teams, whereas H lost both their matches.
3. The matches between (A and H) and (E and B) have same identical goal points i.e. score of A against H will be equal to that of E against B, similarly both H and B will have same score against A and E respectively. The same is true for the matches between (C and G) and (E and D).
4. The highest goals difference was in the match between B and F where F scored 4 goals and won by the same number of goals.
5. G did not score a single goal in any of the matches and B scored 1 goal in one of the matches.
6. E scored equal goal points in both the matches. In a game against H, C beats H with 4-3.
7. No match ended in a draw.

Q.38

The maximum number of goals scored by both the teams taken together in any match is

1 **7**

2 **6**

3 **5**

4 **9**

Solution:

Correct Answer : 1

Bookmark

Answer key/Solution

From statement 1 and 6, we can conclude A won both the matches and H lost both their matches.
From statement 3, we can conclude that some matches were played between the following teams with their scores as a, b, c and d (say)
A – H as a - b
E – B as a - b
C – G as c - d
E – D as c - d
From statement 4, we can say B lost its match against F so F is other team who won their both matches. From statements 3, 4 and 5, we can say B, D, H and G are the teams who lost both their matches where as A, C, E and F won their respective matches.
Also using the statement we can say total score of the team in their both matches taken together is as,
A - 5, F - 9, G - 0, H - 4, B - 1.
Since E has equal number of scores in both matches, so its total has to be an even number and also C already scored 4 goals in a match, so his total must be greater than or equal to 4. So, the only possibility for their total score is E - 6, C - 7, D - 2.
Further we can conclude that

Two teams played against each other		Goals scored by respective teams
A – H	→	3 – 1
A – G	→	2 – 0
F – B	→	4 – 0
E – B	→	3 – 1
C – G	→	3 – 0
C – H	→	4 – 3
E – D	→	3 – 0
F – D	→	5 – 2

The maximum sum of goals is scored in the matches between C and H (4 – 3) and also in F and D (5 – 2) is 7.`

FeedBack

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

Anurag's Book of Cricket, commonly known as ABC, is a renowned Cricket rating agency. It rates - teams, batsmen, bowlers and all rounders - based on their performances. The batsmen are rated based on four different parameters i.e. Consistency (C), Finishing Ability (FA), Attacking Skills (AS) and Ability to Handle Pressure (AHP). In each parameter, the batsmen are rated by giving a score from 1 to 6, with 6 being the best and 1 being the worst. Then the scores in the 4 parameters are added to get the total score. Scores in each parameter is an integer. The top seven batsmen, rated by ABC, based on the total scores are - Warner, Kohli, Gayle, Buttler, Afridi, Russell and Maxwell - in no particular order. The following table gives the partial information about the scores of the top 7 batsmen in various parameters :

Players	(C)	(FA)	(AS)	(AHP)	Total
Warner			3		19
Kohli	5		2	6	
Gayle				4	
Buttler	3	4	4	5	16
Afridi				5	15
Russell	3		4		
Maxwell	3				11

NOTE : No batsmen has his total score higher than that of the batsmen mentioned above in the table. Further, it is known that,

(A) In each parameter, any 3 batsmen have the same score and all the remaining 4 batsmen have distinct scores.
(B) No batsmen other than Afridi, have distinct scores in all the 4 parameters.
(C) Russell has same score in 3 of the 4 parameters.
(D) There are 2 pairs of batsmen with same total score. (The total score of one of these 2 pairs can be different from the other pair).
(E) Kohli is one of the highest scorer batsman.

Q.39
For how many batsmen the total score is an even number?

1 **1**

2 **2**

3 **3**

4 **Cannot be determined**

Solution:
Correct Answer : 4

Bookmark

Answer key/Solution

Using point (C), Russell's score in (AHP) can be either 3 or 4. Using (A), it cannot be 4. Hence it is 3, which implies his score in (FA) is also 3 and his total is 13.
Since Warner has a total of 19 and in (AS) his score is 3, this implies the sum of his scores in other three is 16, which is possible in 2 ways → 6, 6, 4 or 6, 5, 5. Now, his score in (AHP) can neither be 6 nor 4 (Refer point (A)).
Hence, only possible combination can be 6, 5, 5 with score in (AHP) being 5, score in (C) being 6 and score in (FA) being 5.
Now, refer point (B) and using the table, the sum of scores of Afridi in (C), (FA) and (AS) is 10, which is possible in only 1 way i.e. 6, 3 and 1, not necessarily in order. His score can neither be 6 nor be 3 in (C) (refer point A) so only possible score is 1. In (AS), only possibility is 6, with 3 being his score in (FA).
Now according to point E, Kohli's total score is equal to that of highest scorer. This implies that his score in (FA) is 6 and his total score will become 19.
Now, Maxwell's total score is 11 and his score in (C) is 3. Now his score in (AS) cannot be 5 this would give the sum of his score in (FA) and (AHP) as 3 which means his score in (FA) and (AHP) will be 1 and 2 and that makes his score distinct in all the parameters, which is not possible, according to point (B).
Also, Maxwell's score in (AS) cannot be 1 as this would give the sum of his score in (FA) and (AHP) as 7 and the various possibilities of scores in (FA) and (AHP) such that their sum is 7 will be wrong according to the given points in the question.
So, only possibility of his score in (AS) being 4.
Now, the sum of his score in (FA) and (AHP) should be 4 as his total score is given to be 11.
So, 2 cases are possible, first is that his score would be 2 in both (FA) and (AHP) and second is his score is 3 and 1 in (FA) and (AHP) respectively.

1. Consider first case:
   Maxwell's score in both (FA) and (AHP) is 2. So, there is only one possibility for Gayle's score i.e. his score in (C), (FA) and (AS) is 4, 3 and 5 respectively as this will make his total score as 16 and satisfies given point (D).
2. Now consider second case:
   Maxewell's scores in (FA) and (AHP) and 3 and 1 respectively.
   So, there will be 3 possible cases.
   (a) Gayle's score in (C), (FA) and (AS) would be 4, 2 and 1 respectively and hence his total score will be 11 satisfying point (D).

(b) If Gayle's score in (C), (FA) and (AS) are 2, 2 and 5 respectively then his total score will be 13; again satisfies the given point (D).
(c) If Gayle's score in (C), (FA) and (AS) are 4, 2 and 5 respectively then his total score will be 15 which is also possible (refer point D)
Hence total four cases are possible. The final tables are as follows.
First case:

	C	FA	AS	AHP	Total
Warner	6	5	3	5	19
Kohli	5	6	2	6	19
Gayle	4	3	5	4	16
Buttler	3	4	4	5	16
Afridi	1	3	6	5	15
Russell	3	3	4	3	13
Maxwell	3	2	4	2	11

	C	FA	AS	AHP	Total
Warner	6	5	3	5	19
Kohli	5	6	2	6	19
Gayle	4	2	1	4	11
	2	2	5	4	13
	4	2	5	4	15
Buttler	3	4	4	5	16
Afridi	1	3	6	5	15
Russell	3	3	4	3	13
Maxwell	3	3	4	1	11

Three different possible scores of Gayle

According to the first case, the total score is even for 2 batsmen whereas in other cases, only 1 batsman i.e. Buttler has an even total score. Hence, cannot be determined.

FeedBack

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

Anurag's Book of Cricket, commonly known as ABC, is a renowned Cricket rating agency. It rates - teams, batsmen, bowlers and all rounders - based on their performances. The batsmen are rated based on four different parameters i.e. Consistency (C), Finishing Ability (FA), Attacking Skills (AS) and Ability to Handle Pressure (AHP). In each parameter, the batsmen are rated by giving a score from 1 to 6, with 6 being the best and 1 being the worst. Then the scores in the 4 parameters are added to get the total score. Scores in each parameter is an integer. The top seven batsmen, rated by ABC, based on the total scores are - Warner, Kohli, Gayle, Buttler, Afridi, Russell and Maxwell - in no particular order. The following table gives the partial information about the scores of the top 7 batsmen in various parameters :

Players	(C)	(FA)	(AS)	(AHP)	Total
Warner			3		19
Kohli	5		2	6	
Gayle				4	
Buttler	3	4	4	5	16
Afridi				5	15
Russell	3		4		
Maxwell	3				11

NOTE : No batsmen has his total score higher than that of the batsmen mentioned above in the table. Further, it is known that,

(A) In each parameter, any 3 batsmen have the same score and all the remaining 4 batsmen have distinct scores.
(B) No batsmen other than Afridi, have distinct scores in all the 4 parameters.
(C) Russell has same score in 3 of the 4 parameters.
(D) There are 2 pairs of batsmen with same total score. (The total score of one of these 2 pairs can be different from the other pair).
(E) Kohli is one of the highest scorer batsman.

Q.40
Which batsman has the highest score in the maximum number of parameters?

1 **Kohli**

2 **Warner**

3 **Kohli and Warner**

4 **Cannot be determined**

Solution:
Correct Answer : 1

Bookmark

Answer key/Solution

Using point (C), Russell's score in (AHP) can be either 3 or 4. Using (A), it cannot be 4. Hence it is 3, which implies his score in (FA) is also 3 and his total is 13.
Since Warner has a total of 19 and in (AS) his score is 3, this implies the sum of his scores in other three is 16, which is possible in 2 ways → 6, 6, 4 or 6, 5, 5. Now, his score in (AHP) can neither be 6 nor 4 (Refer point (A)).
Hence, only possible combination can be 6, 5, 5 with score in (AHP) being 5, score in (C) being 6 and score in (FA) being 5.
Now, refer point (B) and using the table, the sum of scores of Afridi in (C), (FA) and (AS) is 10, which is possible in only 1 way i.e. 6, 3 and 1, not necessarily in order. His score can neither be 6 nor be 3 in (C) (refer point A) so only possible score is 1. In (AS), only possibility is 6, with 3 being his score in (FA).
Now according to point E, Kohli's total score is equal to that of highest scorer. This implies that his score in (FA) is 6 and his total score will become 19.
Now, Maxwell's total score is 11 and his score in (C) is 3. Now his score in (AS) cannot be 5 this would give the sum of his score in (FA) and (AHP) as 3 which means his score in (FA) and (AHP) will be 1 and 2 and that makes his score distinct in all the parameters, which is not possible, according to point (B).
Also, Maxwell's score in (AS) cannot be 1 as this would give the sum of his score in (FA) and (AHP) as 7 and the various possibilities of scores in (FA) and (AHP) such that their sum is 7 will be wrong according to the given points in the question.
So, only possibility of his score in (AS) being 4.
Now, the sum of his score in (FA) and (AHP) should be 4 as his total score is given to be 11.
So, 2 cases are possible, first is that his score would be 2 in both (FA) and (AHP) and second is his score is 3 and 1 in (FA) and (AHP) respectively.

1. Consider first case:
   Maxwell's score in both (FA) and (AHP) is 2. So, there is only one possibility for Gayle's score i.e. his score in (C), (FA) and (AS) is 4, 3 and 5 respectively as this will make his total score as 16 and satisfies given point (D).
2. Now consider second case:
   Maxewell's scores in (FA) and (AHP) and 3 and 1 respectively.
   So, there will be 3 possible cases.
   (a) Gayle's score in (C), (FA) and (AS) would be 4, 2 and 1 respectively and hence his total score will be 11 satisfying point (D).

(b) If Gayle's score in (C), (FA) and (AS) are 2, 2 and 5 respectively then his total score will be 13; again satisfies the given point (D).
(c) If Gayle's score in (C), (FA) and (AS) are 4, 2 and 5 respectively then his total score will be 15 which is also possible (refer point D)
Hence total four cases are possible. The final tables are as follows.
First case:

	C	FA	AS	AHP	Total
Warner	6	5	3	5	19
Kohli	5	6	2	6	19
Gayle	4	3	5	4	16
Buttler	3	4	4	5	16
Afridi	1	3	6	5	15
Russell	3	3	4	3	13
Maxwell	3	2	4	2	11

	C	FA	AS	AHP	Total	
Warner	6	5	3	5	19	
Kohli	5	6	2	6	19	
Gayle	4	2	1	4	11	Three different possible scores of Gayle
	2	2	5	4	13	
	4	2	5	4	15	
Buttler	3	4	4	5	16	
Afridi	1	3	6	5	15	
Russell	3	3	4	3	13	
Maxwell	3	3	4	1	11	

Clearly, in all cases, Kohli has the highest score of 6 in maximum 2 parameters.

FeedBack

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

Anurag's Book of Cricket, commonly known as ABC, is a renowned Cricket rating agency. It rates - teams, batsmen, bowlers and all rounders - based on their performances. The batsmen are rated based on four different parameters i.e. Consistency (C), Finishing Ability (FA), Attacking Skills (AS) and Ability to Handle Pressure (AHP). In each parameter, the batsmen are rated by giving a score from 1 to 6, with 6 being the best and 1 being the worst. Then the scores in the 4 parameters are added to get the total score. Scores in each parameter is an integer. The top seven batsmen, rated by ABC, based on the total scores are - Warner, Kohli, Gayle, Buttler, Afridi, Russell and Maxwell - in no particular order. The following table gives the partial information about the scores of the top 7 batsmen in various parameters :

Players	(C)	(FA)	(AS)	(AHP)	Total
Warner			3		19
Kohli	5		2	6	
Gayle				4	
Buttler	3	4	4	5	16
Afridi				5	15
Russell	3		4		
Maxwell	3				11

NOTE : No batsmen has his total score higher than that of the batsmen mentioned above in the table. Further, it is known that,

(A) In each parameter, any 3 batsmen have the same score and all the remaining 4 batsmen have distinct scores.
(B) No batsmen other than Afridi, have distinct scores in all the 4 parameters.
(C) Russell has same score in 3 of the 4 parameters.
(D) There are 2 pairs of batsmen with same total score. (The total score of one of these 2 pairs can be different from the other pair).
(E) Kohli is one of the highest scorer batsman.

Q.41
In how many parameters did Gayle get a better score than Afridi?

Solution:
Correct Answer : 1

Bookmark

Answer key/Solution

Using point (C), Russell's score in (AHP) can be either 3 or 4. Using (A), it cannot be 4. Hence it is 3, which implies his score in (FA) is also 3 and his total is 13.
Since Warner has a total of 19 and in (AS) his score is 3, this implies the sum of his scores in other three is 16, which is possible in 2 ways → 6, 6, 4 or 6, 5, 5. Now, his score in (AHP) can neither be 6 nor 4 (Refer point (A)).
Hence, only possible combination can be 6, 5, 5 with score in (AHP) being 5, score in (C) being 6 and score in (FA) being 5.
Now, refer point (B) and using the table, the sum of scores of Afridi in (C), (FA) and (AS) is 10, which is possible in only 1 way i.e. 6, 3 and 1, not necessarily in order. His score can neither be 6 nor be 3 in (C) (refer point A) so only possible score is 1. In (AS), only possibility is 6, with 3 being his score in (FA).
Now according to point E, Kohli's total score is equal to that of highest scorer. This implies that his score in (FA) is 6 and his total score will become 19.
Now, Maxwell's total score is 11 and his score in (C) is 3. Now his score in (AS) cannot be 5 this would give the sum of his score in (FA) and (AHP) as 3 which means his score in (FA) and (AHP) will be 1 and 2 and that makes his score distinct in all the parameters, which is not possible, according to point (B).
Also, Maxwell's score in (AS) cannot be 1 as this would give the sum of his score in (FA) and (AHP) as 7 and the various possibilities of scores in (FA) and (AHP) such that their sum is 7 will be wrong according to the given points in the question.
So, only possibility of his score in (AS) being 4.
Now, the sum of his score in (FA) and (AHP) should be 4 as his total score is given to be 11.
So, 2 cases are possible, first is that his score would be 2 in both (FA) and (AHP) and second is his score is 3 and 1 in (FA) and (AHP) respectively.

1. Consider first case:
   Maxwell's score in both (FA) and (AHP) is 2. So, there is only one possibility for Gayle's score i.e. his score in (C), (FA) and (AS) is 4, 3 and 5 respectively as this will make his total score as 16 and satisfies given point (D).
2. Now consider second case:
   Maxewell's scores in (FA) and (AHP) and 3 and 1 respectively.
   So, there will be 3 possible cases.
   (a) Gayle's score in (C), (FA) and (AS) would be 4, 2 and 1 respectively and hence his total score will be 11 satisfying point (D).

(b) If Gayle's score in (C), (FA) and (AS) are 2, 2 and 5 respectively then his total score will be 13; again satisfies the given point (D).
(c) If Gayle's score in (C), (FA) and (AS) are 4, 2 and 5 respectively then his total score will be 15 which is also possible (refer point D)
Hence total four cases are possible. The final tables are as follows.
First case:

	C	FA	AS	AHP	Total
Warner	6	5	3	5	19
Kohli	5	6	2	6	19
Gayle	4	3	5	4	16
Buttler	3	4	4	5	16
Afridi	1	3	6	5	15
Russell	3	3	4	3	13
Maxwell	3	2	4	2	11

	C	FA	AS	AHP	Total	
Warner	6	5	3	5	19	
Kohli	5	6	2	6	19	
Gayle	4	2	1	4	11	Three different possible scores of Gayle
	2	2	5	4	13	
	4	2	5	4	15	
Buttler	3	4	4	5	16	
Afridi	1	3	6	5	15	
Russell	3	3	4	3	13	
Maxwell	3	3	4	1	11	

Gayle got a better score than Afridi in only 1 parameter.

FeedBack

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

Anurag's Book of Cricket, commonly known as ABC, is a renowned Cricket rating agency. It rates - teams, batsmen, bowlers and all rounders - based on their performances. The batsmen are rated based on four different parameters i.e. Consistency (C), Finishing Ability (FA), Attacking Skills (AS) and Ability to Handle Pressure (AHP). In each parameter, the batsmen are rated by giving a score from 1 to 6, with 6 being the best and 1 being the worst. Then the scores in the 4 parameters are added to get the total score. Scores in each parameter is an integer. The top seven batsmen, rated by ABC, based on the total scores are - Warner, Kohli, Gayle, Buttler, Afridi, Russell and Maxwell - in no particular order. The following table gives the partial information about the scores of the top 7 batsmen in various parameters :

Players	(C)	(FA)	(AS)	(AHP)	Total
Warner			3		19
Kohli	5		2	6	
Gayle				4	
Buttler	3	4	4	5	16
Afridi				5	15
Russell	3		4		
Maxwell	3				11

NOTE : No batsmen has his total score higher than that of the batsmen mentioned above in the table. Further, it is known that,

(A) In each parameter, any 3 batsmen have the same score and all the remaining 4 batsmen have distinct scores.
(B) No batsmen other than Afridi, have distinct scores in all the 4 parameters.
(C) Russell has same score in 3 of the 4 parameters.
(D) There are 2 pairs of batsmen with same total score. (The total score of one of these 2 pairs can be different from the other pair).
(E) Kohli is one of the highest scorer batsman.

Q.42
How many batsmen have a lower score than Buttler in (FA)?

1 **3**

2 **4**

3 **5**

4 **Cannot be determined**

Solution:
Correct Answer : 2

Bookmark

Answer key/Solution

Using point (C), Russell's score in (AHP) can be either 3 or 4. Using (A), it cannot be 4. Hence it is 3, which implies his score in (FA) is also 3 and his total is 13.
Since Warner has a total of 19 and in (AS) his score is 3, this implies the sum of his scores in other three is 16, which is possible in 2 ways → 6, 6, 4 or 6, 5, 5. Now, his score in (AHP) can neither be 6 nor 4 (Refer point (A)).
Hence, only possible combination can be 6, 5, 5 with score in (AHP) being 5, score in (C) being 6 and score in (FA) being 5.
Now, refer point (B) and using the table, the sum of scores of Afridi in (C), (FA) and (AS) is 10, which is possible in only 1 way i.e. 6, 3 and 1, not necessarily in order. His score can neither be 6 nor be 3 in (C) (refer point A) so only possible score is 1. In (AS), only possibility is 6, with 3 being his score in (FA).
Now according to point E, Kohli's total score is equal to that of highest scorer. This implies that his score in (FA) is 6 and his total score will become 19.
Now, Maxwell's total score is 11 and his score in (C) is 3. Now his score in (AS) cannot be 5 this would give the sum of his score in (FA) and (AHP) as 3 which means his score in (FA) and (AHP) will be 1 and 2 and that makes his score distinct in all the parameters, which is not possible, according to point (B).
Also, Maxwell's score in (AS) cannot be 1 as this would give the sum of his score in (FA) and (AHP) as 7 and the various possibilities of scores in (FA) and (AHP) such that their sum is 7 will be wrong according to the given points in the question.
So, only possibility of his score in (AS) being 4.
Now, the sum of his score in (FA) and (AHP) should be 4 as his total score is given to be 11.
So, 2 cases are possible, first is that his score would be 2 in both (FA) and (AHP) and second is his score is 3 and 1 in (FA) and (AHP) respectively.

1. Consider first case:
   Maxwell's score in both (FA) and (AHP) is 2. So, there is only one possibility for Gayle's score i.e. his score in (C), (FA) and (AS) is 4, 3 and 5 respectively as this will make his total score as 16 and satisfies given point (D).
2. Now consider second case:
   Maxewell's scores in (FA) and (AHP) and 3 and 1 respectively.
   So, there will be 3 possible cases.
   (a) Gayle's score in (C), (FA) and (AS) would be 4, 2 and 1 respectively and hence his total score will be 11 satisfying point (D).

(b) If Gayle's score in (C), (FA) and (AS) are 2, 2 and 5 respectively then his total score will be 13; again satisfies the given point (D).
(c) If Gayle's score in (C), (FA) and (AS) are 4, 2 and 5 respectively then his total score will be 15 which is also possible (refer point D)
Hence total four cases are possible. The final tables are as follows.
First case:

	C	FA	AS	AHP	Total
Warner	6	5	3	5	19
Kohli	5	6	2	6	19
Gayle	4	3	5	4	16
Buttler	3	4	4	5	16
Afridi	1	3	6	5	15
Russell	3	3	4	3	13
Maxwell	3	2	4	2	11

	C	FA	AS	AHP	Total	
Warner	6	5	3	5	19	
Kohli	5	6	2	6	19	
Gayle	4	2	1	4	11	Three different possible scores of Gayle
	2	2	5	4	13	
	4	2	5	4	15	
Buttler	3	4	4	5	16	
Afridi	1	3	6	5	15	
Russell	3	3	4	3	13	
Maxwell	3	3	4	1	11	

Total 4 batsman have a lower score than Buttler in (FA) in all possible cases.

FeedBack

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

The table given below shows the percentage of employees, in the age group of 25 years to 40 years, in five different departments during the year 2015 and 2018. Employees of each department are further sub-divided into three positions - Assistant manager, Deputy manager and Manager. No employee joined or left the company or shifted to other department during the period of 2015-2018. Also there were only these three five mentioned departments in the company.

	2015	2018
Accounts	10	25
Marketing	20	10
Sales	30	15
HR	15	20
Operations	25	30

Total number of employees in the age group of 25-40 in 2015 and 2018 were 100 and 80 respectively.

Q.43

What is the minimum number of employees who crossed the upper limit of age, i.e. 40, between 2015 and 2018?

1 **20**

2 **0**

3 **31**

4 **11**

Solution:

Correct Answer : 3

Bookmark

Answer key/Solution

As the total number of employees in the given age group in 2015 and 2018 were 100 and 80 respectively, so their respective numbers in each department according to their given percentage can be tabulated as:

	2015	2018
Accounts	10	20
Marketing	20	8
Sales	30	12
HR	15	16
Operations 25	25	24
	Total = 100	Total = 80

If we now observe this table carefully, we can say that in departments in which number of employees of age 25 to 40 years reduced from 2015 to 2018 means these many number of employees from that department must have crossed the age of 40 years during this period of 2015 to 2018.

Similarly, the number of employees increased from 2015 to 2018 in some departments means those crossed age of 25 after 2015.

At least 12 employees would have crossed the age of 40 in Marketing, 18 in Sales and 1 in Operations. ∴ Minimum number of employees who would have crossed the age of 40 from 2015 to 2018 = 12 + 18 + 1 = 31.

FeedBack

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

The table given below shows the percentage of employees, in the age group of 25 years to 40 years, in five different departments during the year 2015 and 2018. Employees of each department are further sub-divided into three positions - Assistant manager, Deputy manager and Manager. No employee joined or left the company or shifted to other department during the period of 2015-2018. Also there were only these three five mentioned departments in the company.

	2015	2018
Accounts	10	25
Marketing	20	10
Sales	30	15
HR	15	20
Operations	25	30

Total number of employees in the age group of 25-40 in 2015 and 2018 were 100 and 80 respectively.

Q.44

Find the minimum possible number of employees who crossed the lower limit of age, i.e. 25, between 2015 and 2018?

1 **11**

2 **0**

3 **31**

4 **20**

Solution:
Correct Answer : 1

Bookmark

Answer key/Solution

As the total number of employees in the given age group in 2015 and 2018 were 100 and 80 respectively, so their respective numbers in each department according to their given percentage can be tabulated as:

	2015	2018
Accounts	10	20
Marketing	20	8
Sales	30	12
HR	15	16
Operations 25	25	24
	Total = 100	Total = 80

If we now observe this table carefully, we can say that in departments in which number of employees of age 25 to 40 years reduced from 2015 to 2018 means these many number of employees from that department must have crossed the age of 40 years during this period of 2015 to 2018.
Similarly, the number of employees increased from 2015 to 2018 in some departments means those crossed age of 25 after 2015.

Minimum possible number of employees, who have crossed the lower limit of age were 10 in Accounts and 1 in HR. Therefore, total 11 such employees were there.

FeedBack

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

The table given below shows the percentage of employees, in the age group of 25 years to 40 years, in five different departments during the year 2015 and 2018. Employees of each department are further sub-divided into three positions - Assistant manager, Deputy manager and Manager. No employee joined or left the company or shifted to other department during the period of 2015-2018. Also there were only these three five mentioned departments in the company.

	2015	2018
Accounts	10	25
Marketing	20	10
Sales	30	15
HR	15	20
Operations	25	30

Total number of employees in the age group of 25-40 in 2015 and 2018 were 100 and 80 respectively.

Q.45

If all the assistant managers who attained an age of 22 years got promoted to the level of deputy manager and all deputy managers after attaining an age of 25, got promoted to managers, then in which department was the number of deputy managers maximum in 2015?

1 **HR**

2 **Sales**

3 **Accounts**

4 **Cannot be determined**

Solution:
Correct Answer : 4

Bookmark

Answer key/Solution

As the total number of employees in the given age group in 2015 and 2018 were 100 and 80 respectively, so their respective numbers in each department according to their given percentage can be tabulated as:

	2015	2018
Accounts	10	20
Marketing	20	8
Sales	30	12
HR	15	16
Operations 25	25	24
	Total = 100	Total = 80

If we now observe this table carefully, we can say that in departments in which number of employees of age 25 to 40 years reduced from 2015 to 2018 means these many number of employees from that department must have crossed the age of 40 years during this period of 2015 to 2018.
Similarly, the number of employees increased from 2015 to 2018 in some departments means those crossed age of 25 after 2015.

Since we do not know the exact number of employees crossing the age of 40 between 2015 and 2018, so the number of new entrants into the age group of 25-40 cannot be determined. Since the number of people who crossed 25 in 2018 (who were above 22 in 2015) cannot be determined, so which department had maximum number of deputy managers cannot be found out.

FeedBack

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

The table given below shows the percentage of employees, in the age group of 25 years to 40 years, in five different departments during the year 2015 and 2018. Employees of each department are further sub-divided into three positions - Assistant manager, Deputy manager and Manager. No employee joined or left the company or shifted to other department during the period of 2015-2018. Also there were only these three five mentioned departments in the company.

	2015	2018
Accounts	10	25
Marketing	20	10
Sales	30	15
HR	15	20
Operations	25	30

Total number of employees in the age group of 25-40 in 2015 and 2018 were 100 and 80 respectively.

Q.46

If the number of employees who crossed the age of 37 years but were below 40 years in 2015 was minimum possible, then which of the following statements is definitely true? Given that the company has no employee over the age of 40 years in year 2015.

1 **Maximum number of employees crossing the age of 40, from 2015 to 2018, are from Accounts department**

2 **Maximum number of employees crossing the age of 40, from 2015 to 2018, are from Marketing department.**

3 **Maximum number of employees crossing the age of 40, from 2015 to 2018, are from Sales department.**

4 **None of these**

Solution:
Correct Answer : 3

Bookmark

Answer key/Solution

As the total number of employees in the given age group in 2015 and 2018 were 100 and 80 respectively, so their respective numbers in each department according to their given percentage can be tabulated as:

	2015	2018
Accounts	10	20
Marketing	20	8
Sales	30	12
HR	15	16
Operations 25	25	24
	Total = 100	Total = 80

If we now observe this table carefully, we can say that in departments in which number of employees of age 25 to 40 years reduced from 2015 to 2018 means these many number of employees from that department must have crossed the age of 40 years during this period of 2015 to 2018.
Similarly, the number of employees increased from 2015 to 2018 in some departments means those crossed age of 25 after 2015.

Number of employees crossing the age group of 37-40 were 18, 12 and 1 in Sales, Marketing and Operations . Therefore, only statement (3) is true.

FeedBack

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

Mr. Bhokali, a bibulous, drinks alcohol on 5 days of the week. He does not consume alcohol on Tuesdays and Saturdays. On rest of the 5 days of the week, he visits his favorite bar – 'The Tashni Bar'. Everytime he visits the bar, he follows one of the 3 routines that are either he drinks only whiskey; or he drinks both beer and whiskey; or he drinks whiskey and smokes cigarettes.
Following is the additional information about the 3 routines that he follows:

Routine	Quantity Consumed	
	Minimum	Maximum
Only Whiskey	5 pegs of whiskey	10 pegs of whiskey
Whiskey & Beer	1 can of Beer and 2 pegs of whiskey	2 cans of Beer and 5 pegs of whiskey
Whiskey & Smoke Cigarettes	3 pegs of whiskey & 1 packet of 10 cigarettes(classic)	8 pegs of whiskey and 1 packet of 10 cigarettes each (classic)

Further, Mr. Bhokali drinks whiskey of only 2 brands i.e. Black dog and Blenders Pride, drinks beer of only 2 brands i.e. Miller and Ultra Max and smokes cigarettes of only 1 brand i.e. classic.
(Note: At a time he drinks only one brand. For e.g. if he drinks 5 pegs of whiskey and 2 cans of beer i.e. maximum consumption according to his second routine, then he will drink either Black dog or Blenders Pride but not both, same is true for beer also.)
Following is the information about the price list of the above brands in the bar:

Item	Price (in Rs.)
1 Peg of Black dog	400
1 Peg of Blenders Pride	200
1 can of Miller	300
1 can of Ultra Max	200
1 packet of classic (pack of 10 cigarettes)	300

Further, it is known that:
(i) In the bar, Mr. Bhokali spends only on Whiskey, Beer and Cigarette.
(ii) In a week, on each of his 5 visits to the bar, he spends a different amount and two of these 5 amounts are distinct prime multiples of Rs. 100.
(iii) Total spending in the bar is Rs. 11000 per week.
(iv) On his every visit to the bar on Mondays he smokes and on Sunday, he drinks Black dog Whiskey.
(v) On every Fridays' visit to the bar, he spends the maximum possible amount (in accordance to one of the routine)
(vi) On his any visit to the bar, if he drinks Blenders Pride then he does not drink Miller i.e. he never drinks Miller and Blenders Pride both in the same visit.
(vii) On his every visit to the bar on Thursday, each time he spends an amount which is a prime multiple of Rs. 100.
(viii) On his every visit, he either follows the maximum or the minimum part of the routine consumption i.e. if he follows the only whiskey routine then he drinks either 10 pegs of whiskey or 5 pegs of whiskey, nothing in between.

Q.47
On his visit on Sundays to the bar, how many pegs of Black dog whiskey does he drink?

Solution:
Correct Answer : 5

Using the table consists of price for single unit of everything and the condition given in (vi), we can form the following table for Mr. Bhokali's minimum and maximum possible consumption and its respective spending amounts for each of the three mentioned routines.

Routine	Cost of Quantity Consumed - Minimum
Only Whiskey	5 Pegs of whiskey - Blenders Pride = Rs. 1000 OR 5 Pegs of whiskey - Black Dog = Rs. 2000
Whiskey and Beer	1 cans of Beer - ultra max & 2 pegs of Blenders Pride = Rs. 600 OR 1 can of Beer - Ultra Max & 2 pegs of Black dog = Rs. 1000 OR 1 can of Beer - Miller & 2 Pegs of Black Dog = Rs. 1100
Whiskey and Cigarette	3 Pegs of Blenders Pride & 1 Packet of Cigarettes = Rs. 900 OR 3 Pegs of Black Dog & 1 Packet of Cigaretts = Rs. 1500

Routine	Cost of Quantity Consumed - Maximum
Only Whiskey	10 Pegs of Blenders Pride = Rs. 2000 OR 10 Pegs of Black Dog = Rs. 4000
Whiskey and Beer	2 cans of ultra max & 5 pegs of Blenders Pride = Rs. 1400 OR 2 cans of Ultra Max & 5 pegs of Black dog = Rs. 2400 OR 2 cans of Miller & 5 Pegs of Black Dog = Rs. 2600
Whiskey and Cigarette	8 Pegs of Blenders Pride & 1 Packet of Cigarettes = Rs. 1900 OR 8 Pegs of Black Dog & 1 Packet of Cigarettes = Rs. 3500

On Friday, he spends maximum possible amount i.e., Rs. 4000, using (V).
As two of his spendings are prime multiple of 100, and only two amounts, out of all his possible spendings, are prime multiples of 100 i.e. 1100 and 1900. So, two of his other spendings are Rs. 1100 and Rs. 1900, using (ii).
Now, using (iii), the sum of his other 2 spendings should be Rs. 4000, i.e. 11000 – (4000 + 1900 + 1100)] = Rs. 4000
Only possibility for the other 2 spendings are Rs. 2600 and Rs. 1400.
Therefore, following table can be made based on the above observation:

Day	Spending
Monday	Rs. 1900
Wednesday	Rs. 1400
Thursday	Rs. 1100
Friday	Rs. 4000
Sunday	Rs. 2600

FeedBack

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

Mr. Bhokali, a bibulous, drinks alcohol on 5 days of the week. He does not consume alcohol on Tuesdays and Saturdays. On rest of the 5 days of the week, he visits his favorite bar – 'The Tashni Bar'. Everytime he visits the bar, he follows one of the 3 routines that are either he drinks only whiskey; or he drinks both beer and whiskey; or he drinks whiskey and smokes cigarettes.
Following is the additional information about the 3 routines that he follows:

Routine	Quantity Consumed	
	Minimum	Maximum
Only Whiskey	5 pegs of whiskey	10 pegs of whiskey
Whiskey & Beer	1 can of Beer and 2 pegs of whiskey	2 cans of Beer and 5 pegs of whiskey
Whiskey & Smoke Cigarettes	3 pegs of whiskey & 1 packet of 10 cigarettes(classic)	8 pegs of whiskey and 1 packet of 10 cigarettes each (classic)

Further, Mr. Bhokali drinks whiskey of only 2 brands i.e. Black dog and Blenders Pride, drinks beer of only 2 brands i.e. Miller and Ultra Max and smokes cigarettes of only 1 brand i.e. classic.
(Note: At a time he drinks only one brand. For e.g. if he drinks 5 pegs of whiskey and 2 cans of beer i.e. maximum consumption according to his second routine, then he will drink either Black dog or Blenders Pride but not both, same is true for beer also.)
Following is the information about the price list of the above brands in the bar:

Item	Price (in Rs.)
1 Peg of Black dog	400
1 Peg of Blenders Pride	200
1 can of Miller	300
1 can of Ultra Max	200
1 packet of classic (pack of 10 cigarettes)	300

Further, it is known that:
(i) In the bar, Mr. Bhokali spends only on Whiskey, Beer and Cigarette.
(ii) In a week, on each of his 5 visits to the bar, he spends a different amount and two of these 5 amounts are distinct prime multiples of Rs. 100.
(iii) Total spending in the bar is Rs. 11000 per week.
(iv) On his every visit to the bar on Mondays he smokes and on Sunday, he drinks Black dog Whiskey.
(v) On every Fridays' visit to the bar, he spends the maximum possible amount (in accordance to one of the routine)
(vi) On his any visit to the bar, if he drinks Blenders Pride then he does not drink Miller i.e. he never drinks Miller and Blenders Pride both in the same visit.
(vii) On his every visit to the bar on Thursday, each time he spends an amount which is a prime multiple of Rs. 100.
(viii) On his every visit, he either follows the maximum or the minimum part of the routine consumption i.e. if he follows the only whiskey routine then he drinks either 10 pegs of whiskey or 5 pegs of whiskey, nothing in between.

Q.48
On which day other than Monday, does he smoke in the bar?

1 **Thursday**

2 **Wednesday**

3 **Sunday**

4 ○ **None of the days**

Solution:
Correct Answer : 4

Bookmark

Answer key/Solution

Using the table consists of price for single unit of everything and the condition given in (vi), we can form the following table for Mr. Bhokali's minimum and maximum possible consumption and its respective spending amounts for each of the three mentioned routines.

Routine	Cost of Quantity Consumed - Minimum
Only Whiskey	5 Pegs of whiskey - Blenders Pride = Rs. 1000 OR 5 Pegs of whiskey - Black Dog = Rs. 2000
Whiskey and Beer	1 cans of Beer - ultra max & 2 pegs of Blenders Pride = Rs. 600 OR 1 can of Beer - Ultra Max & 2 pegs of Black dog = Rs. 1000 OR 1 can of Beer - Miller & 2 Pegs of Black Dog = Rs. 1100
Whiskey and Cigarette	3 Pegs of Blenders Pride & 1 Packet of Cigarettes = Rs. 900 OR 3 Pegs of Black Dog & 1 Packet of Cigaretts = Rs. 1500

Routine	Cost of Quantity Consumed - Maximum
Only Whiskey	10 Pegs of Blenders Pride = Rs. 2000 OR 10 Pegs of Black Dog = Rs. 4000
Whiskey and Beer	2 cans of ultra max & 5 pegs of Blenders Pride = Rs. 1400 OR 2 cans of Ultra Max & 5 pegs of Black dog = Rs. 2400 OR 2 cans of Miller & 5 Pegs of Black Dog = Rs. 2600
Whiskey and Cigarette	8 Pegs of Blenders Pride & 1 Packet of Cigarettes = Rs. 1900 OR 8 Pegs of Black Dog & 1 Packet of Cigarettes = Rs. 3500

On Friday, he spends maximum possible amount i.e., Rs. 4000, using (V).
As two of his spendings are prime multiple of 100, and only two amounts, out of all his possible spendings, are prime multiples of 100 i.e. 1100 and 1900. So, two of his other spendings are Rs. 1100 and Rs. 1900, using (ii).
Now, using (iii), the sum of his other 2 spendings should be Rs. 4000, i.e. 11000 – (4000 + 1900 + 1100)] = Rs. 4000
Only possibility for the other 2 spendings are Rs. 2600 and Rs. 1400.
Therefore, following table can be made based on the above observation:

Day	Spending
Monday	Rs. 1900
Wednesday	Rs. 1400
Thursday	Rs. 1100
Friday	Rs. 4000
Sunday	Rs. 2600

Since possible amounts for the days on which he would have smoke are Rs.1900, Rs.3500, Rs.900 and Rs.1500. Out of which , we can see from above table that he has spend only Rs.1900 that on Mondays only.

FeedBack

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

Mr. Bhokali, a bibulous, drinks alcohol on 5 days of the week. He does not consume alcohol on Tuesdays and Saturdays. On rest of the 5 days of the week, he visits his favorite bar – 'The Tashni Bar'. Everytime he visits the bar, he follows one of the 3 routines that are either he drinks only whiskey; or he drinks both beer and whiskey; or he drinks whiskey and smokes cigarettes.
Following is the additional information about the 3 routines that he follows:

Routine	Quantity Consumed	
	Minimum	Maximum
Only Whiskey	5 pegs of whiskey	10 pegs of whiskey
Whiskey & Beer	1 can of Beer and 2 pegs of whiskey	2 cans of Beer and 5 pegs of whiskey
Whiskey & Smoke Cigarettes	3 pegs of whiskey & 1 packet of 10 cigarettes(classic)	8 pegs of whiskey and 1 packet of 10 cigarettes each (classic)

Further, Mr. Bhokali drinks whiskey of only 2 brands i.e. Black dog and Blenders Pride, drinks beer of only 2 brands i.e. Miller and Ultra Max and smokes cigarettes of only 1 brand i.e. classic.
(Note: At a time he drinks only one brand. For e.g. if he drinks 5 pegs of whiskey and 2 cans of beer i.e. maximum consumption according to his second routine, then he will drink either Black dog or Blenders Pride but not both, same is true for beer also.)
Following is the information about the price list of the above brands in the bar:

Item	Price (in Rs.)
1 Peg of Black dog	400
1 Peg of Blenders Pride	200
1 can of Miller	300
1 can of Ultra Max	200
1 packet of classic (pack of 10 cigarettes)	300

Further, it is known that:
(i) In the bar, Mr. Bhokali spends only on Whiskey, Beer and Cigarette.
(ii) In a week, on each of his 5 visits to the bar, he spends a different amount and two of these 5 amounts are distinct prime multiples of Rs. 100.
(iii) Total spending in the bar is Rs. 11000 per week.
(iv) On his every visit to the bar on Mondays he smokes and on Sunday, he drinks Black dog Whiskey.
(v) On every Fridays' visit to the bar, he spends the maximum possible amount (in accordance to one of the routine)
(vi) On his any visit to the bar, if he drinks Blenders Pride then he does not drink Miller i.e. he never drinks Miller and Blenders Pride both in the same visit.
(vii) On his every visit to the bar on Thursday, each time he spends an amount which is a prime multiple of Rs. 100.
(viii) On his every visit, he either follows the maximum or the minimum part of the routine consumption i.e. if he follows the only whiskey routine then he drinks either 10 pegs of whiskey or 5 pegs of whiskey, nothing in between.

Q.49

How much does he spend (in Rs.) on his visits on Sundays to the bar?

Solution:

Correct Answer : 2600

Bookmark

Answer key/Solution

Using the table consists of price for single unit of everything and the condition given in (vi), we can form the following table for Mr. Bhokali's minimum and maximum possible consumption and its respective spending amounts for each of the three mentioned routines.

Routine	Cost of Quantity Consumed - Minimum
Only Whiskey	5 Pegs of whiskey - Blenders Pride = Rs. 1000 OR 5 Pegs of whiskey - Black Dog = Rs. 2000
Whiskey and Beer	1 cans of Beer - ultra max & 2 pegs of Blenders Pride = Rs. 600 OR 1 can of Beer - Ultra Max & 2 pegs of Black dog = Rs. 1000 OR 1 can of Beer - Miller & 2 Pegs of Black Dog = Rs. 1100
Whiskey and Cigarette	3 Pegs of Blenders Pride & 1 Packet of Cigarettes = Rs. 900 OR 3 Pegs of Black Dog & 1 Packet of Cigaretts = Rs. 1500

Routine	Cost of Quantity Consumed - Maximum
Only Whiskey	10 Pegs of Blenders Pride = Rs. 2000 OR 10 Pegs of Black Dog = Rs. 4000
Whiskey and Beer	2 cans of ultra max & 5 pegs of Blenders Pride = Rs. 1400 OR 2 cans of Ultra Max & 5 pegs of Black dog = Rs. 2400 OR 2 cans of Miller & 5 Pegs of Black Dog = Rs. 2600
Whiskey and Cigarette	8 Pegs of Blenders Pride & 1 Packet of Cigarettes = Rs. 1900 OR 8 Pegs of Black Dog & 1 Packet of Cigarettes = Rs. 3500

On Friday, he spends maximum possible amount i.e., Rs. 4000, using (V).
As two of his spendings are prime multiple of 100, and only two amounts, out of all his possible spendings, are prime multiples of 100 i.e. 1100 and 1900. So, two of his other spendings are Rs. 1100 and Rs. 1900, using (ii).
Now, using (iii), the sum of his other 2 spendings should be Rs. 4000, i.e. 11000 – (4000 + 1900 + 1100)] = Rs. 4000
Only possibility for the other 2 spendings are Rs. 2600 and Rs. 1400.
Therefore, following table can be made based on the above observation:

Day	Spending
Monday	Rs. 1900
Wednesday	Rs. 1400
Thursday	Rs. 1100
Friday	Rs. 4000
Sunday	Rs. 2600

FeedBack

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

Mr. Bhokali, a bibulous, drinks alcohol on 5 days of the week. He does not consume alcohol on Tuesdays and Saturdays. On rest of the 5 days of the week, he visits his favorite bar – 'The Tashni Bar'. Everytime he visits the bar, he follows one of the 3 routines that are either he drinks only whiskey; or he drinks both beer and whiskey; or he drinks whiskey and smokes cigarettes.
Following is the additional information about the 3 routines that he follows:

Routine	Quantity Consumed	
	Minimum	Maximum
Only Whiskey	5 pegs of whiskey	10 pegs of whiskey
Whiskey & Beer	1 can of Beer and 2 pegs of whiskey	2 cans of Beer and 5 pegs of whiskey
Whiskey & Smoke Cigarettes	3 pegs of whiskey & 1 packet of 10 cigarettes(classic)	8 pegs of whiskey and 1 packet of 10 cigarettes each (classic)

Further, Mr. Bhokali drinks whiskey of only 2 brands i.e. Black dog and Blenders Pride, drinks beer of only 2 brands i.e. Miller and Ultra Max and smokes cigarettes of only 1 brand i.e. classic.
(Note: At a time he drinks only one brand. For e.g. if he drinks 5 pegs of whiskey and 2 cans of beer i.e. maximum consumption according to his second routine, then he will drink either Black dog or Blenders Pride but not both, same is true for beer also.)
Following is the information about the price list of the above brands in the bar:

Item	Price (in Rs.)
1 Peg of Black dog	400
1 Peg of Blenders Pride	200
1 can of Miller	300
1 can of Ultra Max	200
1 packet of classic (pack of 10 cigarettes)	300

Further, it is known that:
(i) In the bar, Mr. Bhokali spends only on Whiskey, Beer and Cigarette.
(ii) In a week, on each of his 5 visits to the bar, he spends a different amount and two of these 5 amounts are distinct prime multiples of Rs. 100.
(iii) Total spending in the bar is Rs. 11000 per week.
(iv) On his every visit to the bar on Mondays he smokes and on Sunday, he drinks Black dog Whiskey.
(v) On every Fridays' visit to the bar, he spends the maximum possible amount (in accordance to one of the routine)
(vi) On his any visit to the bar, if he drinks Blenders Pride then he does not drink Miller i.e. he never drinks Miller and Blenders Pride both in the same visit.
(vii) On his every visit to the bar on Thursday, each time he spends an amount which is a prime multiple of Rs. 100.
(viii) On his every visit, he either follows the maximum or the minimum part of the routine consumption i.e. if he follows the only whiskey routine then he drinks either 10 pegs of whiskey or 5 pegs of whiskey, nothing in between.

Q.50

What can be concluded about his routine on Wednesdays in the Bar?

1 **5 pegs of Blenders Pride and 2 cans of Ultra Max**

2 **5 pegs of Black Dog and 2 cans of Miller**

3 **3 pegs of Black Dog and 1 packet of Classic cigarettes.**

4 **8 pegs of Blenders Pride and 2 packets of Classic cigarettes.**

Solution:
Correct Answer : 1

Bookmark

Answer key/Solution

Using the table consists of price for single unit of everything and the condition given in (vi), we can form the following table for Mr. Bhokali's minimum and maximum possible consumption and its respective spending amounts for each of the three mentioned routines.

Routine	Cost of Quantity Consumed - Minimum
Only Whiskey	5 Pegs of whiskey - Blenders Pride = Rs. 1000 OR 5 Pegs of whiskey - Black Dog = Rs. 2000
Whiskey and Beer	1 cans of Beer - ultra max & 2 pegs of Blenders Pride = Rs. 600 OR 1 can of Beer - Ultra Max & 2 pegs of Black dog = Rs. 1000 OR 1 can of Beer - Miller & 2 Pegs of Black Dog = Rs. 1100
Whiskey and Cigarette	3 Pegs of Blenders Pride & 1 Packet of Cigarettes = Rs. 900 OR 3 Pegs of Black Dog & 1 Packet of Cigaretts = Rs. 1500

Routine	Cost of Quantity Consumed - Maximum
Only Whiskey	10 Pegs of Blenders Pride = Rs. 2000 OR 10 Pegs of Black Dog = Rs. 4000
Whiskey and Beer	2 cans of ultra max & 5 pegs of Blenders Pride = Rs. 1400 OR 2 cans of Ultra Max & 5 pegs of Black dog = Rs. 2400 OR 2 cans of Miller & 5 Pegs of Black Dog = Rs. 2600
Whiskey and Cigarette	8 Pegs of Blenders Pride & 1 Packet of Cigarettes = Rs. 1900 OR 8 Pegs of Black Dog & 1 Packet of Cigarettes = Rs. 3500

On Friday, he spends maximum possible amount i.e., Rs. 4000, using (V).
As two of his spendings are prime multiple of 100, and only two amounts, out of all his possible spendings, are prime multiples of 100 i.e. 1100 and 1900. So, two of his other spendings are Rs. 1100 and Rs. 1900, using (ii).
Now, using (iii), the sum of his other 2 spendings should be Rs. 4000, i.e. 11000 – (4000 + 1900 + 1100)] = Rs. 4000
Only possibility for the other 2 spendings are Rs. 2600 and Rs. 1400.
Therefore, following table can be made based on the above observation:

Day	Spending
Monday	Rs. 1900
Wednesday	Rs. 1400
Thursday	Rs. 1100
Friday	Rs. 4000
Sunday	Rs. 2600

FeedBack

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

Five friends - Jay, Arun, Ashish, Ravi, and Vishal - decided to have a get-together once a week for five weeks. They also decided that each one of them will host the other four together at his own house for the get-together. Their Surnames are Dubey, Bhatia, Mehta, Gupta and Verma, not necessarily in the same order. They also decided to arrange a show of their favourite movies at their place. One of the movie names is 'Nth Degree'.
Further Information about their get-together is also known:

1. The get-together at Jay's House is one week before the get-together at Bhatia's house, which is one week before when movie directed by Steve Smith would have played.
2. One week after the gathering had at Gupta's house, they watched the movie directed by Keeves.
3. They watched 'Romeo' one week before they watched the movie directed by Nick Jones.
4. The movie directed by Andy Murray was not watched at Jay's House.
5. In the gatherings held in three consecutive weeks, Dubey was the host in the first week, they watched 'The Sun' in the next week and Vishal welcomed them at his house in the last week among these three consecutive weeks.
6. One week after they watch 'Love Life', Ashish host the get-together at his house.
7. The movie directed by John Smith was not watched at Verma's house.
8. 'Moon walk' was not watched at Arun's Home.
9. Ravi was the host one week before they watched the movie directed by Andy Murray.
10. Vishal, whose surname is not Bhatia, did not play the movie directed by Steve Smith.
11. The movie directed by Nick Jones was not 'The Sun' and was not played at Dubey's house.

Q.51
Which movie was played at Ashish's house?

1 **Romeo**

2 **Love life**

3 **The Sun**

4 **Moon walk**

Solution:
Correct Answer : 3

Bookmark

Answer key/Solution

From statement 1, we can conclude that Jay was the host for the 1st week, 2nd week or 3rd week. But, Jay cannot be the host for 2nd week because if he will be the host for a 2nd week then by statement 5, either Vishal will have Bhatia as his surname or they saw a movie directed by Steve Smith at Vishal's house but statement 10, contradicts that.
Also, by statement 5, we can conclude that Jay does not have the surname as Dubey, because if he will have Dubey as his surname then Vishal will show the movie directed by Steve Smith, so not possible.

Case I:	
Week 1	Jay
Week 2	Bhatia
Week 3	Steve Smith
Week 4	
Week 5	

Or

Case II:	
Week 1	
Week 2	
Week 3	Jay
Week 4	Bhatia
Week 5	Steve Smith

Case II given above will contradict the statement 5; therefore, this case is not possible. And, in Case I, the one who showed Steve Smith's Movie has to be Dubey followed by the one who showed The sun and which is again followed by the week when Vishal hosted, by statement 5.

Case I:	
Week 1	Jay
Week 2	Bhatia
Week 3	Steve Smith- Dubey
Week 4	The sun
Week 5	Vishal

Also, from statement 11, the movie directed by Nick Jones was not 'The Sun' and was not played at Dubey's house, therefore, it must be played in 1st week, 2nd week or 5th week, but by statement 3, they watched 'Romeo' one week before they watched the movie directed by Nick Jones. Therefore, they must have seen Romeo in 1st week and Nick Jones's directed movie in the2nd week.

Case I:	
Week 1	Jay – Romeo
Week 2	Bhatia – Nick Jonas
Week 3	Steve Smith- Dubey
Week 4	The sun
Week 5	Vishal

Now, by statement 2, one week after the gathering at Gupta's house they watched the movie directed by Keeves, which is now only possible if they watched the sun at Gupta's and Vishal showed the movie directed by Keeves. Now from statement 4 and 9, first Ravi will invite them for the get-together and in next week they will watch Andy Murray's movie and this is possible only in the combination of: (3rdweek, 4th week). Since only John Smith director is left,therefore, Romeo is definitely directed by him and by statement 7, movie directed by John Smith was not watched at Verma's house, therefore, Jay has to be Mehta and then Vishal will be Verma.

Case I:	
Week 1	Jay – Romeo – John Smith - Mehta
Week 2	Bhatia – Nick Jonas
Week 3	Steve Smith-Ravi -Dubey
Week 4	The sun –Gupta's – Andy Murray's
Week 5	Vishal– Keeves - Verma

By statement 6 and 8, we can conclude that they watch 'Love Life' at Ravi's house and the surname of Ashish is Gupta. The final table is:

Week 1	Jay	Mehta	Romeo	John Smith
Week 2	Arun	Bhatia	Nth degree	Nick Jonas
Week 3	Ravi	Dubey	Love life	Steve Smith
Week 4	Ashish	Gupta	The sun	Andy Murray
Week 5	Vishal	Verma	Moon Walk	Keeves

FeedBack

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

Five friends - Jay, Arun, Ashish, Ravi, and Vishal - decided to have a get-together once a week for five weeks. They also decided that each one of them will host the other four together at his own house for the get-together. Their Surnames are Dubey, Bhatia, Mehta, Gupta and Verma, not necessarily in the same order. They also decided to arrange a show of their favourite movies at their place. One of the movie names is 'Nth Degree'.
Further Information about their get-together is also known:

1. The get-together at Jay's House is one week before the get-together at Bhatia's house, which is one week before when movie directed by Steve Smith would have played.
2. One week after the gathering had at Gupta's house, they watched the movie directed by Keeves.
3. They watched 'Romeo' one week before they watched the movie directed by Nick Jones.
4. The movie directed by Andy Murray was not watched at Jay's House.
5. In the gatherings held in three consecutive weeks, Dubey was the host in the first week, they watched 'The Sun' in the next week and Vishal welcomed them at his house in the last week among these three consecutive weeks.
6. One week after they watch 'Love Life', Ashish host the get-together at his house.
7. The movie directed by John Smith was not watched at Verma's house.
8. 'Moon walk' was not watched at Arun's Home.
9. Ravi was the host one week before they watched the movie directed by Andy Murray.
10. Vishal, whose surname is not Bhatia, did not play the movie directed by Steve Smith.
11. The movie directed by Nick Jones was not 'The Sun' and was not played at Dubey's house.

Q.52
Who directed the movie 'Nth degree'?

1 **Andy Murray**

2 **Keeve**

3 **John Smith**

4 **Nick Jones**

Solution:
Correct Answer : 4

Bookmark

Answer key/Solution

From statement 1, we can conclude that Jay was the host for the 1st week, 2nd week or 3rd week. But, Jay cannot be the host for 2nd week because if he will be the host for a 2nd week then by statement 5, either Vishal will have Bhatia as his surname or they saw a movie directed by Steve Smith at Vishal's house but statement 10, contradicts that.
Also, by statement 5, we can conclude that Jay does not have the surname as Dubey, because if he will have Dubey as his surname then Vishal will show the movie directed by Steve Smith, so not possible.

Case I:	
Week 1	Jay
Week 2	Bhatia
Week 3	Steve Smith
Week 4	
Week 5	

Or

Case II:	
Week 1	
Week 2	
Week 3	Jay
Week 4	Bhatia
Week 5	Steve Smith

Case II given above will contradict the statement 5; therefore, this case is not possible. And, in Case I, the one who showed Steve Smith's Movie has to be Dubey followed by the one who showed The sun and which is again followed by the week when Vishal hosted, by statement 5.

Case I:	
Week 1	Jay
Week 2	Bhatia
Week 3	Steve Smith- Dubey
Week 4	The sun
Week 5	Vishal

Also, from statement 11, the movie directed by Nick Jones was not 'The Sun' and was not played at Dubey's house, therefore, it must be played in 1st week, 2nd week or 5th week, but by statement 3, they watched 'Romeo' one week before they watched the movie directed by Nick Jones. Therefore, they must have seen Romeo in 1st week and Nick Jones's directed movie in the2nd week.

Case I:	
Week 1	Jay – Romeo
Week 2	Bhatia – Nick Jonas
Week 3	Steve Smith- Dubey
Week 4	The sun
Week 5	Vishal

Now, by statement 2, one week after the gathering at Gupta's house they watched the movie directed by Keeves, which is now only possible if they watched the sun at Gupta's and Vishal showed the movie directed by Keeves. Now from statement 4 and 9, first Ravi will invite them for the get-together and in next week they will watch Andy Murray's movie and this is possible only in the combination of: (3rdweek, 4th week). Since only John Smith director is left,therefore, Romeo is definitely directed by him and by statement 7, movie directed by John Smith was not watched at Verma's house, therefore, Jay has to be Mehta and then Vishal will be Verma.

Case I:	
Week 1	Jay – Romeo – John Smith - Mehta
Week 2	Bhatia – Nick Jonas
Week 3	Steve Smith-Ravi -Dubey
Week 4	The sun –Gupta's – Andy Murray's
Week 5	Vishal– Keeves - Verma

By statement 6 and 8, we can conclude that they watch 'Love Life' at Ravi's house and the surname of Ashish is Gupta. The final table is:

Week 1	Jay	Mehta	Romeo	John Smith
Week 2	Arun	Bhatia	Nth degree	Nick Jonas
Week 3	Ravi	Dubey	Love life	Steve Smith
Week 4	Ashish	Gupta	The sun	Andy Murray
Week 5	Vishal	Verma	Moon Walk	Keeves

FeedBack

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

Five friends - Jay, Arun, Ashish, Ravi, and Vishal - decided to have a get-together once a week for five weeks. They also decided that each one of them will host the other four together at his own house for the get-together. Their Surnames are Dubey, Bhatia, Mehta, Gupta and Verma, not necessarily in the same order. They also decided to arrange a show of their favourite movies at their place. One of the movie names is 'Nth Degree'.
Further Information about their get-together is also known:

1. The get-together at Jay's House is one week before the get-together at Bhatia's house, which is one week before when movie directed by Steve Smith would have played.
2. One week after the gathering had at Gupta's house, they watched the movie directed by Keeves.
3. They watched 'Romeo' one week before they watched the movie directed by Nick Jones.
4. The movie directed by Andy Murray was not watched at Jay's House.
5. In the gatherings held in three consecutive weeks, Dubey was the host in the first week, they watched 'The Sun' in the next week and Vishal welcomed them at his house in the last week among these three consecutive weeks.
6. One week after they watch 'Love Life', Ashish host the get-together at his house.
7. The movie directed by John Smith was not watched at Verma's house.
8. 'Moon walk' was not watched at Arun's Home.
9. Ravi was the host one week before they watched the movie directed by Andy Murray.
10. Vishal, whose surname is not Bhatia, did not play the movie directed by Steve Smith.
11. The movie directed by Nick Jones was not 'The Sun' and was not played at Dubey's house.

Q.53
What is the surname of Arun?

1 **Bhatia**

2 **Dubey**

3 **Mehta**

4 **Vema**

Solution:
Correct Answer : 1

Bookmark

Answer key/Solution

From statement 1, we can conclude that Jay was the host for the 1st week, 2nd week or 3rd week. But, Jay cannot be the host for 2nd week because if he will be the host for a 2nd week then by statement 5, either Vishal will have Bhatia as his surname or they saw a movie directed by Steve Smith at Vishal's house but statement 10, contradicts that.
Also, by statement 5, we can conclude that Jay does not have the surname as Dubey, because if he will have Dubey as his surname then Vishal will show the movie directed by Steve Smith, so not possible.

Case I:	
Week 1	Jay
Week 2	Bhatia
Week 3	Steve Smith
Week 4	
Week 5	

Or

Case II:	
Week 1	
Week 2	
Week 3	Jay
Week 4	Bhatia
Week 5	Steve Smith

Case II given above will contradict the statement 5; therefore, this case is not possible. And, in Case I, the one who showed Steve Smith's Movie has to be Dubey followed by the one who showed The sun and which is again followed by the week when Vishal hosted, by statement 5.

Case I:	
Week 1	Jay
Week 2	Bhatia
Week 3	Steve Smith- Dubey
Week 4	The sun
Week 5	Vishal

Also, from statement 11, the movie directed by Nick Jones was not 'The Sun' and was not played at Dubey's house, therefore, it must be played in 1st week, 2nd week or 5th week, but by statement 3, they watched 'Romeo' one week before they watched the movie directed by Nick Jones. Therefore, they must have seen Romeo in 1st week and Nick Jones's directed movie in the2nd week.

Case I:	
Week 1	Jay – Romeo
Week 2	Bhatia – Nick Jonas
Week 3	Steve Smith- Dubey
Week 4	The sun
Week 5	Vishal

Now, by statement 2, one week after the gathering at Gupta's house they watched the movie directed by Keeves, which is now only possible if they watched the sun at Gupta's and Vishal showed the movie directed by Keeves. Now from statement 4 and 9, first Ravi will invite them for the get-together and in next week they will watch Andy Murray's movie and this is possible only in the combination of: (3rdweek, 4th week). Since only John Smith director is left,therefore, Romeo is definitely directed by him and by statement 7, movie directed by John Smith was not watched at Verma's house, therefore, Jay has to be Mehta and then Vishal will be Verma.

Case I:	
Week 1	Jay – Romeo – John Smith - Mehta
Week 2	Bhatia – Nick Jonas
Week 3	Steve Smith-Ravi -Dubey
Week 4	The sun –Gupta's – Andy Murray's
Week 5	Vishal– Keeves - Verma

By statement 6 and 8, we can conclude that they watch 'Love Life' at Ravi's house and the surname of Ashish is Gupta. The final table is:

Week 1	Jay	Mehta	Romeo	John Smith
Week 2	Arun	Bhatia	Nth degree	Nick Jonas
Week 3	Ravi	Dubey	Love life	Steve Smith
Week 4	Ashish	Gupta	The sun	Andy Murray
Week 5	Vishal	Verma	Moon Walk	Keeves

FeedBack

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

Five friends - Jay, Arun, Ashish, Ravi, and Vishal - decided to have a get-together once a week for five weeks. They also decided that each one of them will host the other four together at his own house for the get-together. Their Surnames are Dubey, Bhatia, Mehta, Gupta and Verma, not necessarily in the same order. They also decided to arrange a show of their favourite movies at their place. One of the movie names is 'Nth Degree'.
Further Information about their get-together is also known:

1. The get-together at Jay's House is one week before the get-together at Bhatia's house, which is one week before when movie directed by Steve Smith would have played.
2. One week after the gathering had at Gupta's house, they watched the movie directed by Keeves.
3. They watched 'Romeo' one week before they watched the movie directed by Nick Jones.
4. The movie directed by Andy Murray was not watched at Jay's House.
5. In the gatherings held in three consecutive weeks, Dubey was the host in the first week, they watched 'The Sun' in the next week and Vishal welcomed them at his house in the last week among these three consecutive weeks.
6. One week after they watch 'Love Life', Ashish host the get-together at his house.
7. The movie directed by John Smith was not watched at Verma's house.
8. 'Moon walk' was not watched at Arun's Home.
9. Ravi was the host one week before they watched the movie directed by Andy Murray.
10. Vishal, whose surname is not Bhatia, did not play the movie directed by Steve Smith.
11. The movie directed by Nick Jones was not 'The Sun' and was not played at Dubey's house.

Q.54
Which movie was played at Jay's house?

1 **Romeo**

2 **Love life**

3 **The Sun**

4 **Moon walk**

Solution:
Correct Answer : 1

Bookmark

Answer key/Solution

From statement 1, we can conclude that Jay was the host for the 1st week, 2nd week or 3rd week. But, Jay cannot be the host for 2nd week because if he will be the host for a 2nd week then by statement 5, either Vishal will have Bhatia as his surname or they saw a movie directed by Steve Smith at Vishal's house but statement 10, contradicts that.
Also, by statement 5, we can conclude that Jay does not have the surname as Dubey, because if he will have Dubey as his surname then Vishal will show the movie directed by Steve Smith, so not possible.

Case I:	
Week 1	Jay
Week 2	Bhatia
Week 3	Steve Smith
Week 4	
Week 5	

Or

Case II:	
Week 1	
Week 2	
Week 3	Jay
Week 4	Bhatia
Week 5	Steve Smith

Case II given above will contradict the statement 5; therefore, this case is not possible. And, in Case I, the one who showed Steve Smith's Movie has to be Dubey followed by the one who showed The sun and which is again followed by the week when Vishal hosted, by statement 5.

Case I:	
Week 1	Jay
Week 2	Bhatia
Week 3	Steve Smith- Dubey
Week 4	The sun
Week 5	Vishal

Also, from statement 11, the movie directed by Nick Jones was not 'The Sun' and was not played at Dubey's house, therefore, it must be played in 1st week, 2nd week or 5th week, but by statement 3, they watched 'Romeo' one week before they watched the movie directed by Nick Jones. Therefore, they must have seen Romeo in 1st week and Nick Jones's directed movie in the2nd week.

Case I:	
Week 1	Jay – Romeo
Week 2	Bhatia – Nick Jonas
Week 3	Steve Smith- Dubey
Week 4	The sun
Week 5	Vishal

Now, by statement 2, one week after the gathering at Gupta's house they watched the movie directed by Keeves, which is now only possible if they watched the sun at Gupta's and Vishal showed the movie directed by Keeves. Now from statement 4 and 9, first Ravi will invite them for the get-together and in next week they will watch Andy Murray's movie and this is possible only in the combination of: (3rdweek, 4th week). Since only John Smith director is left,therefore, Romeo is definitely directed by him and by statement 7, movie directed by John Smith was not watched at Verma's house, therefore, Jay has to be Mehta and then Vishal will be Verma.

Case I:	
Week 1	Jay – Romeo – John Smith - Mehta
Week 2	Bhatia – Nick Jonas
Week 3	Steve Smith-Ravi -Dubey
Week 4	The sun –Gupta's – Andy Murray's
Week 5	Vishal– Keeves - Verma

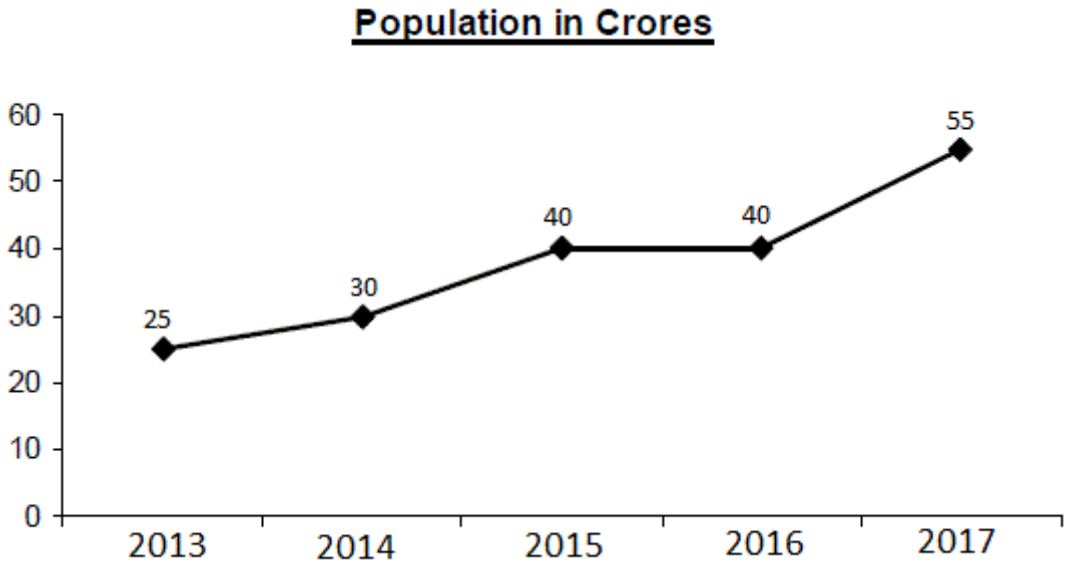
By statement 6 and 8, we can conclude that they watch 'Love Life' at Ravi's house and the surname of Ashish is Gupta. The final table is:

Week 1	Jay	Mehta	Romeo	John Smith
Week 2	Arun	Bhatia	Nth degree	Nick Jonas
Week 3	Ravi	Dubey	Love life	Steve Smith
Week 4	Ashish	Gupta	The sun	Andy Murray
Week 5	Vishal	Verma	Moon Walk	Keeves

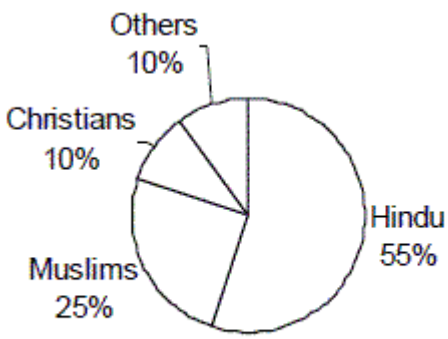
FeedBack

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

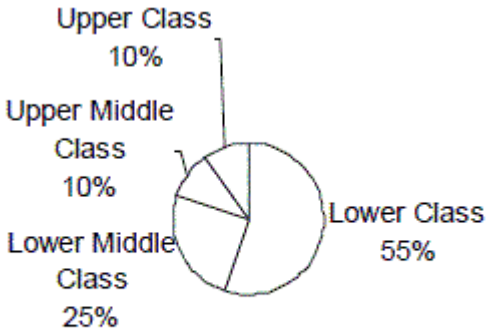
As the election time is around the corner in the country, all political parties wanted to entice the people to cast their votes in favour of their party. For which they wanted to analyse the country's progress in terms of equality in the past few years. Hence an index has been developed by some statisticians to measure the discrimination ratio among the various castes to improve the overall development of country. For this, the detailed information about the population of different categories for five different years has been provided.
The line chart shown below provides the information about the population of country in five years:



The pie charts shown below provide the break up of the total population of a particular year based on their religions and class respectively:



Percentage



Percentage

Q.55
Suppose the given pie charts are valid only for the year 2015.
If during 2015, 10% of Lower Class population upgrade themselves to Lower Middle Class and 5% of Lower Middle Class people upgrade themselves to Upper Middle Class, then what is the difference between the final percentage of the Lower Middle Class population in 2016 and the initial percentage of Lower Middle Class population in 2015?

1 **4.00%**

2 **4.25%**

3 **4.50%**

4 **4.75%**

Solution:
Correct Answer : 2

Bookmark

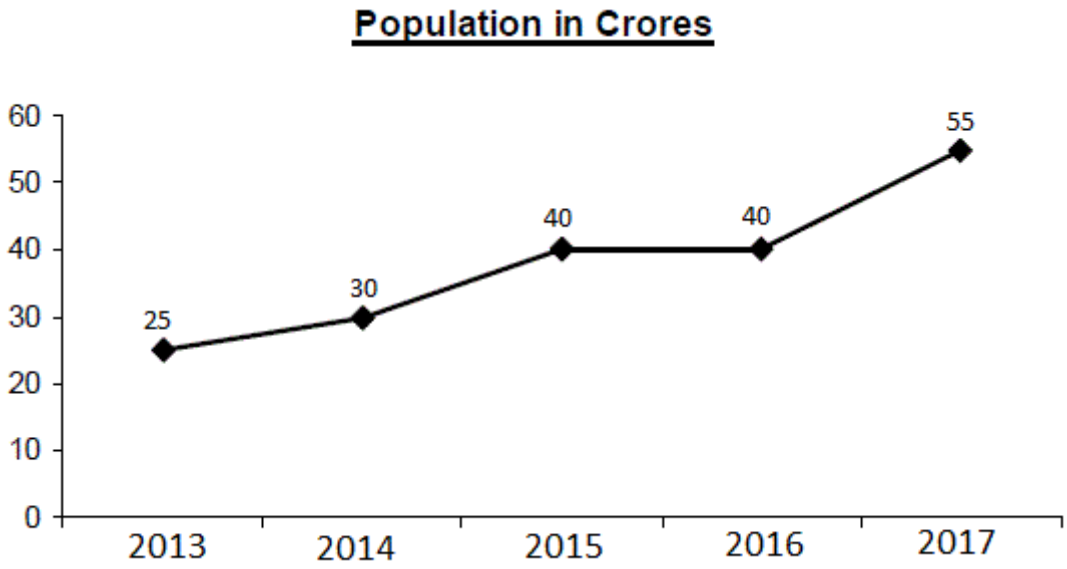
Answer key/Solution

Population in 2015 = 40 Crores
Number of lower class people = 40 × 55% = 22 Crores
Number of lower middle class people = 40 × 25% = 10 Crores
Number of people moved to Lower Middle Class = 22 × 10% = 2.2 Crores
Number of Lower middle class people moved to Upper middle class = 10 × 5% = 0.5 Crores.
Hence number of people in newly formed lower middle class = 10 + 2.2 – 0.5 = 11.7 Crores.
Percentage of Lower middle class = (11.7 × 100)/40 = 29.25%
Hence change = 29.25 – 25 = 4.25%

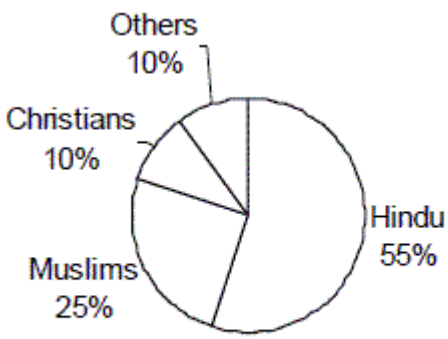
FeedBack

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

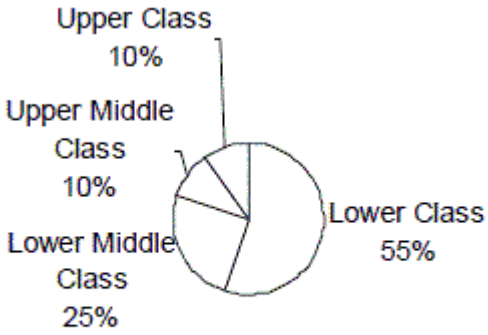
As the election time is around the corner in the country, all political parties wanted to entice the people to cast their votes in favour of their party. For which they wanted to analyse the country's progress in terms of equality in the past few years. Hence an index has been developed by some statisticians to measure the discrimination ratio among the various castes to improve the overall development of country. For this, the detailed information about the population of different categories for five different years has been provided.
The line chart shown below provides the information about the population of country in five years:



The pie charts shown below provide the break up of the total population of a particular year based on their religions and class respectively:



Percentage



Percentage

Q.56
Suppose that the given pie chart is valid for year 2013. If from 2013 to 2015, Muslims, Hindus and Christians grow respectively by 80%, 60% and 40% respectively, then what is the percentage change in the others community from 2013 to 2015?

1 **5%**

2 **30%**

3 **40%**

4 **60%**

Solution:
Correct Answer : 2

Number of Muslims in 2013 = 25 × 25% = 6.25 Crores
Hence number of Muslims in 2015 = 6.25 × 1.8 = 11.25 Crores
Number of Hindus in 2013 = 25 × 55% = 13.75 Crores
Hence number of Hindus in 2015 = 13.75 × 1.6 = 22 Crores
Number of Christians in 2013 = 25 × 10% = 2.5 Crores
Hence number of Christians in 2015 = 2.5 × 1.4 = 3.5 Cores
Hence others community in 2015 = 40 – (11.25 + 22 + 3.5) = 3.25 Crores
Others community in 2013 = 25 × 10% = 2.5 Crores
Hence percentage change = [(3.25 – 2.5) × 100]/2.5 = 30%

FeedBack

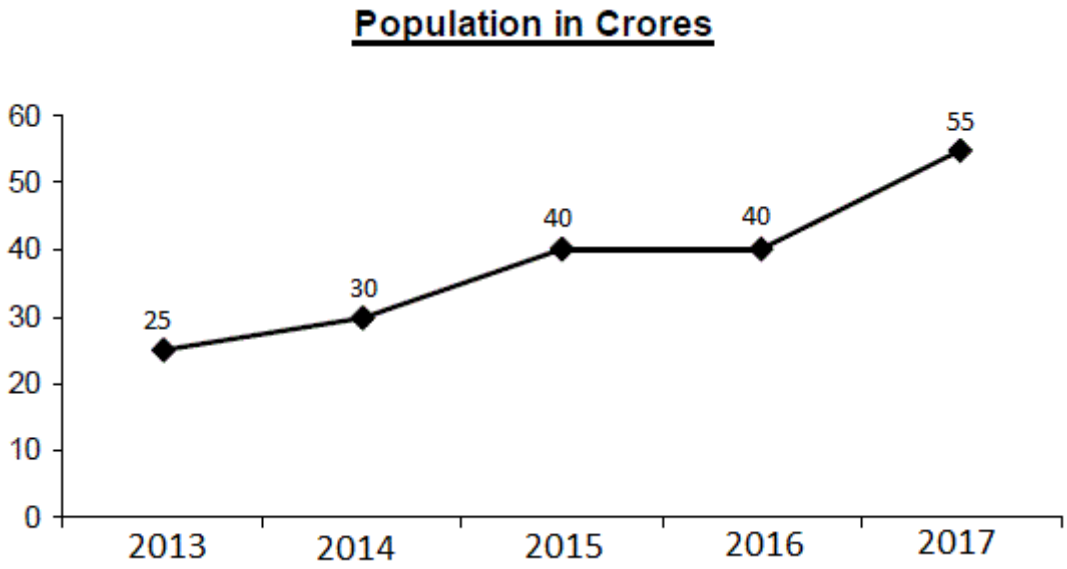
Bookmark

Answer key/Solution

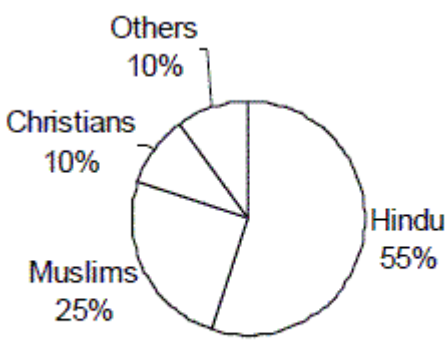
Directions for question 55 to 58: Answer the questions on the basis of the information given below.

As the election time is around the corner in the country, all political parties wanted to entice the people to cast their votes in favour of their party. For which they wanted to analyse the country's progress in terms of equality in the past few years. Hence an index has been developed by some statisticians to measure the discrimination ratio among the various castes to improve the overall development of country. For this, the detailed information about the population of different categories for five different years has been provided.

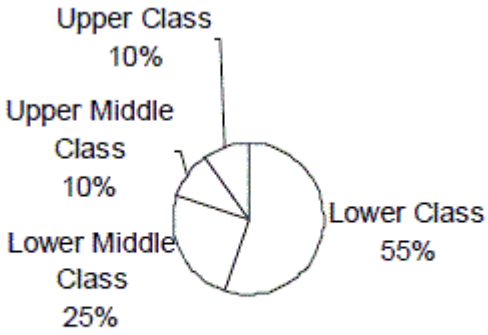
The line chart shown below provides the information about the population of country in five years:



The pie charts shown below provide the break up of the total population of a particular year based on their religions and class respectively:



Percentage



Percentage

Q.57

Suppose the given pie chart is valid for the whole period of 2013-2017. If in the year 2013, 50% of Lower Class people were living below poverty line and due to government's initiatives, every year that percentage decreases by 5 percentage points with respect to previous year, then what is the approximate percentage change in the number of people living below poverty line during 2013-2017?

1 **40%**

2 **60%**

3 **32%**

4 **100%**

Solution:
Correct Answer : 3

Bookmark

Answer key/Solution

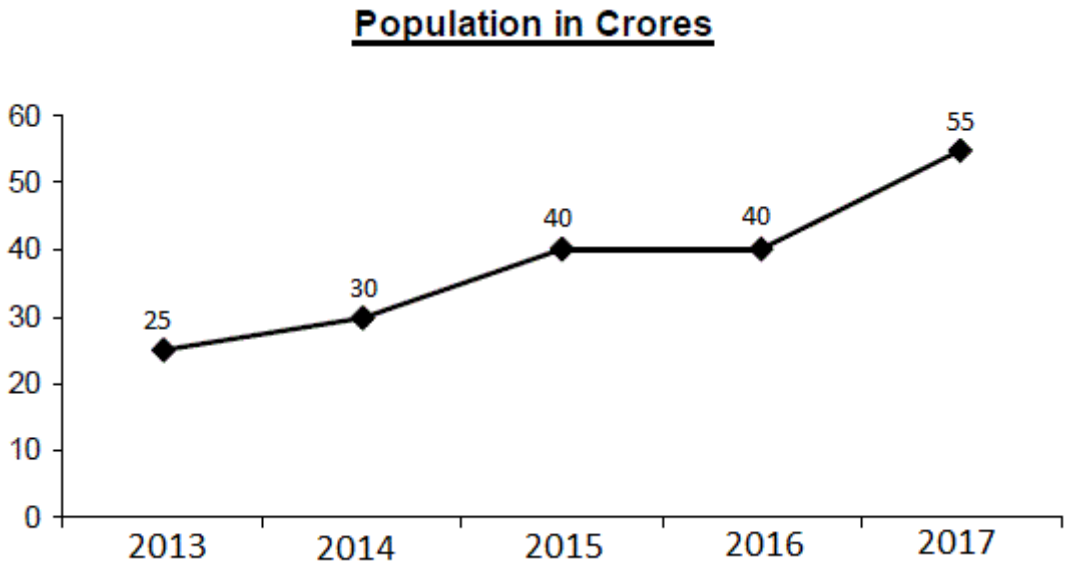
Lower class people in 2013 = 25 × 55% = 13.75 Crores
People living below poverty line = 13.75 × 50% = 6.875 Crores
Lower class people in 2017 = 55 × 55% = 30.25 Crores
After government initiative the percentage of people living below poverty line in 2017 = 50 − 5 × 4 = 30%
People living below poverty line in 2017 = 30.25 × 30% = 9.075 Crores

Hence percentage change in no. of people living below poverty line during 2013-17 = $\frac{9.075-6.875}{6.875}\times 100 = 32\%$.

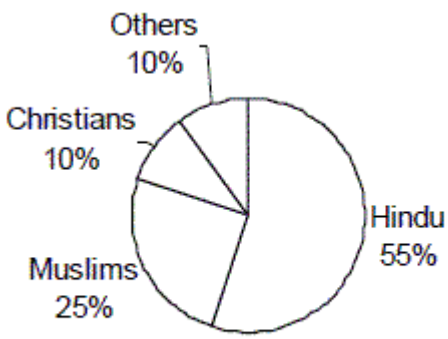
FeedBack

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

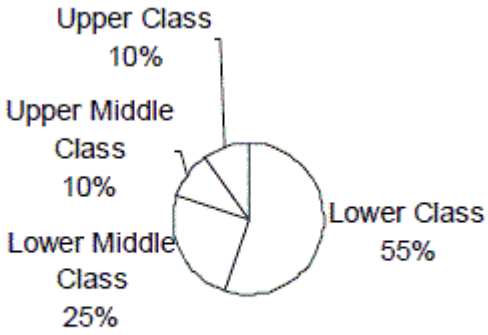
As the election time is around the corner in the country, all political parties wanted to entice the people to cast their votes in favour of their party. For which they wanted to analyse the country's progress in terms of equality in the past few years. Hence an index has been developed by some statisticians to measure the discrimination ratio among the various castes to improve the overall development of country. For this, the detailed information about the population of different categories for five different years has been provided.
The line chart shown below provides the information about the population of country in five years:



The pie charts shown below provide the break up of the total population of a particular year based on their religions and class respectively:



Percentage



Percentage

Q.58

Suppose the given pie chart is valid for 2017. If in the first half of 2017, due to Cholera attack in the country, 20% of Lower Class people, 10% of Lower Middle Class people and 5% of Upper Middle class people die, then what will be the new percentage of Upper Class people out of the remaining total population in 2017 after Cholera attack?

1 **11.0%**

2 **11.2%**

3 **14.0%**

4 **11.6%**

Solution:
Correct Answer : 4

Bookmark

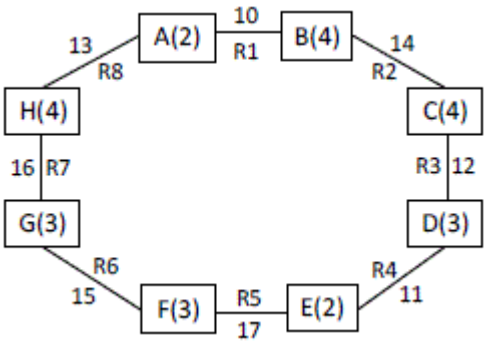
Answer key/Solution

Total population in 2017 = 55 Crores
Number of Lower class people = 55 × 55% = 30.25 Crores
Hence people survived after Cholera = 30.25 × (100 – 20) % = 24.2 Crores
Number of Lower middle class people = 55 × 25% = 13.75 Crores
Hence people survived after cholera = 13.75 × (100 – 10) % = 12.375 Crores
Number of Upper Middle Class people = 55 × 10% = 5.5 Crores
Hence people survived after cholera = 5.5 × (100 – 5) % = 5.225 Crores
In 2017 number of Upper Class people = 55 × 10% = 5.5 Crores
Hence percentage of Upper class people in 2017 after cholera attacks
= (5.5 × 100)/(24.2 + 12.375 + 5.225 + 5.5) = 11.6%

FeedBack

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

Eight loading-unloading stations - A, B, C, D, E, F, G and H - are connected by eight roads, R1 through R8, as shown in the figure. C1, C2, C3, …… are the cars which travel between these stations. All the cars run at the same speed. Alongside each of the roads a number is given in the figure which indicates the travelling time (in minutes) taken by any car to travel between the two stations connected by that road. One number is given with the name of the station (in bracket) which indicates the halting time (in minutes) of any car at that particular station. Read the diagram carefully and answer all the questions that follow.



Q.59
If car C1 starts from A at 11 AM in clockwise direction while at the same time car C2 starts from F in the anti-clockwise direction, then at what time will they meet each other for the first time?

1 **11:38 AM**

2 **11:39 AM**

3 **11:39:30 AM**

4 **11:38:30 AM**

Solution:
Correct Answer : 4
C1 will be just leaving from C at 11:32 AM and C2 will be just leaving from D at 11:33 AM. At 11:33 AM they will be separated by a distance that can be covered by any one of them in 11 minutes and since all the cars travel with the same speed so if they cover that distance together they will take only 5 and half minutes to meet each other.

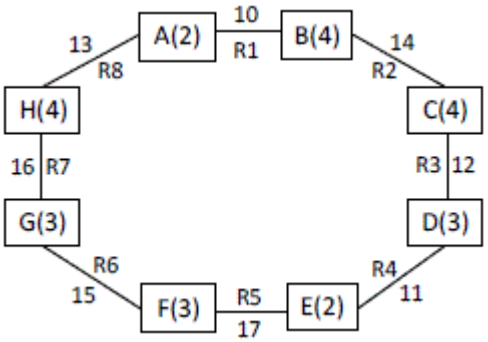
Bookmark

Answer key/Solution

FeedBack

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

Eight loading-unloading stations - A, B, C, D, E, F, G and H - are connected by eight roads, R1 through R8, as shown in the figure. C1, C2, C3, …… are the cars which travel between these stations. All the cars run at the same speed. Alongside each of the roads a number is given in the figure which indicates the travelling time (in minutes) taken by any car to travel between the two stations connected by that road. One number is given with the name of the station (in bracket) which indicates the halting time (in minutes) of any car at that particular station. Read the diagram carefully and answer all the questions that follow.



Q.60
If C1 starts from C at 9 AM in clockwise direction and from H one car starts after every 15 minutes with first car leaving H at 9 AM (all the cars which leave H run in anti-clockwise direction), then how many cars will C1 cross until it reaches H for the first time?

Solution:
Correct Answer : 6
It will take C1 a total time of 82 minutes to reach H from C. One car leaves H after every 15 minutes which means that in 82 minutes 6 cars must have left H and they all will cross C1 at some point on the way. Hence, the correct answer is 6.

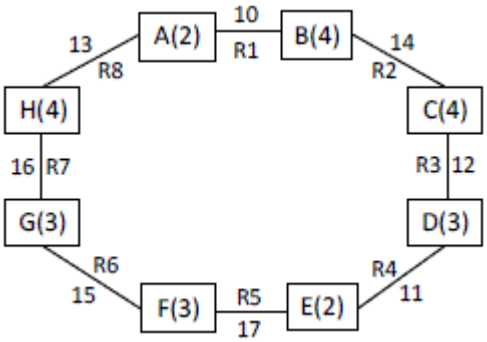
Bookmark

Answer key/Solution

FeedBack

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

Eight loading-unloading stations - A, B, C, D, E, F, G and H - are connected by eight roads, R1 through R8, as shown in the figure. C1, C2, C3, …… are the cars which travel between these stations. All the cars run at the same speed. Alongside each of the roads a number is given in the figure which indicates the travelling time (in minutes) taken by any car to travel between the two stations connected by that road. One number is given with the name of the station (in bracket) which indicates the halting time (in minutes) of any car at that particular station. Read the diagram carefully and answer all the questions that follow.



Q.61

If C1 starts from H at 8 AM in clockwise direction and it keeps travelling indefinitely, then by 8 PM of the same day how many times will it have crossed station C?

Solution:

Correct Answer : 6

One complete round will take 133 minutes. From 8 AM to 8 PM there are 720 minutes in which C1 car would have completed 5 rounds and it will still have 55 minutes of running left. In these remaining 55 minutes C1 car will be able to reach C one more time. So, total 6 times C1 will have crossed station C in the given time. The correct answer is 6.

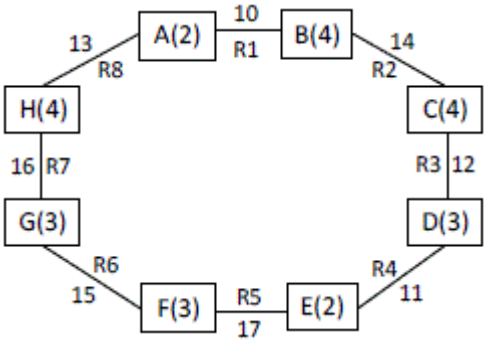
FeedBack

Bookmark

Answer key/Solution

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

Eight loading-unloading stations - A, B, C, D, E, F, G and H - are connected by eight roads, R1 through R8, as shown in the figure. C1, C2, C3, …… are the cars which travel between these stations. All the cars run at the same speed. Alongside each of the roads a number is given in the figure which indicates the travelling time (in minutes) taken by any car to travel between the two stations connected by that road. One number is given with the name of the station (in bracket) which indicates the halting time (in minutes) of any car at that particular station. Read the diagram carefully and answer all the questions that follow.



Q.62

If C1 and C2 start from B and F respectively at the same time, in opposite directions (i.e one in clockwise direction and other in anti-clockwise direction, in any order), then find the minimum value of the time (in minutes) that they will take to meet each other for the first time?

1 **31.5**

2 **30**

3 **29**

4 **30.5**

Solution:
Correct Answer : 1
If C1 runs in clockwise direction and C2 runs in anti-clockwise direction then they will meet each other for the first time in 31.5 minutes. If C1 runs in anti-clockwise direction and C2 runs in clockwise direction then also they will meet each other for the first time in 31.5 minutes.

FeedBack

Bookmark

Answer key/Solution

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

Three machines - A, B and C - are used to manufacture 3 products - Product 1, Product 2 and Product 3 - in such a way that at a time a machine can manufacture any one of these three products and once a machine starts manufacturing a product it cannot be stopped until the process of manufacturing is over. When a unit of any of these three products is being manufactured by any of the three machines then none of the other two machines can provide any support in that process. To manufacture the given three products, only these three machines can be used. Each of the three machines can work on manufacturing of these products for at most 9 hours a day. Following table provides the details of the time (in minutes) that a machine takes to manufacture one unit of each of these three products.

	Machine A	Machine B	Machine C
Product 1	10	9	15
Product 2	12	18	10
Product 3	15	12	20

Q.63

At most how many units of products can be manufactured by these machines in a day?

Solution:
Correct Answer : 168

Bookmark

Answer key/Solution

We know that a machine can work for 9 hours a day or for 540 minutes a day so we can redraw the table by writing the number of units of a product that a machine can manufacture in the entire day as follows:

	Machine A	Machine B	Machine C
Product 1	54	60	36
Product 2	45	30	54
Product 3	36	45	27

Machine A can manufacture 54 units of product 1, Machine B can manufacture 60 units of product 1 and Machine C can manufacture 54 units of product 2. So, the maximum number of units that can be manufactured by these machines in one day = 54 + 60 + 54 = 168.

FeedBack

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

Three machines - A, B and C - are used to manufacture 3 products - Product 1, Product 2 and Product 3 - in such a way that at a time a machine can manufacture any one of these three products and once a machine starts manufacturing a product it cannot be stopped until the process of manufacturing is over. When a unit of any of these three products is being manufactured by any of the three machines then none of the other two machines can provide any support in that process. To manufacture the given three products, only these three machines can be used. Each of the three machines can work on manufacturing of these products for at most 9 hours a day. Following table provides the details of the time (in minutes) that a machine takes to manufacture one unit of each of these three products.

	Machine A	Machine B	Machine C
Product 1	10	9	15
Product 2	12	18	10
Product 3	15	12	20

Q.64

If each machine is used to manufacture units of a single product for the entire day and no two machines can manufacture the same product, then at most how many units can be manufactured in a day?

Solution:
Correct Answer : 153

Bookmark

Answer key/Solution

We know that a machine can work for 9 hours a day or for 540 minutes a day so we can redraw the table by writing the number of units of a product that a machine can manufacture in the entire day as follows:

	Machine A	Machine B	Machine C
Product 1	54	60	36
Product 2	45	30	54
Product 3	36	45	27

Machine A can manufacture 54 units of product 1, Machine B can manufacture 45 units of product 3 and Machine C can manufacture 54 units of product 2. So, the answer = 54 + 45 + 54 = 153.

FeedBack

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

Three machines - A, B and C - are used to manufacture 3 products - Product 1, Product 2 and Product 3 - in such a way that at a time a machine can manufacture any one of these three products and once a machine starts manufacturing a product it cannot be stopped until the process of manufacturing is over. When a unit of any of these three products is being manufactured by any of the three machines then none of the other two machines can provide any support in that process. To manufacture the given three products, only these three machines can be used. Each of the three machines can work on manufacturing of these products for at most 9 hours a day. Following table provides the details of the time (in minutes) that a machine takes to manufacture one unit of each of these three products.

	Machine A	Machine B	Machine C
Product 1	10	9	15
Product 2	12	18	10
Product 3	15	12	20

Q.65

If 200 units of each of the three products are to be manufactured then at least how many minutes of manufacturing will be required to get the task done?(All the three machines are made to work continuously, without even stopping after 9 hours daily working)

Solution:
Correct Answer : 2172

Bookmark

Answer key/Solution

We know that a machine can work for 9 hours a day or for 540 minutes a day so we can redraw the table by writing the number of units of a product that a machine can manufacture in the entire day as follows:

	Machine A	Machine B	Machine C
Product 1	54	60	36
Product 2	45	30	54
Product 3	36	45	27

If 200 units of each of the three products are to be manufactured in minimum possible time then all the 200 units of product 1 must be manufactured on machine A in the first 2000 minutes and all the 200 units of product 2 must be manufactured on machine C in the first 2000 minutes. In the first 2004 minutes machine B can manufacture 167 units of product 3. Now if machine A works for an additional time of 165 minutes then it can manufacture 11 more units of product 3, if machine C works for an additional time of 160 minutes then it can manufacture 8 more units of product 3 and if machine B works for an additional time of 168 minutes it can manufacture 14 more units of product 3. In this way machine A will work for 2165 minutes, machine B will work for 2172 minutes and machine C will work for 2160 minutes. As a result 200 units of each product will have been manufactured by the three machines in the first 2172 minutes. Hence, the answer is 2172.

FeedBack

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

Three machines: A, B and C are used to manufacture 3 products: 1, 2 and 3 in such a way that at a time a machine can manufacture any one of these three products and once a machine starts manufacturing a product it cannot be stopped until the process of manufacturing is over. When a unit of any of these three products is being manufactured by any of the three machines then none of the other two machines can provide any support in that process. To manufacture the given three products, only these three machines can be used. Each of the three machines can manufacture these products for at most 9 hours a day. Following table shows the time (in minutes) that a machine takes to manufacture one unit of each of the three products.

	Machine A	Machine B	Machine C
Product 1	10	9	15
Product 2	12	18	10
Product 3	15	12	20

Q.66

On a particular day, machine B remains unavailable for manufacturing and 'x' units of each of the three products are manufactured on that day by the other two machines. Which of the following can be the maximum value of 'x'?

1 **26**

2 **27**

3 **29**

4 **28**

Solution:
Correct Answer : 3

Bookmark

Answer key/Solution

We know that a machine can work for 9 hours a day or for 540 minutes a day so we can redraw the table by writing the number of units of a product that a machine can manufacture in the entire day as follows:

	Machine A	Machine B	Machine C
Product 1	54	60	36
Product 2	45	30	54
Product 3	36	45	27

In first 270 minutes, machine A can manufacture 27 units of product 1 and machine C can manufacture 27 units of product 2. In the remaining 270 minutes machine A can manufacture 18 units of product 3. Now out of these 270 minutes, machine C can manufacture 2 units of Product 1 in 30 minutes and 2 units of Product 2 in 20 minutes. In Remaining 220 minutes of machine C, it can manufacture 11 units of Product 3. Hence, 29 units of each of the three products can be manufactured at most in one day.

FeedBack

Sec 3

Q.67
In a 100 km race, how far is P from the finishing point when Q finishes the race, if P's speed is 40 kmph and Q's speed is 60 kmph? (Assume that both of them started at the same time)

1 **20/3 km**

2 **100/3 km**

3 **10/3 km**

4 **200/3km**

Solution:
Correct Answer : 2

Bookmark

Answer key/Solution

As speed of Q = 60 km/hr, time taken by Q to finish the race is $\frac{100}{60}$hr.

So, distance covered by P in that time = $\frac{100}{60} \times 40 = \frac{200}{3}$km

$\therefore$ Distance between P and finishing line at that time = $100 - \frac{200}{3} = \frac{100}{3}$km

FeedBack

Q.68

If $\log_2(\log_3(x^2 + 7x + 19)) = 1$, find positive value of x.

1 **2**

2 **5 and 2**

3 **5**

4 **Not possible**

Solution:
Correct Answer : 4

Bookmark

Answer key/Solution

$\log_a b = 1 \Rightarrow b = a$
So, $\log_2(\log_3(x^2 + 7x + 19)) = 1$
$\Rightarrow \log_3(x^2 + 7x + 19) = 2$
$\Rightarrow x^2 + 7x + 19 = 9$
$\Rightarrow x = -5, -2$
Both negative, therefore, no positive value of x is possible.

FeedBack

Q.69

Find maximum and minimum value of $\frac{x^2 - x + 1}{x^2 + x + 1}$, for all real values of x.

1 **3 and 1/3**

2 **5 and 1/5**

3 **3/2 and 2/3**

4 **4 and 1/4**

Solution:
Correct Answer : 1

Bookmark

Answer key/Solution

Let $\frac{x^2-x+1}{x^2+x+1}=k$

We have to find maximum possible and minimum possible value of 'k'

$\Rightarrow x^2 - x + 1 = k(x^2 + x + 1) \Rightarrow x^2(k - 1) + x(k + 1) + (k - 1) = 0.$

As x is real, roots have to be real.

So taking $b^2 - 4ac \geq 0$, we get $(k + 1)^2 - 4(k - 1)^2 \geq 0 \Rightarrow (3k - 1)(k - 3) \leq 0$

$\Rightarrow \frac{1}{3} \leq k \leq 3.$

FeedBack

Q.70

B alone takes 3 days more to finish a job than what B and C working together should have taken, while C alone takes 12 days more. How many days do B and C take to finish the job working together?

Solution:
Correct Answer : 6

Bookmark

Answer key/Solution

Let B and C together take x days to complete the work.

Then B take (x + 3) days and C take (x + 12) days.

One day work of B + one day work of C = one day work of (B + C)

$\Rightarrow \frac{1}{x+3}+\frac{1}{x+12}=\frac{1}{x}$

$\Rightarrow x = 6$

FeedBack

Q.71

A shopkeeper bought two kinds of wheat. The per kg rate of dearer wheat is 25% more than that of the cheaper wheat. In what ratio should the cheaper and the dearer wheat be mixed by the shop keeper so that if he sold them at the per kg rate of dearer wheat he had a gain of 10% per kg?

1 **3 : 2**

2 **2 : 3**

3 **5 : 6**

4 **6 : 5**

Solution:
Correct Answer : 3

Bookmark

Answer key/Solution

Let the quantities bought by the shopkeeper, of two kinds of wheat, dearer and cheaper, be x kg and y kg.
And also cost of cheaper wheat be 100 Rs./kg
Then cost of dearer wheat will be 125 Rs./kg
So, total cost = 125x + 100y
While total selling price = 125x + 125y

Hence, profit earned by shopkeeper = $\frac{25y}{125x+100y} = \frac{10}{100}$

$\Rightarrow$ 150y = 125x
$\Rightarrow$ y : x = 5 : 6.

FeedBack

Q.72

Two men X and Y hired by a certain company on January 1, 2010 (for doing similar jobs). X demanded for an initial salary of Rs. 300 with an annual increment of Rs. 30. Y demanded for an initial salary of Rs. 200 with an increment of Rs. 15 in every six months. This salary and increment structure remains unaltered for both of them till December 31, 2019 and salary is paid on the last day of every month. What is the total amount (in Rs.), earned by both of them, as their salaries during the given period?

Solution:
Correct Answer : 93300

Bookmark

Answer key/Solution

Salary of x in every month of 2010 = 300
Salary of x in every month of 2011 = 330
Similarly increasing by 30, that increased salary form an AP as 300, 330, ...
$\therefore$ Total salary earned by x in these 10 years
= 12 × (300 + 330 + 360 + 390 + 420 + 450 + 480 + 510 + 540 + 570) = 52200
Similarly,
Salary of y in first six months of 2010 = 200
Salary of y in last six months of 2010 = 215
Salary of y in first six months of 2011 = 230
This also forms an AP as 200, 215, 230, 245, ... with total 20 terms.
So, total salary earned by y in these 10 years = 6 × (200+215+.....upto 20 terms) = Rs. 41100
$\therefore$ Total salary = Rs. 93300.

FeedBack

Q.73

Fifty kilograms of an alloy has 60% Lead and remaining Tin. How much lead (in kg) is to be added in it to make it 75% of the final alloy?

Solution:
Correct Answer : 30

Bookmark

Answer key/Solution

60% of a 50 kg alloy is Lead which means 30 kg is lead and remaining 20 kg is Tin.
Let us mix x kg of Lead in it, to make new ratio of lead to Tin as 75% to 25% i.e. 3 : 1.

Then $\frac{30+x}{20}=\frac{3}{1}\Rightarrow x=30\text{kg}.$

FeedBack

Q.74

The average of n numbers is 41. If 2/3rd of these numbers are increased by 9 and the remaining 1/3rd are decreased by 6, then find the new average.

1 **36**

2 **39**

3 **42**

4 **45**

Solution:
Correct Answer : 4

Bookmark

Answer key/Solution

Sum of n numbers = 41n

Now $\frac{2}{3}$rd of n numbers are increased by 9. So, sum should get increased by $\frac{2}{3}\times n\times 9.$

Also $\frac{1}{3}$rd of n numbers are decreased by 6. So, sum should get decreased by $\frac{1}{3}\times n\times 6.$

$\therefore$ New total $=41n+\left(\frac{2n}{3}\right)9-\left(\frac{1}{3}n\right)\times 6=45n$

And hence new average $=\frac{45n}{n}=45$

FeedBack

Q.75

If $t_n=\left(1+\frac{1}{n^2-1}\right)t_{n-1}$ for $n>1$ where $t_1=1$, then find the value of $(t_{12}-t_3)$.

1 **7/3**

2 **3/2**

3 **24/13**

4 **9/26**

Solution:
Correct Answer : 4

Bookmark

Answer key/Solution

$$t_n = \left(1+\frac{1}{n^2-1}\right)t_{n-1}$$

$$t_2 = \left(1+\frac{1}{3}\right)t_1 = \frac{4}{3}t_1 = \frac{2(2)}{2+1}t_1$$

$$t_3 = \frac{6}{4}t_1 = \frac{2(3)}{3+1}t_1,$$

$$t_4 = \frac{8}{5}t_1 = \frac{2(4)}{4+1}t_1$$

$$\therefore t_{12} - t_3 = \frac{2(12)}{12+1}t_1 - \frac{6}{4}t_1 = \frac{24}{13}t_1 - \frac{3}{2}t_1 = \frac{9}{26}.$$

FeedBack

Q.76

Entry ticket for a food festival cost Rs.100 which was later reduced by 20%. After which, the total sales of the festival's ticket increased by 44%. Find the percentage increase in the number of people who attended the festival.

Solution:
Correct Answer : 80

Bookmark

Answer key/Solution

Let sales be S, ticket price be R and number of people who attended the festival be N.
So, S = R × N
Initially, R = 100

After reduction, R' = 100

And after increase of sales, $S' = S\left(1+\frac{44}{100}\right)$

Now, S' = R' × N' where $N' = N\left(1+\frac{x}{100}\right)$ and x is the percentage increase.

$$\therefore S\left(1+\frac{44}{100}\right) = 80 \times N\left(1+\frac{x}{100}\right)$$

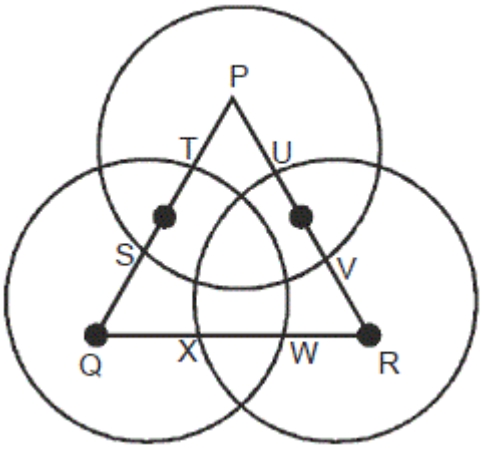
$$\Rightarrow 100N\left(1+\frac{44}{100}\right) = 80 \times N\left(1+\frac{x}{100}\right)$$

$$\Rightarrow \frac{144}{80} = 1+\frac{x}{100} \Rightarrow x = 80\%.$$

FeedBack

Q.77

There are 3 circles with centres P, Q and R, each having radius 24 cm. They intersect each other as shown in the figure below. If ST = 4cm, UV = 7 cm and WX = 10 cm, then find the perimeter (in cm) of the triangle formed by joining the centers of the 3 circles.



Solution:

Correct Answer : 123

Radius (PS) = PT + TS = TS + SQ = 24
∴ PT + 2TS + SQ = 48
⇒ PQ = PT + TS +SQ = 48 – TS
⇒ PQ = 48 – 4 = 44 cm

Similarly,
PU + 2UV + VR = 48
⇒ PU + UV + VR = 48 – UV = 41 cm = PR
and RW + 2WX + XQ = 48
∴ RW + WX + XQ = 48 – WX
⇒ RQ = 38 cm
∴ Perimeter = 44 + 38 + 41 = 123 cm.

FeedBack

Bookmark

Answer key/Solution

Q.78

A shopkeeper purchases wheat from a wholesaler at a discount of 10% over the listed price. Out of which, 12.5% of the wheat was eaten by rats, so he mixed that much impurity in the remaining wheat. Further, while selling them, he sells at a discount of 11.11% and his scale reads 900 gram for 1000 grams. Find his profit/loss percentage.

1 **12.5% profit**

2 **11.11% loss**

3 **20% profit**

4 **12.5% loss**

Solution:
Correct Answer : 2

Bookmark

Answer key/Solution

Let us assume the shopkeeper purchased 1000 gms of wheat having price of Rs.1000 but at a discount of 10%.
So, he paid Rs. 900 for 1000 gm of wheat, which means his Cost Price = Rs. 900
As 12.5% of wheat was eaten by rats that much impurity he added to the whole lot, so this part doesn't earn him any profit or loss.

So, Cost price of 1 gram wheat = Rs. $\left(\frac{900}{1000}\right)=\frac{9}{10}$

Now shopkeeper gave a discount of 11.11% i.e 1/9 on list price.

i.e Selling price for 1 gram should be $1\times\left(1-\frac{1}{9}\right)$

But due to shopkeeper's faulty scale he is selling 1000 gram in price of 900 grams,

which means selling 1000 gram in Rs. $900\times\left(1-\frac{1}{9}\right)$

Hence, selling 1 gram in Rs. $\frac{9}{10}\times\left(1-\frac{1}{9}\right)$

Therefore, loss = $\frac{9}{10}-\frac{9}{10}\times\frac{8}{9}$ and loss percentage = $\frac{\frac{1}{10}}{\frac{9}{10}}\times 100=11.11\%$

FeedBack

Q.79
If the perimeter of a right angled triangle is four times of its shortest side, then the ratio of the other side to the hypotenuse is

1 **3 : 4**

2 **5 : 6**

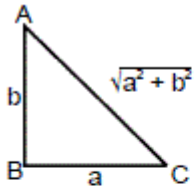
3 **4 : 5**

4 **2 : 3**

Solution:
Correct Answer : 3

Bookmark

Answer key/Solution



Let a < b, then perimeter = $\sqrt{a^2+b^2}+a+b=4a$

$\Rightarrow \sqrt{a^2+b^2}=3a-b$
$\Rightarrow a^2 + b^2 = 9a^2 + b^2 - 6ab$
$\Rightarrow 8a^2 = 6ab$
$\Rightarrow a : b = 3 : 4$

$\therefore \frac{b}{\sqrt{a^2+b^2}}=\frac{4}{5}$

FeedBack

Q.80
Find out the principle (in Rs.) which gives Rs. 200 as simple interest and Rs. 220 as compound interest after 2 years at the same rate of interest.

Solution:
Correct Answer : 500

Bookmark

Answer key/Solution

As Rs. 200 is simple interest for two years, then Rs. 100 must be the interest for each year.
Also, SI and CI is same for first year.
So, in second year Rs. 100 of CI must be on principle and Rs. 20 is interest on the previous year's interest
So, r% of 100 = 20
$\Rightarrow$ r = 20

Now if 'P' be our principle, then $\frac{P \times 20 \times 2}{100}=200 \Rightarrow P = Rs.500.$

FeedBack

Q.81
Ajay started painting a room at some time between 6 pm and 7 pm. When he was done with his painting, clock showed time somewhere between 8 pm and 9 pm on the same day. Also he noticed that hours hand and minute hand have interchanged their positions. At what time did Ajay finished his painting?

1 **8 : 10 pm**

2 $8 : \frac{4800}{143}\text{pm}$

3 **8:45 pm**

4 **8:50 pm**

Solution:
Correct Answer : 2

Bookmark

Answer key/Solution

Let Ajay finished painting p minutes after 8'o clock.

$\therefore$ Angle covered by hour hand would be $\frac{p}{2} + 240°$.

(Since hour hand completes an angle of 30° in one hour and 1/2° in every minute)
Angle made by minutes hand with same vertical line = 6p° (Since in every minute, minute hand can cover 6°)
Let Ajay started painting at q minutes after 6.

$\therefore$ Angle has to be $180° + \frac{q}{2}$

And angle that minute hand will make with vertical line = $6q = \frac{p}{2} + 240°$ (Because of the given condition)

$\therefore q° = \frac{p}{12} + 40°$ ...(1)

and $6p° = 180° + \frac{q}{2}$ ...(2)

By solving we get $p = \frac{4800}{143}$

$\therefore$ Time is $8 : \frac{4800}{143}$ pm

FeedBack

Q.82
What is the remainder when N = 1421 × 1423 × 1425 is divided by 12?

Solution:
Correct Answer : 3

$$\text{Rem}\left[\frac{1421 \times 1423 \times 1425}{12}\right] = \text{Rem}\left[\frac{5 \times 7 \times 9}{12}\right] = \text{Rem}\left(\frac{315}{12}\right) = 3.$$

Bookmark

Answer key/Solution

FeedBack

Q.83
While selling an article for Rs 24, the profit percentage is equal to the value of its cost price (in rupees). Find that cost price of the article.

1 **Rs 12**

2 **Rs 16**

3 **Rs 20**

4 **Rs 18**

Solution:
Correct Answer : 3

Let cost price be Rs. 'x'
Then profit earned will be equal to x%

So, selling price = $x\left(1+\frac{x}{100}\right) = 24$

$\Rightarrow x^2 + 100x - 2400 = 0$
$\Rightarrow x = 20, = -120$
Since negative price is not possible, therefore cost price of the article is Rs. 20.

FeedBack

Bookmark

Answer key/Solution

Q.84
A racing car spots a cyclist from a distance of 100 m. It overtakes the cyclist and then the cyclist can observe the racing car upto a distance of 200m. If the car's speed is 5 times that of the cyclist's and the time elapsed between the time when the car racer spots the cyclist until the last moment the cyclist observe the racer is 5 seconds, then find the speed of the car.(Assuming no time lapse while overtaking)

1 **15 m/s**

2 **60 m/s**

3 **75 m/s**

4 **100 m/s**

Solution:
Correct Answer : 3

Bookmark

Answer key/Solution

First, we can calculate the total distance covered by car with respect to the movement of cyclist. i.e. 100 m behind it and 200 m ahead of it.
So, total distance = 300 m and time taken is 5 seconds
Now their relative speed should be $s_{car} - s_{cycle}$, as they are moving in same direction.

So, speed = $s_{car} - s_{cycle} = \frac{300}{5} = 5s_{cycle} - s_{cycle}$.

[$\because$ car's speed is 5 times the cyclist's speed]

$\Rightarrow s_{cycle} = \frac{300}{20} = 15$ m/sec

$\therefore s_{car} = 15 \times 5 = 75$ m/sec

FeedBack

Q.85

If roots of the equation, (x – p) (x + 5) + 9 = 0, are integers and p is also an integer, then what is the sum of all possible values of p?

1 **–20**

2 **–40**

3 **–12**

4 **–28**

Solution:

Correct Answer : 1

Bookmark

Answer key/Solution

$(x-p)(x+5)+9=0$

$x^2 + x(5 - p) + (9 - 5p) = 0$

For roots to be integer,

$b^2 - 4ac \geq 0$ and also has to be a perfect square of some natural number.

i.e, $(5 - p)^2 - 4(9 - 5p) \geq 0$

$\Rightarrow (p - 1)(p + 11) \geq 0$

Also $(p - 1)(p + 11)$ has to be a perfect square

$$x = \frac{-(5-p) \pm \sqrt{p^2 + 10p - 11}}{2}$$

Case I:

$p \geq 1$, for the term has to be perfect square and integral solution,

we can check that p can be 1, 5 only

So, $x = -2, 4, -4$

Case II:

$p \leq -11$, for the term has to be perfect square and integral solution,

we can check that p can be –11, –15 only

So, $x = -8, -6, -14$

So, sum of possible values of $p = 1 + 5 + (-11) + (-15) = -20$.

FeedBack

Q.86

Which of the following is one of the roots of the quadratic equation:

$(a + 2b – 3c)x^2 + (b + 2c – 3a)x + (c + 2a – 3b) = 0$, where a, b and c are positive integers?

1 **(a + 2b – 3c)**

2 $\frac{(a+2b-3c)}{(c+2a-3b)}$

3 $\frac{(b+2c-3a)}{(c+2a-3b)}$

4 $\frac{(c+2a-3b)}{(a+2b-3c)}$

Solution:
Correct Answer : 4

Bookmark

Answer key/Solution

If one observe the coefficients of equation, sum of the coefficients is coming out to be zero
i.e. $(a + 2b - 3c) + (b + 2c - 3a) + (c + 2a - 3b) = 0$
Which means, if we put $x = 1$ in equation, the equation satisfies.

If α and β are the roots of the equation $ax^2 + bx + c = 0$ then $\alpha\beta = \frac{c}{a}$. Here $\alpha = 1$, therefore, $\beta = \frac{c + 2a - 3b}{a + 2b - 3c}$.

FeedBack

Q.87

Four distinct numbers are in a Geometric Progression, whose first term and the common ratio are both natural numbers. If the sum of the four numbers is 255, then find the Geometric Mean of the highest and the 3rd highest numbers.

1 **48**

2 **50**

3 **68**

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

Solution:
Correct Answer : 4

Bookmark

Answer key/Solution

Let the numbers be a, ar, ar^2 and ar^3
Then $a + ar + ar^2 + ar^3 = 255$
$\Rightarrow a(1 + r) + ar^2(1 + r) = 255$
$\Rightarrow a(1 + r^2)(1 + r) = 255 = 3 \times 5 \times 17$
Now either $a = 3$ and $r = 4$ or $a = 17$ and $r = 2$
$\therefore$ Geometric mean of highest and the 3rd highest i.e. ar^3 and ar is
$= \sqrt{(3 \times 4^3) \times (3 \times 4)} = 3 \times 4^2 = 48$ or $\sqrt{17 \times 2^3 \times 17 \times 2} = 17 \times 2^2 = 68$

FeedBack

Q.88

Each of P, Q and R have some coins with them such that their numbers are in ratio x : y : z, where x, y and z are integers. P gave 2 coins to Q, who then gave 4 coins to R, who then gave 9 coins to P. Now if each one of them have the same number of coins after this interchange, what is the minimum possible value of (x + y + z)?

1 **10**

2 **24**

3 **6**

4 **13**

Solution:
Correct Answer : 1

Bookmark

Answer key/Solution

Let the initial coins with P, Q and R be a, b and c respectively; So, after the 3 exchanges, P was left with (a + 7) coins, Q was left with (b – 2) coins and R was left with (c – 5) coins.
Now, a + 7 = b – 2 = c – 5
⇒ b = a + 9 and c = a + 12
Ratio in the beginning was x : y : z = a : a + 9 : a + 12
Although x can be minimum 2, but to get minimum value of sum of ratio i.e, (x + y + z) by putting a = 3, since a = 3, b = 12, c = 15
⇒ x : y : z = 3 : 12 : 15 = 1 : 4 : 5.
⇒ x + y + z = 1 + 4 + 5 = 10.

FeedBack

Q.89
If $p^2 = q^2 - q^4 + q^6 - q^8 + \ldots\ldots\infty$ where $|q| < 1$, then find 'p'.

1 $\frac{\pm q}{\sqrt{1-q^2}}$

2 $\frac{\pm(q+1)}{\sqrt{q^2+1}}$

3 $\frac{\pm q}{\sqrt{q^2-1}}$

4 $\frac{\pm q}{\sqrt{q^2+1}}$

Solution:
Correct Answer : 4

Bookmark

Answer key/Solution

$p^2 = (q^2 + q^6 + q^{10} + \ldots) - (q^4 + q^8 + q^{12} + \ldots)$
$= q^2(1 + q^4 + q^8 + \ldots) - q^4(1 + q^4 + q^8 + \ldots)$

$= (q^2 - q^4)\underbrace{(1 + q^4 + q^8 + \ldots)}_{\text{Infinite series}}$

$\therefore p^2 = (q^2 - q^4)\left(\frac{1}{1-q^4}\right) = \frac{q^2(1-q^2)}{(1-q^2)(1+q^2)}$

$\therefore p = \frac{\pm q}{\sqrt{1+q^2}}$

FeedBack

Q.90

ABCD is a rectangle with AB as 15 units and BC as 10 units. Point E, on side AB, divides AB in the ratio 2 : 1 and DE intersects AC at R. Find the ratio of the area of quadrilateral BERC to the area of rectangle ABCD.

1 **1 : 3**

2 **11 : 30**

3 **2 : 5**

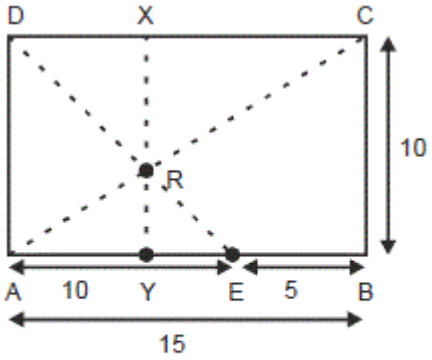
4 **7 : 30**

Solution:

Correct Answer : 2

Bookmark

Answer key/Solution



Ar (quadrilateral BERC) = Ar (rectangle ABCD) – (Ar ΔDAE + Ar ΔDRC)

Ar $\Delta DAE = \frac{1}{2} \times 10 \times 10 = 50$

Now, $\Delta ARE \sim \Delta CRD$ ($\because \angle DCA = \angle EAC, \angle DRC = \angle ARE$)

$\therefore \frac{\text{Area of } \Delta ARE}{\text{area of } \Delta DRC} = \frac{(AE)^2}{(DC)^2} \Rightarrow \frac{RY \times AE}{RX \times DC} = \frac{AE^2}{DC^2}$ (By similar triangles property)

$\Rightarrow \frac{RY}{RX} = \frac{2}{3} \Rightarrow RX = 6$ units ($\therefore XY = 10$ units)

$\therefore$ ar $\Delta DRC = \frac{1}{2} \times 15 \times 6 = 45$

$\therefore$ Ar (quadrilateral BERC) = 150 – (50 + 45) = 55

Hence, the required ratio = $\frac{55}{150} = \frac{11}{30}$

FeedBack

Q.91

($15^{23} + 23^{23}$) is always divisible by

1 **15**

2 **19**

3 **38**

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

Solution:
Correct Answer : 4

Bookmark

Answer key/Solution

$(a^n + b^n)$ is always divisible by (a + b). So 15 + 23 = 38. The given expression is divisible by 38. Since it is divisible by 38, it will also be divisible by 19.

FeedBack

Q.92

$x_1, x_2, ..., x_n$ is either - 1 or 1. If $x_1x_2x_3x_4 + x_2x_3x_4x_5 + x_3x_4x_5x_6 + ... + x_4x_3x_2x_1 = 0$, where $n \geq 4$, then n must be

1 **prime**

2 **even**

3 **odd**

4 **can't be determined**

Solution:
Correct Answer : 3

Bookmark

Answer key/Solution

As $n \geq 4$, also product of 4 terms each having value -1 or 1 can be either -1 or 1.
For n = 4, the expression becomes
$x_1x_2x_3x_4 + x_4x_3x_2x_1$, will never be equal to zero because, $x_1x_2x_3x_4 = x_4x_3x_2x_1$, where $x_n = 1$ or -1.
For n = 5,
$x_1x_2x_3x_4 + x_2x_3x_4x_5 + x_5x_4x_3x_2 + x_4x_3x_2x_1 = 0$, can be possible where $x_1 = x_2 = x_3 = 1$ and $x_4 = x_5 = -1$.
For n = 9 also the following condition follows if
$x_1 = x_2 = x_3 = x_4 = x_9 = -1$ and $x_5 = x_6 = x_7 = x_8 = 1$
Therefore, n has to be an odd number because then number of terms will be a multiple of 4 and condition will satisfy.

FeedBack

Q.93

From a deck of 52 playing cards, 2 cards are selected randomly. What is the probability that the two cards are of same color but different values.

1 **12/52**

2 **24/51**

3 **8/17**

4 **24/52**

Solution:
Correct Answer : 2

Bookmark

Answer key/Solution

2nd card should be of same color but different rank

So, required probability = $\frac{24}{51}$

[∵ 26 cards are of same colour, out of which 1 is selected but one more card of same value and same colour cannot be selected. So card has to be selected from remaining 24]

FeedBack

Q.94
Akhil wants to make a 5 distinct digits code using digits from 0 to 9. He has to follow two conditions strictly:

I. 2 and 3 has to be there in the code.
II. 5 should not be included in the code.

In how many ways can he make this code?

1 **4000**

2 **4200**

3 **1200**

4 **75**

Solution:
Correct Answer : 2

Bookmark

Answer key/Solution

By statement I, 2 and 3 has to be there in the code. Therefore, if 2 will have 5 choices to be in 5 distinct digit code then 3 will have 4 choices.
Now by statement II, 5 is not there in the code, so for 3 vacancies left in the code, we have to choose it from 7 numbers 0, 1, 4, 6, 7, 8 and 9.
Number of ways of doing that = 7 × 6 × 5
∴ Total ways = (5 × 4) × (7 × 6 × 5) = 4200.

FeedBack

Q.95

A contractor expected to complete a work in 60 days with 30 men. But after 40 days he employed 45 more men to complete the whole task in 55 days. How many extra days, than his expectation, it would have taken, if he had not employed the extra workers to finish the task?

1 **20**

2 **17.5**

3 **37.5**

4 **22.5**

Solution:
Correct Answer : 2

Bookmark

Answer key/Solution

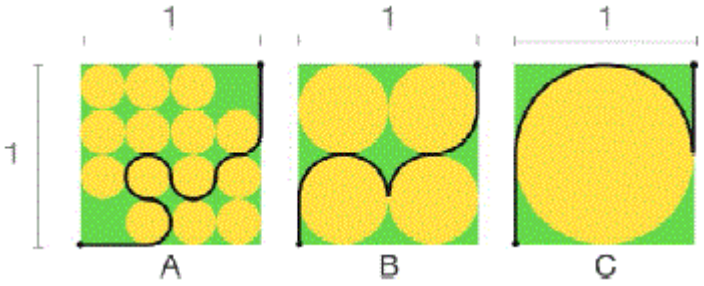
After employing 45 more men the work got completed in 15 more days. Had this work been completed then the number of days taken by them would have been $\frac{75\times15}{1}=\frac{30\times d}{1}=37.5$

So in usual case men would have taken (37.5 – 20) = 17.5 days extra to complete the work.

FeedBack

Q.96

In which figure is the black path the shortest, where A, B and C are all squares of sides 1 unit each?



1 **A**

2 **B**

3 **C**

4 **All paths are equal**

Solution:
Correct Answer : 2

Bookmark

Answer key/Solution

Figure	Diameter	Circumference	Number of curved paths	Length of all curved paths (circumference x number of curved paths)	Length of straight lines	Total
A	1/4	1/4π	2 +1/4 = 9/4	9/4π	¾	¾ + 9/4π
B	1/2	1/2π	1	1/2π	½	½ + 1/2π
C	1	π	½	1/2π	1	1 + 1/2π

FeedBack

Q.97

If $\log_{54} 72 = b$, then the value of $\log_{96} 128$ in terms of b is

1 $\frac{7(3b-2)}{7-16b}$

2 $\frac{2b-1}{3b-2}$

3 $\frac{7-16b}{7(3b-2)}$

4 $\frac{3b-2}{2b-1}$

Solution:
Correct Answer : 4

Bookmark

Answer key/Solution

$\log_{54} 72 = b$

$\frac{\log_2 72}{\log_2 54} = b; \quad \frac{\log_2 9 + \log_2 8}{\log_2 9 + \log_2 6} = b$

$\frac{2\log_2 3 + 3}{3\log_2 3 + 1} = b$

Let $\log_2 3 = a$

$\therefore \frac{2a+3}{3a+1} = b \qquad \therefore a = \frac{b-3}{2-3b}$

$\log_{96} 128 = \frac{\log_2 2^7}{\log_2 3 + \log_2 2^5} = \frac{7}{a+5} = \frac{2-3b}{1-2b} = \frac{3b-2}{2b-1}$

FeedBack

Q.98

If A = (n + 1)! and B = (n - 1)!, where n is a natural number, then what can be said about the value of A/B?

1 **$n^2 + 1$**

2 **$n^2 + n$**

3 **n**

4 **None of these**

Solution:

Correct Answer : 2

A = (n + 1)! and B = (n - 1)!

So, A/B = (n + 1)n(n-1)! / (n – 1)!

= (n + 1)n = $n^2 + n$

FeedBack

Bookmark

Answer key/Solution

Q.99

|x – 8| + |x + 12| – |x – 10| ≤ 50,

then how many integer values of x satisfy the above inequality?

Solution:

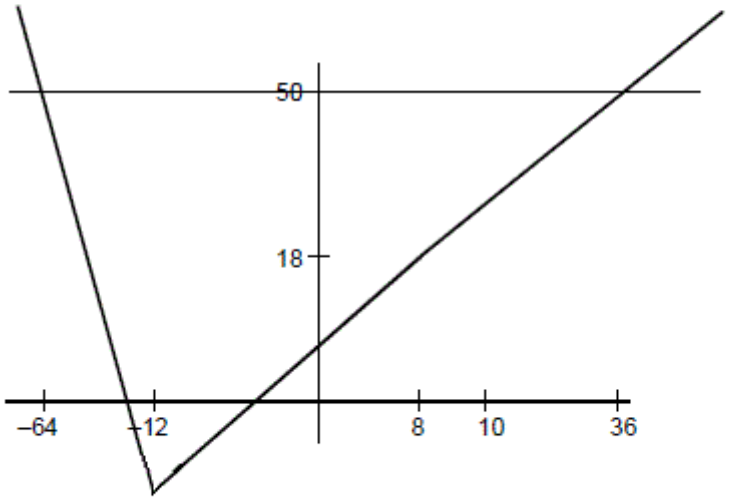
Correct Answer : 101

Bookmark

Answer key/Solution

Let $|x-8|+|x+12|-|x-10| = f(x)$
Now we have to find all such x for which $f(x) \le 50$.
Let us first draw the graph for f(x)

$$f(x) = \begin{cases} -x+8-x-12+x-10 = -x-14 & x \le -12 \\ x+12-x+8+x-10 = x+10 & -12 \le x \le 8 \\ x-8+x+12+x-10 = 3x-6 & 8 \le x \le 10 \\ x-8+x+12-x+10 = x+14 & x \ge 10 \end{cases}$$



So, all integral values of x from -64 to 36 will satisfy the equation $f(x) \le 50$.
Hence, 101 values

FeedBack

Q.100

A rope of 77 meters is cut into 2 pieces such that one piece is $4/7^{th}$ of the other piece. What is the length (in meters upto 1 decimal place) of $3/14^{th}$ of the longer piece?

Solution:

Correct Answer : 10.5

Bookmark

Answer key/Solution

Let length of one piece be x meters
Then 2nd piece = 4x/7
As total length of rope is 77, x + 4x/7 = 77
$\Rightarrow$ x = 49 and 4x/7 = 28
Therefore, 3/14th of longer piece = 3/14 × 49 = 10.5 meters

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