

**Q1. DIRECTIONS** for question 1: Five sentences related to a topic are given in the question below. Four of them can be put together to form a meaningful and coherent short paragraph. Identify the odd one out. Choose its number as your answer and key it in.

1. China's record on industrial espionage and intellectual property theft worries innovation-heavy Israel.
2. In turn, China has been a major buyer of Iranian oil, and a prominent backer of the nuclear deal with Tehran that Israel strongly opposed.
3. Israel is aggressively pursuing an anti-Iran strategy, which is undermining the regional stability that China's Belt and Road Initiative needs to thrive.
4. China also has decades of votes against Israel in the United Nations, including most recently its condemnation of the U.S. decision to move its embassy to Jerusalem.
5. Yet substantial differences remain between the two.

**Your Answer:** 5 □ **Your answer is incorrect**

Show Correct Answer

#### Time spent / Accuracy Analysis

Time taken by you to answer this question	157
Avg. time spent on this question by all students	149
Difficulty Level	D
Avg. time spent on this question by students who got this question right	152
% of students who attempted this question	51.33
% of students who got the question right of those who attempted	19.62

[Video Solution](#)

#### Text Solution

Sentence 1 depicts something about China that '**worries**' Israel.

Sentence 2 starts with 'in turn' – a reciprocation connector which has to follow something that has been done from the other side; in this case the other side has to be Israel.

Sentence 3 is about something Israel is doing that isn't quite in sync with China's policies.

Sentence 4 is about China against Israel with the connector word 'also'.

Sentence 5 has a contrast marker 'yet' – 'the two' obviously referring to Israel and China.

3 and 2 are a logical block because there is a contrast and the examples fit – how China is close to Iran and how Israel is anti-Iran.

4 represents the direct problem Iran may have with China which has voted against it.

It is easy to understand therefore that 5 has to be the first of these sentences. Why? Because, it starts with 'Yet' and follows it up with problems between Israel and China, it should be preceded by something good/positive/at least neutral between China and Israel. We don't have any such sentences. So, 532 are definitely together. They have differences and Iran is a point of key contention.

So, the odd one has to be either 4 or 1. The 'also' becomes our clue. In 1, there is no 'also'. In 4, 'also' adds to the existing differences. So, 1 cannot follow 2. The 'also' in 4 is justified because we already have existing differences in 532. So, the order is **5324**.

Also, the para doesn't have a build-up about China's bad track record. Hence sentence 1 is the odd sentence out.

Ans: (1)

undefined

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Can science answer all the 'big questions of being', that occur to us? To begin with, what are these big questions? In my view, they fall into two classes.

One class consists of invented questions that are often based on unwarranted extrapolations of human experience. They typically include questions of purpose and worries about the annihilation of the self, such as 'Why are we here?' and 'What are the attributes of the soul?'. They are not real questions, because they are not based on evidence. Thus, as there is no evidence for the Universe having a purpose, there is no point in trying to establish its purpose or to explore the consequences of that purported purpose. Most questions of this class are a waste of time; and because they are not open to rational discourse, at worst they are resolved only by resort to the sword, the bomb or the flame.

The second class of big questions concerns features of the Universe for which there is evidence other than wish-fulfilling speculation and the stimulation provided by the study of sacred texts. They include investigations into the origin of the Universe, and specifically how it is that there is something rather than nothing, the details of the structure of the Universe (particularly the relative strengths of the fundamental forces and the existence of the fundamental particles), and the nature of consciousness. These are all real big questions and, in my view, are open to scientific elucidation.

The first class of questions, the inventions, commonly but not invariably begin with Why. The second class properly begin with How but, to avoid a lot of clumsy language, are often packaged as Why questions for convenience of discourse. Thus, 'Why is there something rather than nothing?' is actually a disguised form of How is it that something emerged from nothing? Such Why questions can always be deconstructed into concatenations of How questions, and are in principle worthy of consideration with an expectation of being answered.

I accept that some will criticise me along the lines that I am using a circular argument: that the real big questions are the ones that can be answered scientifically, and therefore only science can in principle elucidate such questions, leaving aside the invented questions as intellectual weeds. That might be so. Publicly accessible evidence, after all, is surely an excellent sieve for distinguishing the two classes of questions, and the foundation of science is evidence.

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**Q2.** The author feels that the first class of questions are a waste of time because

- a) they are not open to rational discourse.
- b) they can be resolved only by resorting to violence.
- c) there is no point in trying to establish the purpose of such questions.
- d) **there is no evidential basis for these questions.** Your answer is correct

#### Time spent / Accuracy Analysis

Time taken by you to answer this question	<b>120</b>
Avg. time spent on this question by all students	<b>282</b>
Difficulty Level	<b>M</b>
Avg. time spent on this question by students who got this question right	<b>277</b>
% of students who attempted this question	<b>60.11</b>
% of students who got the question right of those who attempted	<b>63.06</b>

[Video Solution](#)

## Text Solution

### **Number of words and Explanatory notes for RC:**

Number of words: 585

The answer can be understood from the following lines: '*They are not real questions, because they are not based on evidence. Thus, as there is no evidence for the Universe having a purpose, there is no point in trying to establish its purpose or to explore the consequences of that purported purpose. Most questions of this class are a waste of time; and because they are not open to rational discourse, at worst they are resolved only by resort to the sword, the bomb or the flame.*'

Option A: The author doesn't mention that these questions are not open to rational discourse as a cause to the previous statement. Rather, this comes up after the semi-colon as a cause for why at the worst they can be only be resolved by sword or the bomb. Hence, Option A is not the answer.

Option B: As mentioned above, this is a separate thread of discussion. Because these questions are rational, they are resolved only by violence. This is a downstream argument and doesn't explain why the author thinks these questions are a waste of time in the first place. Hence, Option B is not the answer.

Option C: Here, the reason hasn't been mentioned, just the same thing in a different set of words. These questions are a waste of time – which means there is no point in discussing these questions. But, it is saying the same thing – not giving us a reason as to why there is no point or purpose. Hence, Option C is not the answer.

Option D: This is the reason why the author thinks the questions are not real – and why we shouldn't be wasting time on them. These questions are not based on evidence. Hence, Option D is the answer.

Choice (D)

undefined

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I accept that some will criticise me along the lines that I am using a circular argument: that the real big questions are the ones that can be answered scientifically, and therefore only science can in principle elucidate such questions, leaving aside the invented questions as intellectual weeds. That might be so. Publicly accessible evidence, after all, is surely an excellent sieve for distinguishing the two classes of questions, and the foundation of science is evidence.

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achievements emerged, science has acquired maturity, and from the elucidation of simple observations it is now capable of dealing with the complex. Indeed, the emergence of computation as a component of the unfolding implications of theories and the detection of patterns in massive data sets has extended the reach of the rational and greatly enriches the scientific method by augmenting the analytic.

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**Q3.** Which of the following definitely do not belong to the 'second class of questions' mentioned in the third para of the passage?

- a) How did the universe come into existence?
- b) How do fundamental particles help in building the Universe?
- c) **What is the purpose of the universe?** Your answer is correct
- d) **How was the universe created?**

#### Time spent / Accuracy Analysis

Time taken by you to answer this question	<b>160</b>
Avg. time spent on this question by all students	<b>83</b>
Difficulty Level	<b>M</b>
Avg. time spent on this question by students who got this question right	<b>78</b>
% of students who attempted this question	<b>60.56</b>
% of students who got the question right of those who attempted	<b>92.72</b>

[Video Solution](#)

[Text Solution](#)

#### Number of words and Explanatory notes for RC:

Number of words: 585

Option A: Consider this: They include investigations into the origin of the Universe, and specifically how it is that there is something rather than nothing. From the underlined portions, we can understand that questions about how the universe was created and how it came into being are questions that belong to the second class. The questions about the purpose of the universe or why it was created are the first class of questions which should be ignored. Hence, Option A is not the answer.

Option B: The questions about the details of the structure of the universe include 'particularly the relative strengths of the fundamental forces and the existence of the fundamental particles'. So, a question on fundamental particles is definitely relevant and has evidence and hence, cannot be banished to the first class of questions. Option A is not the answer.

Option C: Consider this sentence in the second para: 'Thus, as there is no evidence for the Universe having a purpose, there is no point in trying to establish its purpose or to explore the consequences of that purported purpose'. From this we can clearly understand that the question about the purpose belongs to the first class of questions even though it is using a 'what'. Hence, Option C is the answer.

Option D: This question equates to 'They include investigations into the origin of the Universe, and specifically how it is that there is something rather than nothing'. Hence, we cannot say it definitely doesn't belong to the second class of questions. Hence, Option D is not the answer.

Choice (C)

undefined

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**Q4.** The author mentions the example of Michelangelo to highlight that

- a) one can earn the right to break free of conventions, only after demonstrating one's skill first.
- b) science can deal with the complex only once it has dealt with simple observations.
- c) science having charted a similar path is now equipped to handle the second class of questions. Your answer is correct
- d) science is now mature enough to break free of mathematical conventions.

#### Time spent / Accuracy Analysis

Time taken by you to answer this question **135**

Avg. time spent on this question by all students **143**

Difficulty Level **D**

Avg. time spent on this question by students who got this question right **131**

% of students who attempted this question **53.56**

% of students who got the question right of those who attempted **43.89**

[Video Solution](#)

[Text Solution](#)

**Number of words and Explanatory notes for RC:**

Number of words: 585

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The triple-pronged armoury of science – the observational, the analytic and the computational – is now ready to attack the real big questions.' From this, we can understand that like Michelangelo science had demonstrated its competence and is now mature enough to achieve the bigger things – attacking the real big questions, the second class of questions mentioned in the third para of the passage as summarised in the end.

Option A: The example was not to demonstrate that 'breaking conventions' was the focus. No such 'rights' have been discussed even with respect to Michelangelo. It was merely mentioned that he gained maturity to break free of conventions in art. Hence, Option A is taking the description literally. It is not the answer.

Option B: The tense of this sentence is a good indicator to eliminate this option. It seems to indicate that science hasn't dealt with the simple observations and has to accomplish that before accomplishing other things. Hence, Option B is not the answer.

Option C: This option talks about the similar paths and the hope that science is now equipped to answer the complex questions. Hence, Option C is the answer.

Option D: While the first part of the option is true, 'mathematical conventions' is an extreme extrapolation. Yes, science and mathematics were discussed and the importance of breaking conventions was discussed in the passage. But, that science has to be mature to break free of the influence of maths – that is an inference that cannot be drawn. Option D is not the answer.

Choice (C)

undefined

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**Q5.** Which of the following best represents the 'circular argument' the author mentions in the fifth para?

- a) Scientifically answered questions are the only real big questions.
- b) **Big questions that can be answered scientifically are the only real questions and hence, only science can answer real big questions.** ☐ Your answer is correct
- c) Not all big questions are scientific because not all big questions can be answered by science.
- d) Invented questions are not scientific because only real big questions can be answered by science.

#### Time spent / Accuracy Analysis

Time taken by you to answer this question	93
Avg. time spent on this question by all students	126
Difficulty Level	M
Avg. time spent on this question by students who got this question right	115
% of students who attempted this question	50.64
% of students who got the question right of those who attempted	65.07

[Video Solution](#)

[Text Solution](#)

#### Number of words and Explanatory notes for RC:

Number of words: 585

Consider the sentences: 'I accept that some will criticise me along the lines that I am using a circular argument, that the real big questions are the ones that can be answered scientifically, and therefore only science can in principle elucidate such questions', leaving aside the invented questions as intellectual weeds.' The big clue is provided by the colon – elaboration of the circular argument as provided by the author. By circular argument, the author means repeating the same question as an answer without giving the actual reason. It's like saying – My friend can answer this question. Why? Because he knows the answer to the question.

Option A: This is an opinion but not a circular argument, since the other part has not been mentioned. It's like only part of the argument is mentioned here. Technically, this option doesn't give us an argument. Hence, Option A is not the answer.

Option B: This is a circular argument. The first part of the option and the second part are one and the same mentioned in circular terms. Firstly, we are calling questions which can be answered scientifically as 'real'. Once we have defined them as 'real' saying 'real' questions can be answered by science alone, is like repeating the previous sentence. That is the circular argument the author is referring to. Option B is the answer.

Option C: The option is not talking about what questions are real questions and what questions aren't real – that was the circular argument the author was referring to. Hence, Option C is not the answer.

Option D: Invented questions are a later addition and are not mentioned as part of the circular argument. The circular argument was about real questions. Hence, Option D can be ruled out.

Choice (B)

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**Q6.** What is the method that the author suggests in order to differentiate between the questions that need to be answered and the ones that can be ignored?

- a) Openly available evidence can be used to sift between questions based on science and the rest.
- b) **Invented questions can be separated out as intellectual weeds leaving the real questions.**
- c) **Computation as a component of the unfolding implications of theories and the detection of patterns in massive data sets can enrich the scientific method.** □ **Your answer is incorrect**
- d) **The triple-pronged armoury of science - the observational, the analytic and the computational - can help address the real questions.**

Show Correct Answer

**Time spent / Accuracy Analysis**

Time taken by you to answer this question	<b>258</b>
Avg. time spent on this question by all students	<b>100</b>
Difficulty Level	<b>M</b>
Avg. time spent on this question by students who got this question right	<b>95</b>

### Time spent / Accuracy Analysis

% of students who attempted this question	<b>46.79</b>
% of students who got the question right of those who attempted	<b>68.74</b>

[Video Solution](#)

### Text Solution

#### Number of words and Explanatory notes for RC:

Number of words: 585

Option A: Consider the sentence: **Publicly accessible evidence**, after all, **is surely an excellent sieve for distinguishing the two classes of questions**, and the foundation of science is evidence. From this we can understand what the author has suggested as a method to separate the two classes of questions – use publicly(openly) accessible evidence. Hence, Option A is the answer.

Option B: This only states the obvious but doesn't tell us how. The author says invented questions can be separated out as intellectual weeds, true. But how? That has not been answered by this option. Hence, Option B is not the answer.

Option C: Computation is merely a method to enrich the analytical processes – one of the three prongs of science, which is now ready to answer the big questions. But, we are not discussing how to answer the questions. We are discussing how to separate the two types of questions. Hence, Option C is not the answer.

Option D: This option is about how to address the real questions. However, the pertinent question here is how to first of all separate out the real questions from the invented questions. Hence, Option D is not the answer.

Choice (A)

undefined

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I accept that some will criticise me along the lines that I am using a circular argument: that the real big questions are the ones that can be answered scientifically, and therefore only science can in principle elucidate such questions, leaving aside the invented questions as intellectual weeds. That might be so. Publicly accessible evidence, after all, is surely an excellent sieve for distinguishing the two classes of questions, and the foundation of science is evidence.

Science is like Michelangelo. The young Michelangelo demonstrated his skill as a sculptor by carving the ravishing Pietà in the Vatican; the mature Michelangelo, having acquired and demonstrated his skill, broke free of the conventions and created his extraordinary later quasi-abstractions. Science has trod a similar path. Through its four centuries of serious endeavour, from Galileo onwards, when evidence was mingled with mathematics, and the extraordinary reticulation of concepts and

achievements emerged, science has acquired maturity, and from the elucidation of simple observations it is now capable of dealing with the complex. Indeed, the emergence of computation as a component of the unfolding implications of theories and the detection of patterns in massive data sets has extended the reach of the rational and greatly enriches the scientific method by augmenting the analytic.

The triple-pronged armoury of science - the observational, the analytic and the computational - is now ready to attack the real big questions. They are, in chronological order: How did the Universe begin? How did matter in the Universe become alive? and How did living matter become self-conscious?

Q7. Which of the following will the author disagree with based on evidence given in the passage?

- a) All big questions of being are either real or invented questions.
- b) All big questions of being have their foundation in science. **Your answer is correct**
- c) All big questions of being which are scientifically answerable are real questions.
- d) Big questions of being which cannot be scientifically answered are invented questions.

#### Time spent / Accuracy Analysis

Time taken by you to answer this question	<b>88</b>
Avg. time spent on this question by all students	<b>84</b>
Difficulty Level	<b>D</b>
Avg. time spent on this question by students who got this question right	<b>82</b>
% of students who attempted this question	<b>46.93</b>
% of students who got the question right of those who attempted	<b>59.13</b>

[Video Solution](#)

[Text Solution](#)

#### Number of words and Explanatory notes for RC:

Number of words: 585

Consider the following sentences:

Can science answer all the 'big questions of being', that occur to us? To begin with, what are these big questions? In my view, they fall into two classes.

Second para - One class consists of invented questions that are often based on unwarranted extrapolations of human experience. They are not real questions, because they are not based on evidence.

Third para - The second class of big questions concerns features of the Universe for which there is evidence. These (second class) are all real big questions and, in my view, are open to scientific elucidation.

Last para - The triple-pronged armoury of science – the observational, the analytic and the computational – is now ready to attack the real big questions.

From this we can understand that big questions of being are of two types: real (should be considered because they have scientific evidence) and invented (waste of time since there is no scientific evidence).

Option A: This mentions the above derivation accurately. Hence, the author will agree with this. Option A is not the answer.

Option B: This is not true since big questions can be real (foundation in science) or even invented (cannot be scientifically answered). This option seems to indicate that all big questions are real questions, which the author will not agree with. Option B is the answer.

Option C: This gives the distinction about what could be real questions – the ones science can answer. This the author will agree with. Option C is not the answer.

Option D: This gives the definition of questions which are not real or rather invented – no scientific evidence. Hence, the author will agree with this. Option D is not the answer.

Choice (B)

**Q8. DIRECTIONS** for question 8: The sentences given in the question, when properly sequenced, form a coherent paragraph. Each sentence is labelled with a number. Decide on the proper order for the five sentences and key in the sequence of five numbers as your answer, in the input box given below the question.

1. It is this abiding struggle between openness and concealment that makes it possible to find valid, demonstrable new meanings in artworks in the course of history.
2. To put it differently, art exists temporally as a multiplicity of singular, unique artworks, and moreover, their singularity is not ontologically identical as shown in the case of films and literary works of art.
3. Art's second paradox is that it reveals and hides at the same time.
4. The first paradox of art is this: that all artworks are singular - particular and yet generically belonging to art in general.
5. This ties in with Heidegger's understanding of the artwork as an unresolved tussle between the realm of openness and interpretability and that which resists interpretation and withdraws from scrutiny.

**Your Answer:42351 Your answer is correct**

**Time spent / Accuracy Analysis**

Time taken by you to answer this question	<b>145</b>
Avg. time spent on this question by all students	<b>150</b>
Difficulty Level	<b>D</b>
Avg. time spent on this question by students who got this question right	<b>147</b>
% of students who attempted this question	<b>34.37</b>
% of students who got the question right of those who attempted	<b>33.2</b>

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Sentence 1: This sentence talks about 'an abiding struggle' using the demonstrative pronoun 'this' pointing to a previous reference of the struggle.  
Sentence 2: This sentence rephrases a previous explanation (hence, dependent on another sentence) – art being a multiplicity of **singular, unique entities**.  
Sentence 3: This sentence talks about the second paradox of art – revealing and hiding (conceals) at the same time. There is a connection to Sentence 1 which talks about openness and concealment.  
Sentence 4: This sentence talks about the first paradox – that artworks are all singular. There is a connection to Sentence 2 which talks about singularity of art.  
Sentence 5: This sentence talks about an unresolved tussle between openness and that which resists interpretation, connecting to Sentence 1 and Sentence 3.  
So, there are two logical blocks in this para. The first paradox of art – as a singularity and multiplicity of singular entities. The second paradox of art – reveals and conceals at the same time. So, 42 make one logical block. 3, 1, and 5 make up a second block. 1 has 'this abiding struggle' which refers to the tussle in 5. 5 talks about 'this' tying in with 'Heidegger's understanding of the artwork as an unresolved tussle', the 'this' being that art has a second paradox. So, 42351 is the right order. Ans: (42351)

undefined

**Q9. DIRECTIONS** for question 9: The question has a paragraph which is followed by four alternative summaries. Choose

the alternative that best captures the essence of the paragraph.

If beauty awaits discovery everywhere, that is to say that it waits upon our recollection: in aesthetic contemplation as in love and knowledge, we momentarily recover the unity of our being released from individuality. The sonata cannot be more beautiful than the simplest lyric, nor the painting than the drawing, merely because of their greater elaboration. Civilized art is not more beautiful than savage art, merely because of its possibly more attractive ethos. A mathematical analogy is found if we consider large and small circles; these differ only in their content, not in their circularity. In the same way, there cannot be any continuous progress in art. Immediately a given intuition has attained to perfectly clear expression, it remains only to multiply and repeat this expression. This repetition may be desirable for many reasons, but it almost invariably involves a gradual decadence, because we soon begin to take the experience for granted. The vitality of a tradition persists only so long as it is fed by intensity of imagination. What we mean by creative art, however, has no necessary connection with novelty of subject, though that is not excluded. Creative art is art that reveals beauty where we should have otherwise overlooked it, or more clearly than we have yet perceived.

- a) The vision of even the original artist may be a discovery rather than a creation. There is a continuous progress in art. The lyric, drawing and savage art are as beautiful as the sonata, painting and civilized art.
- b) **Beauty is sometimes overlooked because certain expressions have become hackneyed and the creative artist is challenged to reveal the beauty of all experiences.**
- c) **There are no degrees of beauty; the most simplest and complex expressions remind us of the same state and finally give way to repetition and loss of vitality. Artistic traditions bear a direct relationship with the degree of their engagement with the practitioners. Creative art helps us better visualize beauty.**
- d) **The ideal artist will not choose his subjects but will find beauty capable of aesthetic expression everywhere. Art is analogous to maths and these differ only in their content, not in their form.**

You did not answer this question

Show Correct Answer

Time spent / Accuracy Analysis

Time taken by you to answer this question	3
Avg. time spent on this question by all students	218
Difficulty Level	VD
Avg. time spent on this question by students who got this question right	207
% of students who attempted this question	17.43
% of students who got the question right of those who attempted	59.74

[Video Solution](#)

[Text Solution](#)

Option A: The second sentence in choice A is incorrect. It has been mentioned in the para that there cannot be any continuous progress in art. The last sentence in choice A only repeats the examples given in the para without mentioning the main point highlighted through those examples.

Option B: Choice B is limited to the last two sentences of the paragraph which highlight the importance of creative art. Choice B is incomplete as a summary.

Option C: Choice C is an apt summary. It summarizes the lines: The sonata cannot be more beautiful than the simplest lyric, nor the painting than the drawing, merely because of their greater elaboration. Civilized art is not more beautiful than savage art, merely because of its possibly more attractive ethos. Immediately a given intuition has attained to perfectly clear expression, it remains only to multiply and repeat this expression which involves a gradual decadence. The vitality of a tradition persists only so long as it is fed by intensity of imagination. Creative art is art that reveals beauty where we should have otherwise overlooked it, or more clearly than we have yet perceived.

Option D: If beauty awaits discovery everywhere, that is to say that it waits ..... A mathematical analogy is found if we consider large and small circles; these differ only in their content, not in their circularity. But choice D fails to summarize all the main points as given in choice C

Choice (C)

undefined

**Q10. DIRECTIONS** for question 10: The sentences given in the question, when properly sequenced, form a coherent paragraph. Each sentence is labelled with a number. Decide on the proper order for the five sentences and key in the sequence of five numbers as your answer, in the input box given below the question.

1. He analysed men and women who had achieved only average results at work for many years but who suddenly exploded into great success and accomplishment.
2. You project forward several years and imagine your life is perfect in every respect and then come back to where you are in the present and ask, "What would have to happen from this point forward for me to achieve all my goals so as to create my perfect future?"
3. In Charles Garfield's studies of "peak performers", he made an interesting discovery.
4. He found that at the "take-off point", every one of them began engaging in what he called "blue-sky thinking".
5. In blue-sky thinking, you imagine that all things are possible for you, just like looking into a clear blue sky with no limits.

**Your Answer:31452 Your answer is correct**

**Time spent / Accuracy Analysis**

Time taken by you to answer this question	<b>181</b>
Avg. time spent on this question by all students	<b>128</b>
Difficulty Level	<b>D</b>
Avg. time spent on this question by students who got this question right	<b>122</b>
% of students who attempted this question	<b>37.44</b>
% of students who got the question right of those who attempted	<b>64.36</b>

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Sentence 1: Sentence 1 has the pronoun 'he' and this sentence can only follow another sentence.

Sentence 2: Sentence 2 is a sentence which mentions some specific points and this sentence can only be placed after another sentence.

Sentence 3: Sentence 3 mentions a person's name and highlights the fact that he made a discovery. Sentence 3 sounds like an introductory sentence of the para.

Sentence 4: Sentence 4 again begins with the pronoun 'he' and introduces 'blue-sky thinking'.

Sentence 5: Sentence 5 tells us what happens in blue-sky thinking.

So, sentence 3 is the best sentence that can begin the para. It introduces a person's name and his studies. Sentence 3 is followed by sentence 1. "Charles Garfield's studies of "peak performers"" in sentence 3 is followed by "He analysed men and women who had achieved only average results at work .... exploded into great success and accomplishment" in sentence 1.

Sentences 1 and 4 form a logical block. "suddenly exploded" in sentence 1 links with "take-off point" in sentence 4. "every one of them" in sentence 4 links with "men and women" in sentence 1.

Sentences 4 and 5 form another logical block. Sentence 4 introduces "blue-sky thinking" and sentence 5 tells us what we begin to do in "blue-sky thinking". "blue sky with no limits" in sentence 5 points to "exploded into great success and accomplishment" in sentence 1.

Sentence 2 concludes the paragraph. "You project forward ... and then come back to where you are" in sentence 2 links with "you imagine that all things are possible for you, just like looking" in sentence 5. So, 31452.

Ans: (31452)

undefined

**DIRECTIONS** for questions 11 to 13: The passage given below is accompanied by a set of three questions. Choose the best answer to each question.

The fig is one of the most popular foodstuffs in the forest, and squirrels and black birds were foraging for them in the branches. Pick a fig and split it and a brown wasp will probably emerge. The wasp had lived its entire life inside that fig. It's no bigger than a sesame seed, but the giant banyan would not exist without the tiny bug.

Evolution is usually represented as an orderly tree, but in reality its branches can become intertwined. Biologists call it "coevolution" when two species adapt to serve each other's needs, and "obligate mutualism" when they need each other to survive. It's hard to find a better example than the fig plant and the fig wasp.

A fig is not actually a fruit but a geode of inward-looking flowers. While other plants' flowers offer up their pollen to all sorts of birds and bees, the fig sends out an aroma that attracts the female of its particular wasp species. The wasp then crawls through a tiny opening in the fig, where it lays its eggs and then dies.

Once those eggs hatch, and the larvae turn into wasps, they mate inside the fig and the females collect pollen from its internal flowers. The male wasps chew a tunnel to the fig's surface, and the females crawl through it, departing to lay their

eggs in other fig plants of the same species. Then the cycle begins anew.

Any given species of fig plant would go extinct without its pollinator, and a fig wasp would also disappear without its favourite figs. While this seems like an extreme vulnerability, it is, in fact, an amazingly efficient system of pollination. It has made fig plants (*Ficus*) the most diverse plant genus in the tropics. There are more than 800 fig species, and most have one main species of fig wasp. The banyan's fig wasp is called *Eupristina masoni*. The faithful wasps can travel over great distances, bringing pollen from their birthplace to another tree far away. This allows fig trees to thrive in desolate places instead of clustering in forests. In latitudes high above tropical forests, fig wasps are often the predominant form of insect life.

**Q11.** All of the following can be understood from the passage EXCEPT:

- a) Banyans belong to the fig species.
- b) **The female wasps die after laying eggs in the fig.**
- c) **The fig where the wasp eggs were laid contributes the pollen that the hatched female wasps carry elsewhere.**
- d) **Each fig plant has only one distinctly particular fig wasp that can pollinate it.**

You did not answer this question

**Show Correct Answer**

**Time spent / Accuracy Analysis**

Time taken by you to answer this question	<b>6</b>
Avg. time spent on this question by all students	<b>277</b>
Difficulty Level	<b>M</b>
Avg. time spent on this question by students who got this question right	<b>270</b>
% of students who attempted this question	<b>54.21</b>
% of students who got the question right of those who attempted	<b>66.95</b>

[Video Solution](#)

[Text Solution](#)

**Number of words and Explanatory notes for RC:**

Number of words: 365

Option A: Consider the statements: *There are more than 800 fig species, and most have one main species of fig wasp. (The banyan's fig wasp is called Eupristina masoni.)* From this, it can be understood that the banyans belong to the fig species. Option A can be understood.

Option B: Consider the sentences: '*...the fig sends out an aroma that attracts the female of its particular wasp species. The wasp then crawls through a tiny opening in the fig, where it lays its eggs and then dies' and '...and the females crawl through it, departing to lay their eggs in other fig plants of the same species. Then the cycle begins anew.*' From these sentences, we can understand that it is the female species that departs from one fig, lays eggs in another and then dies. Option B can be understood.

Option C: From the sentence 'Once those eggs hatch, and the larvae turn into wasps, they mate inside the fig and the females collect pollen from its internal flowers' we can understand that female wasps collect pollen from the same fig where they were hatched from the eggs. Hence, Option C can be understood.

Option D: From the sentence 'There are more than 800 fig species, and most have one main species of fig wasp' we can understand that both the possible meanings of this option are wrong. Every species has a main species of fig wasp and NOT every fig tree. Also, even if we take 'fig plant' to mean 'fig species', we cannot say that it has only one particular fig wasp. It has a favourite, but that may not be the only one. Hence, Option D cannot be understood.

Choice (D)

undefined

**DIRECTIONS** for questions 11 to 13: The passage given below is accompanied by a set of three questions. Choose the best answer to each question.

The fig is one of the most popular foodstuffs in the forest, and squirrels and black birds were foraging for them in the branches. Pick a fig and split it and a brown wasp will probably emerge. The wasp had lived its entire life inside that fig. It's no bigger than a sesame seed, but the giant banyan would not exist without the tiny bug.

Evolution is usually represented as an orderly tree, but in reality its branches can become intertwined. Biologists call it "coevolution" when two species adapt to serve each other's needs, and "obligate mutualism" when they need each other to survive. It's hard to find a better example than the fig plant and the fig wasp.

A fig is not actually a fruit but a geode of inward-looking flowers. While other plants' flowers offer up their pollen to all sorts of birds and bees, the fig sends out an aroma that attracts the female of its particular wasp species. The wasp then crawls through a tiny opening in the fig, where it lays its eggs and then dies.

Once those eggs hatch, and the larvae turn into wasps, they mate inside the fig and the females collect pollen from its internal flowers. The male wasps chew a tunnel to the fig's surface, and the females crawl through it, departing to lay their eggs in other fig plants of the same species. Then the cycle begins anew.

Any given species of fig plant would go extinct without its pollinator, and a fig wasp would also disappear without its favourite figs. While this seems like an extreme vulnerability, it is, in fact, an amazingly efficient system of pollination. It has made fig plants (*Ficus*) the most diverse plant genus in the tropics. There are more than 800 fig species, and most have one main species of fig wasp. The banyan's fig wasp is called *Eupristina masoni*. The faithful wasps can travel over great distances, bringing pollen from their birthplace to another tree far away. This allows fig trees to thrive in desolate places instead of clustering in forests. In latitudes high above tropical forests, fig wasps are often the predominant form of insect life.

**Q12.** All of the following prevent the 'extreme vulnerability' mentioned in the third para of the passage EXCEPT:

- a) Faithful wasps traverse long distances to spread the pollen of a tree.
- b) **Fig trees usually thrive far away from the clusters of other trees in forests.**
- c) **Fig wasps are dominant in latitudes high above the tropical forests.**
- d) **The fig's system of pollination ensures the diversity of fig plants.**

You did not answer this question

[Show Correct Answer](#)

**Time spent / Accuracy Analysis**

Time taken by you to answer this question	<b>2</b>
Avg. time spent on this question by all students	<b>141</b>
Difficulty Level	<b>M</b>
Avg. time spent on this question by students who got this question right	<b>139</b>
% of students who attempted this question	<b>44.1</b>
% of students who got the question right of those who attempted	<b>34.65</b>

[Video Solution](#)

[Text Solution](#)

**Number of words and Explanatory notes for RC:**

Number of words: 365

Consider the sentences: 'Any given species of fig plant would go extinct without its pollinator, and a fig wasp would also disappear without its favourite figs. While this seems like an extreme vulnerability, it is, in fact, an amazingly efficient system of pollination.' The vulnerability is that the fig plant depends on its highly specific pollinator. This can also be understood from 'While other plants' flowers offer up their pollen to all sorts of birds and bees', the fig sends out an aroma that attracts the female of its particular wasp species.'

Option A: Faithful wasps travelling long distances to spread the pollen ensure fig trees grow even in desolate areas and not just in one cluster. This balances out the aforementioned vulnerability. Hence, Option A is not the answer.

Option B: *The faithful wasps can travel over great distances, bringing pollen from their birthplace to another tree far away. This allows fig trees to thrive in desolate places instead of clustering in forests.* From this, we can understand that fig trees thrive in desolate areas because of their wasps flying long distances. However, from this we cannot say if fig trees usually thrive far away from clusters of other trees in forests.

That is an extreme extrapolation. Hence, Option B is the answer.

Option C: From the sentence 'In latitudes high above the tropical forests, fig wasps are often the predominant form of insect life', indicating that fig trees are not in such a danger of becoming extinct, given the insect they depend on is dominant in certain areas. Hence, Option C is not the answer.

Option D: From the sentences, 'While this seems like an extreme vulnerability, it is, in fact, an amazingly efficient system of pollination. It has made fig plants (*Ficus*) the most diverse plant genus in the tropics', we can understand that the mechanism of pollination of fig plants helps them enhance the diversity of the plant genus, thus countering the vulnerability. Option D is not the answer.

Choice (B)

undefined

**DIRECTIONS** for questions 11 to 13: The passage given below is accompanied by a set of three questions. Choose the best answer to each question.

The fig is one of the most popular foodstuffs in the forest, and squirrels and black birds were foraging for them in the branches. Pick a fig and split it and a brown wasp will probably emerge. The wasp had lived its entire life inside that fig. It's no bigger than a sesame seed, but the giant banyan would not exist without the tiny bug.

Evolution is usually represented as an orderly tree, but in reality its branches can become intertwined. Biologists call it "coevolution" when two species adapt to serve each other's needs, and "obligate mutualism" when they need each other to survive. It's hard to find a better example than the fig plant and the fig wasp.

A fig is not actually a fruit but a geode of inward-looking flowers. While other plants' flowers offer up their pollen to all sorts of birds and bees, the fig sends out an aroma that attracts the female of its particular wasp species. The wasp then crawls through a tiny opening in the fig, where it lays its eggs and then dies.

Once those eggs hatch, and the larvae turn into wasps, they mate inside the fig and the females collect pollen from its internal flowers. The male wasps chew a tunnel to the fig's surface, and the females crawl through it, departing to lay their eggs in other fig plants of the same species. Then the cycle begins anew.

Any given species of fig plant would go extinct without its pollinator, and a fig wasp would also disappear without its favourite figs. While this seems like an extreme vulnerability, it is, in fact, an amazingly efficient system of pollination. It has made fig plants (*Ficus*) the most diverse plant genus in the tropics. There are more than 800 fig species, and most have one main species of fig wasp. The banyan's fig wasp is called *Eupristina masoni*. The faithful wasps can travel over great distances, bringing pollen from their birthplace to another tree far away. This allows fig trees to thrive in desolate places instead of clustering in forests. In latitudes high above tropical forests, fig wasps are often the predominant form of insect life.

**Q13.** According to the author, it is hard to find a better example than the fig plant and the fig wasp to demonstrate that

- a) it is possible for two species to depend on each other for survival.
- b) **a species can adapt to serve the needs of another.**
- c) **evolution is not always an orderly tree.**
- d) **any given species of fig plant would go extinct without a fig wasp.**

You did not answer this question

Show Correct Answer

**Time spent / Accuracy Analysis**

Time taken by you to answer this question	1
Avg. time spent on this question by all students	82
Difficulty Level	M
Avg. time spent on this question by students who got this question right	81
% of students who attempted this question	54.21
% of students who got the question right of those who attempted	45.5

[Video Solution](#)

[Text Solution](#)

**Number of words and Explanatory notes for RC:**

Number of words: 365

Consider the sentences: Evolution is usually represented as an orderly tree, but in reality its branches can become intertwined. Biologists call it "coevolution" when two species adapt to serve each other's needs, and "obligate mutualism" when they need each other to survive. It's hard to find a better example than the fig plant and the fig wasp." Also consider the first line of the third para: Any given species of fig plant would go extinct without its pollinator, and a fig wasp would also disappear without its favourite figs. We can understand that figs are a good example of obligate mutualism.

Option A: Figs are excellent examples of obligate mutualism as explained above. Figs and fig wasps depend on each other for survival. That is what the author was trying to prove. Hence, Option A is the answer.

Option B: Coevolution is when "two species adapt to serve each other's needs". However, this option states that one species adapted to serve another's needs. Hence, Option B is not the answer.

Option C: While the statement is true, the fig and fig wasp example was not given to prove that evolution is not an orderly tree and branches (metaphorically) get intertwined (since the author continued to speak about coevolution and later, obligate mutualism). The example was for a downstream statement about species which depend on each other for survival. Hence, Option C is not the answer.

Option D: This is circular reasoning fallacy. The author cannot take the example of fig and fig wasp to prove that they cannot survive without each other. That itself is the example for something else. Hence, Option D is not the answer.

Choice (A)

undefined

**DIRECTIONS** for questions 14 to 16: The passage given below is accompanied by a set of three questions. Choose the best

answer to each question.

For centuries people have pondered the meaning of dreams. Sigmund Freud and Carl Jung put forth some widely-known modern theories of dreaming. Freud believed that dreaming allows us to sort through unresolved, repressed wishes, while Jung believed that dreams present the dreamer with revelations to resolve emotional or religious problems and fears. Another neurobiological theory of dreaming is the “activation-synthesis hypothesis,” which states that dreams don’t actually mean anything: they are merely electrical brain impulses that pull random thoughts/ imagery from our memories. Humans, the theory goes, construct dream stories after they wake up, in a natural attempt to make sense of it all. Yet, evolutionary psychologists have theorized that dreaming really serves a purpose. In particular, the “threat simulation theory” suggests that dreaming is an ancient biological defence mechanism that provided an evolutionary advantage because of its capacity to repeatedly simulate potential threatening events - enhancing the neuro-cognitive mechanisms required for efficient threat perception and avoidance.

New research published in the Journal of Neuroscience provides compelling insights into the mechanisms that underlie dreaming and the strong relationship our dreams have with our memories. Cristina Marzano and her colleagues at the University of Rome have succeeded, for the first time, in explaining how humans remember their dreams. The scientists predicted the likelihood of successful dream recall based on a signature pattern of brain waves. The Italian research team invited 65 students to spend two consecutive nights in their research laboratory. They were aware of the fact that the amygdala of the brain plays a primary role in the processing and memory of emotional reactions and the hippocampus has been implicated in important memory functions.

During the first night, the students were left to sleep, allowing them to get used to the sound-proofed and temperature-controlled rooms. During the second night the researchers measured the student’s brain waves while they slept. Our brain experiences four types of electrical brain waves forming the electroencephalography (EEG): “delta,” “theta,” “alpha,” and “beta.” The Italian research team used the EEG technology to measure the participant’s brain waves during various sleep-stages (most dreaming occurs during REM stage). The students were woken at various times and asked to fill out a diary detailing whether or not they dreamt, how often they dreamt and whether they could remember their dreams.

While previous studies have already indicated that people are more likely to remember their dreams when woken directly after REM sleep, the current study explains why. Those participants who exhibited more low frequency theta waves in the frontal lobes were also more likely to remember their dreams.

This finding is interesting because the increased frontal theta activity the researchers observed looks just like the successful encoding and retrieval of autobiographical memories seen while we are awake. The same electrical oscillations in the frontal lobes makes the recollection of episodic memories possible.

**Q14.** Which of the following can be attributed to the “activation-synthesis hypothesis” mentioned in the passage?

- a) Dreams are simple by-products of neural processes in sleep and the dream narratives are constructed by humans after they wake up.
- b) **Dreams provide a sort of virtual reality simulation in which we can rehearse threatening situations, even if we don't remember the dreams.**
- c) **Dreams are centered around repressed longing or wish fulfillment and are constructed by humans after they wake up.**
- d) **Dreaming is a result of brain activation and synthesis during REM sleep and it serves a higher purpose.**

You did not answer this question

Show Correct Answer

Time spent / Accuracy Analysis

Time taken by you to answer this question	3
Avg. time spent on this question by all students	239
Difficulty Level	M
Avg. time spent on this question by students who got this question right	236
% of students who attempted this question	41.19
% of students who got the question right of those who attempted	90.67

[Video Solution](#)

[Text Solution](#)

**Number of words and Explanatory notes for RC:**

Number of words: 471

Option A: Another neurobiological theory of dreaming is the "activation-synthesis hypothesis," which states that dreams don't actually mean anything: they are merely electrical brain impulses that pull random thoughts and imagery from our memories. Humans, the theory goes, construct dream stories after they wake up, in a natural attempt to make sense of it all. This makes choice A the correct answer.

Option B: Choice B can be attributed to the "threat simulation theory" which suggests that dreaming should be seen as an ancient biological defence mechanism that provided an evolutionary advantage because of its capacity to repeatedly simulate potential threatening events – enhancing the neuro-cognitive mechanisms required for efficient threat perception and avoidance. Choice B is not the correct answer.

Option C: The first part of choice C can be attributed to Freud (Freud believed that dreaming allows us to sort through unresolved, repressed wishes) while the second part is true of the "activation-synthesis hypothesis". Choice C is not the correct answer.

Option D: The first part of choice D is a literal interpretation of the term "activation – synthesis hypothesis" but this cannot be inferred from the passage. From "Yet .... evolutionary psychologists have theorized that dreaming really does serve a purpose", we can say that the second part of choice D cannot be attributed to the "activation-synthesis hypothesis" mentioned in the passage.

Choice (A)

undefined

**DIRECTIONS** for questions 14 to 16: The passage given below is accompanied by a set of three questions. Choose the best answer to each question.

For centuries people have pondered the meaning of dreams. Sigmund Freud and Carl Jung put forth some widely-known modern theories of dreaming. Freud believed that dreaming allows us to sort through unresolved, repressed wishes, while Jung believed that dreams present the dreamer with revelations to resolve emotional or religious problems and fears. Another neurobiological theory of dreaming is the "activation-synthesis hypothesis," which states that dreams don't actually mean anything: they are merely electrical brain impulses that pull random thoughts/ imagery from our memories. Humans, the theory goes, construct dream stories after they wake up, in a natural attempt to make sense of it all. Yet, evolutionary psychologists have theorized that dreaming really serves a purpose. In particular, the "threat simulation theory" suggests that dreaming is an ancient biological defence mechanism that provided an evolutionary advantage because of its capacity to repeatedly simulate potential threatening events - enhancing the neuro-cognitive mechanisms required for efficient threat perception and avoidance.

New research published in the Journal of Neuroscience provides compelling insights into the mechanisms that underlie dreaming and the strong relationship our dreams have with our memories. Cristina Marzano and her colleagues at the University of Rome have succeeded, for the first time, in explaining how humans remember their dreams. The scientists predicted the likelihood of successful dream recall based on a signature pattern of brain waves. The Italian research team invited 65 students to spend two consecutive nights in their research laboratory. They were aware of the fact that the amygdala of the brain plays a primary role in the processing and memory of emotional reactions and the hippocampus has been implicated in important memory functions.

During the first night, the students were left to sleep, allowing them to get used to the sound-proofed and temperature-controlled rooms. During the second night the researchers measured the student's brain waves while they slept. Our brain experiences four types of electrical brain waves forming the electroencephalography (EEG): "delta," "theta," "alpha," and "beta." The Italian research team used the EEG technology to measure the participant's brain waves during various sleep-stages (most dreaming occurs during REM stage). The students were woken at various times and asked to fill out a diary detailing whether or not they dreamt, how often they dreamt and whether they could remember their dreams.

While previous studies have already indicated that people are more likely to remember their dreams when woken directly after REM sleep, the current study explains why. Those participants who exhibited more low frequency theta waves in the frontal lobes were also more likely to remember their dreams.

This finding is interesting because the increased frontal theta activity the researchers observed looks just like the successful encoding and retrieval of autobiographical memories seen while we are awake. The same electrical oscillations in the frontal lobes makes the recollection of episodic memories possible.

**Q15.** Which of the following best sums up the conclusion of this passage?

- a) Numerous theories have been put forth to illuminate the mystery behind human dreams but strong tangible evidence has still remained elusive.
- b) We fail to remember a dream because the experience is really never carved into our memory, has decayed in storage or isn't accessible for easy call back.
- c) The neurobiological mechanisms that we employ while dreaming and recalling dreams are the same as those we employ when we construct and retrieve memories while awake.
- d) People are more likely to remember their dreams when woken directly after REM sleep but a more in depth analysis of dreams is required to open the door to a hidden mental landscape.

You did not answer this question

[Show Correct Answer](#)

#### Time spent / Accuracy Analysis

Time taken by you to answer this question	<b>0</b>
Avg. time spent on this question by all students	<b>114</b>
Difficulty Level	<b>D</b>
Avg. time spent on this question by students who got this question right	<b>112</b>
% of students who attempted this question	<b>31.24</b>
% of students who got the question right of those who attempted	<b>66.06</b>

[Video Solution](#)

[Text Solution](#)

#### Number of words and Explanatory notes for RC:

Number of words: 471

Option A: Choice A is true from the fact that various theories have been presented in the first para to throw light on human dreams. But the second part is incorrect: New research published in the Journal of Neuroscience provides compelling insights into the mechanisms that underlie dreaming and the strong relationship our dreams have with our memories. In the penultimate para, we are told that the current study explains why. Some findings have been presented in the last para.

Option B: The passage does not focus on the reasons we fail to remember a dream. So choice B is not the central idea.

Option C: This finding is interesting because the increased frontal theta activity the researchers observed looks just like the successful encoding and retrieval of autobiographical memories seen while we are awake. The same electrical oscillations in the frontal cortex makes the recollection of episodic memories (eg. things that happened to you) possible. Hence choice C forms the correct central idea of the passage.

Option D: Previous studies have already indicated that people are more likely to remember their dreams when woken directly after REM sleep. This is not the focus of the current study discussed in the passage. The study tells us why people are more likely to remember their dreams when woken directly after REM sleep. The second part of choice D which sounds true is also not the main point of the research discussed in the passage.

Choice (C)

undefined

**DIRECTIONS** for questions 14 to 16: The passage given below is accompanied by a set of three questions. Choose the best answer to each question.

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the theory goes, construct dream stories after they wake up, in a natural attempt to make sense of it all. Yet, evolutionary psychologists have theorized that dreaming really serves a purpose. In particular, the “threat simulation theory” suggests that dreaming is an ancient biological defence mechanism that provided an evolutionary advantage because of its capacity to repeatedly simulate potential threatening events - enhancing the neuro-cognitive mechanisms required for efficient threat perception and avoidance.

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During the first night, the students were left to sleep, allowing them to get used to the sound-proofed and temperature-controlled rooms. During the second night the researchers measured the student’s brain waves while they slept. Our brain experiences four types of electrical brain waves forming the electroencephalography (EEG): “delta,” “theta,” “alpha,” and “beta.” The Italian research team used the EEG technology to measure the participant’s brain waves during various sleep-stages (most dreaming occurs during REM stage). The students were woken at various times and asked to fill out a diary detailing whether or not they dreamt, how often they dreamt and whether they could remember their dreams.

While previous studies have already indicated that people are more likely to remember their dreams when woken directly after REM sleep, the current study explains why. Those participants who exhibited more low frequency theta waves in the frontal lobes were also more likely to remember their dreams.

This finding is interesting because the increased frontal theta activity the researchers observed looks just like the successful encoding and retrieval of autobiographical memories seen while we are awake. The same electrical oscillations in the frontal lobes makes the recollection of episodic memories possible.

**Q16.** In which part of the brain are dreams stored?

- a) The frontal lobes of the brain
- b) **Amygdala**
- c) **Hippocampus**
- d) **This has not been stated in the passage.**

You did not answer this question

**Show Correct Answer**

**Time spent / Accuracy Analysis**

Time taken by you to answer this question	<b>0</b>
Avg. time spent on this question by all students	<b>103</b>
Difficulty Level	<b>E</b>
Avg. time spent on this question by students who got this question right	<b>96</b>
% of students who attempted this question	<b>42.27</b>
% of students who got the question right of those who attempted	<b>71.34</b>

[Video Solution](#)

[Text Solution](#)

**Number of words and Explanatory notes for RC:**

Number of words: 471

Option A: The increased frontal theta activity that the researchers observed looks just like the successful encoding and retrieval of autobiographical memories seen while we are awake. The same electrical oscillations in the frontal lobes makes the recollection of episodic memories (eg. things that happened to you) possible. But choice A has not been mentioned as the location where dreams are stored.

Option B: The amygdala of the brain plays a primary role in the processing and memory of emotional reactions. But choice B has not been mentioned as the location where dreams are stored.

Option C: The hippocampus has been implicated in important memory functions. But choice C has not been mentioned as the location where dreams are stored.

The part of the brain where dreams are stored has not been stated in the passage.

Choice (D)

undefined

**Q17. DIRECTIONS for question 17:** The sentences given in the question, when properly sequenced, form a coherent paragraph. Each sentence is labelled with a number. Decide on the proper order for the five sentences and key in the sequence of five numbers as your answer, in the input box given below the question.

1. One image, colourised by Amaral, breaks down all barriers between past and present: of a devastated Damascus in 1925, taken in the aftermath of rebellion against French occupation.
2. And so, as the technique spreads, will we begin to think of monochrome images as more authentic, like vinyl records?
3. It could be  
2018.
4. Colourisation affects the viewer emotionally - the world looks richer, as if black and white images imprison and purify their subjects.
5. Or will we come to see colourisation as the fulfilment of the historian's fundamental task: to recreate the past as it really was?

**Your Answer:42513 Your answer is correct**

**Time spent / Accuracy Analysis**

Time taken by you to answer this question

**128**

Avg. time spent on this question by all students

**165**

### Time spent / Accuracy Analysis

Difficulty Level	<b>D</b>
Avg. time spent on this question by students who got this question right	<b>164</b>
% of students who attempted this question	<b>32.27</b>
% of students who got the question right of those who attempted	<b>9.83</b>

### Video Solution

### Text Solution

Sentence 1: This is an independent sentence (something that doesn't have pronouns or conjunctive adverbs or connector words) allowing you to read this sentence on its own accord.

Sentence 2: Starting with a positive connection (And so...), this sentence speaks about 'the technique' – something that must have been discussed already, prior to this. The reader should actively search for a technique in the subsequent lines of the question.

Sentence 3: An independent sentence that gives an estimated timeline.

Sentence 4: This is an independent sentence that defines colourisation.

Sentence 5: While this sentence talks about colourisation, it asks an alternative question (as suggested by 'Or'). On the right side of 'Or' we have – will we see it as a fulfilment of the fundamental task of recreating the past. So, the sentence prior to this should have a different view or a different use of colourisation. That has to be Sentence 2 which asks if monochrome images are considered more authentic (compared to 5 which asks if colour images recreate the real past). So, 25 is a logical block.

The technique – must therefore be 'colourisation' giving us 425 – definition of the technique and two proposed uses.

That leaves us with 1 and 3. The question of which of these two sentences would come first depends on the reader's understanding of the third sentence. If we pick three as the first sentence, it has to open the paragraph, but the remaining four sentences do not talk about the day/age/time of the discussion leaving the para out without closure. On the other hand, if we try connecting the dates, 3 completes the idea in 1. Together 1 and 3 form an example – of how a photograph in 1925 if coloured could depict the modern-day reality as well, given things are again the same as they were in 1925.

So, between the two blocks 13 and 425, while the order can be either way without affecting the readability, one has to look at the blocks from the nature of the content. 425 gives us theory, whereas 13 gives us an example of that theory. Theory is upstream to example, unless grammar forces us otherwise. Hence, the order is 42513.

Ans: (42513)

undefined

**Q18. DIRECTIONS for question 18:** Five sentences related to a topic are given in the question below. Four of them can be put together to form a meaningful and coherent short paragraph. Identify the odd one out. Choose its number as your answer and key it in.

1. It's really just a branch extension of what Columbus did - a really new exploration, one that would look to us today the way the world looked to Columbus, would have to be in an entirely new direction, like into realms beyond reason.
2. Christopher Columbus has become such a schoolbook stereotype that it's almost impossible to imagine him as a living human being anymore.
3. Moon exploration doesn't involve real root expansions of thought, we have no reason to doubt that existing forms of thought are adequate to handle it.
4. People keep looking for branch extensions of reason that will cover art's more recent occurrences, but the answers aren't in the branches, they're at the roots.

5.

But if you really try to hold back your present knowledge about the consequences of his trip and project yourself into his situation, then sometimes you can begin to see that our present moon exploration must be like a tea party compared to what he went through.

**Your Answer:2**  **Your answer is incorrect**

Show Correct Answer

Time spent / Accuracy Analysis

Time taken by you to answer this question	43
Avg. time spent on this question by all students	116
Difficulty Level	D
Avg. time spent on this question by students who got this question right	117
% of students who attempted this question	43.52
% of students who got the question right of those who attempted	30.6

[Video Solution](#)

[Text Solution](#)

Sentence 1: Sentence 1 is a continuation sentence from another sentence.  
Sentence 2: Sentence 2 has the proper noun "Christopher Columbus" and it sounds like an introduction sentence.  
Sentence 3: Sentence 3 tells us what Moon exploration doesn't involve.  
Sentence 4: Sentence 4 is a general sentence pointing to "branch extensions of reason".  
Sentence 5: Sentence 5 has the pronouns 'he' and 'his' and a reference to "our present moon exploration".  
So, sentence 2 is a general and standalone sentence that begins the para.  
Sentences 2 and 5 form a logical block. "it's almost impossible to imagine him as a living human being anymore" in sentence 2 is contrasted by "But if you really try to hold back your present knowledge about the consequences of his trip, compared to what he went through" in sentence 5. So sentence 5 follows sentence 2.  
Sentences 5 and 3 form another logical block. "our present moon exploration must be like a tea party compared to what he went through" in sentence 5 links with "Moon exploration doesn't involve real root expansions of thought, existing forms of thought are adequate to handle it" in sentence 3.  
Sentence 3 is followed by sentence 1. "It's" in sentence 1 points to "moon exploration" in sentence 3. "It's really just a branch extension of what Columbus did" in sentence 1 links with "Moon exploration doesn't involve real root expansions of thought" in sentence 3. "realms beyond reason" in 3 links with " real root expansions of thought" in sentence 1. So, 2531.  
Sentence 4 is the odd sentence out. It is a general sentence about branch extensions of reason to explain art's (?) more recent occurrences. This sentence is not connected to the remaining sentences and can be a part of another para. Ans: (4)

undefined

**Q19. DIRECTIONS for question 19:** The question has a paragraph which is followed by four alternative summaries. Choose the alternative that best captures the essence of the paragraph.

The progressivist view appreciates the advantages of agriculture which our hunter-gatherer ancestors adopted and credits agriculture with the remarkable flowering of art in the past few thousand years. While the case for the progressivist view seems overwhelming, it's hard to prove. How do you show that the lives of people 10,000 years ago got better when they abandoned hunting and gathering for farming? Until recently, archaeologists had to resort to indirect tests, whose results failed to support the progressivist view. Here's one example of an indirect test: Are twentieth century hunter-gatherers really worse off than farmers? Scattered throughout the world, several dozen groups of so-called primitive people, like the Kalahari bushmen, continue to support themselves that way. It turns out that these people have plenty of leisure time, sleep a good deal, and work less hard than their farming neighbors. For instance, the average time devoted each week to obtaining food is only 12 to 19 hours for one group of Bushmen, 14 hours or less for the Hadza nomads of Tanzania. One Bushman, when

asked why he hadn't emulated neighboring tribes by adopting agriculture, replied, "Why should we, when there are so many mongongo nuts in the world?"

- a) The progressivist view of agriculture as an unmixed blessing was supported by the indirect tests which showed that the hunter-gatherer lifestyle was inferior to the agricultural lifestyle. The hunter-gatherers are more lazy and less hardworking than their agricultural friends.
- b) According to the progressivist view, the advent of agriculture was a watershed moment for the human race. Indirect tests compared modern hunter-gatherers to their ancient counterparts.
- c) Hunter-gatherers of the past could hardly have been worse off than modern hunters whose lives are not nasty, brutish and short. The hunter-gatherers of today have plenty of leisure time, they sleep well and work less hard than their agricultural counterparts.
- d) The progressivist view of agriculture as an overwhelming blessing was not supported by the indirect tests which showed that the hunter-gatherer lifestyle is not inferior to the agricultural lifestyle. The hunter-gatherers work less hard and have more time for leisure and sleep than their agricultural friends.

You did not answer this question

Show Correct Answer

**Time spent / Accuracy Analysis**

Time taken by you to answer this question	2
Avg. time spent on this question by all students	162
Difficulty Level	VD
Avg. time spent on this question by students who got this question right	158
% of students who attempted this question	20.38
% of students who got the question right of those who attempted	87.71

[Video Solution](#)

[Text Solution](#)

Option A: While the progressivist view of agriculture is correctly mentioned in choice A, the result of the indirect tests is mentioned incorrectly. The indirect tests showed that the hunter-gatherer lifestyle was not inferior to the agricultural lifestyle. Also, the hunter-gatherers have not been criticized for being more lazy and less hardworking than their agricultural friends. Choice A is not the correct summary. The para only tells us that the hunter-gatherers work less hard and have more time for leisure and sleep than their agricultural friends.

Option B: The first sentence in choice B correctly captures the essence of the first two sentences of the para. But the second sentence is wrong. It is not possible to compare modern hunter-gatherers to their ancient counterparts. Choice B is also incomplete as a summary.

Option C: While the second sentence in choice C is correct, the first sentence is not. The indirect tests aim to compare the hunter-gatherer and agricultural lifestyles in general. Hunter-gatherers of the past are not compared with modern hunters. Choice C misses the progressivist view.

Option D: Choice D is the correct summary. Choice (D)

undefined

**Q20. 20.DIRECTIONS for question 20:** The sentences given in the question, when properly sequenced, form a coherent paragraph. Each sentence is labelled with a number. Decide on the proper order for the five sentences and key in the sequence of five numbers as your answer, in the input box given below the question.

1. Look around; what do you see?

2. The tectonic plates of fashion have shifted.
3. The miniskirts and Crayola colors of the 1960s, the power shoulders of the '80s, the minimalism of the '90s - all reached critical mass well into the midpoint of those eras, when whatever had been bubbling up in wardrobes and on sidewalks found its reflection in the wider world.
4. It is a truism of the history of dress that decade-defining looks generally don't congeal until quite late in the period they eventually come to represent.
5. Well, we have finally reached that stage in the 2010s.

Your Answer:12435 □ Your answer is incorrect

Show Correct Answer

**Time spent / Accuracy Analysis**

Time taken by you to answer this question	<b>119</b>
Avg. time spent on this question by all students	<b>134</b>
Difficulty Level	<b>D</b>
Avg. time spent on this question by students who got this question right	<b>130</b>
% of students who attempted this question	<b>33.59</b>
% of students who got the question right of those who attempted	<b>1.59</b>

[Video Solution](#)

[Text Solution](#)

This is a para which can start in multiple ways – which is why the usual method applied by test-takers of searching for a general sentence/introductory sentence must strictly be avoided. Reason: Sentence 1, 2, 3 and 4 are all general independent sentences capable of starting a para.

Sentence 1 proposes you look around and asks what you see. If there is a sentence following this sentence, it should describe what you see.

Sentence 2 gives you a theory, without examples. This sentence, read on its own independently, can be used in three ways – to introduce what's happening in the fashion scene right now, or to contrast a fashion shift from A to B, or to conclude that the change has indeed happened. So, this sentence should be kept aside as it is way too open to be restricted to one formation. Sentences like these are troublesome because they fit into the test-takers' imaginary stories perfectly any which way. Avoid that.

Sentence 3 gives you details of things which have happened in the past. Such sentences are the easiest to deal with in para jumble questions because these sentences invariably connect with a theory, a trend.

Sentence 4 indicates what it is – a truism. It is a theory sentence about decade-defining looks congealing (solidifying/settling/becoming stable). If you are reading carefully, you will be able to connect this theory immediately to its example statement – the previous one. 43 is a logical block, theory and example.

Sentence 5 starts with a connective 'Well' – which is neither positive nor negative. But, it talks about 'that stage'. It is not hard to spot that stage – the stage where a decade-defining look congeals.

The dates in 3 give us another indicator. They flow in 5 which talks about 2010s. So, 435 is a logical block. That leaves us with a few questions: 12 or 21. If 1 were the starting sentence, 12 is fine. But, 1 cannot be the starting sentence because 435 doesn't entirely describe the present. In fact, 4 is a truism, more generic than 1. So, 1 cannot precede 4. So, 12 cannot be a block as it needs elaboration of how the tectonic plates have shifted. Which means, 21 is the order as 1 follows the contrast sentence – 2. Things have changed – now look around – what do you see? 435 give us the background of why things change. 21 is about the present. So, 435 is upstream to the 21 block. Hence, the order is 43521.

Ans: (43521)

undefined

**DIRECTIONS** for questions 21 to 26: The passage given below is accompanied by a set of six questions. Choose the best answer to each question.

It was in late 18th-century Naples that the pizza originated. Fuelled by overseas trade and a steady influx of peasants from the countryside, its population ballooned and an ever greater number of the city's inhabitants fell into poverty. The most abject of these were known as lazzaroni, who scraped by on the pittance they earned as porters, messengers or casual labourers. Always rushing about in search of work, they needed food that was cheap and easy to eat. Pizzas as we know it came into existence.

For a long time, pizzas were scorned by food writers. Associated with the crushing poverty of the lazzaroni, they were frequently denigrated as 'disgusting', especially by foreign visitors. In 1831, Samuel Morse - inventor of the telegraph - described pizza as a 'species of the most nauseating cake ... covered over with slices of pomodoro or tomatoes, and sprinkled with little fish and black pepper and I know not what other ingredients, it altogether looks like a piece of bread that has been taken reeking out of the sewer'.

All that changed after Italian unification. While on a visit to Naples in 1889, King Umberto I and Queen Margherita grew tired of the complicated French dishes they were served. Hastily summoned to prepare some local specialities for the queen, the pizzaiolo Raffaele Esposito cooked three sorts of pizza: one with lard, caciocavallo and basil; another with cecenielli; and a third with tomatoes, mozzarella and basil. Her favourite, the last, was christened pizza margherita in her honour.

This signalled an important shift. Margherita's seal of approval not only elevated the pizza from being a food fit only for lazzaroni to being something a royal family could enjoy, but also transformed pizza from a local into a truly national dish.

From the 1930s onwards, a growing number of Neapolitans moved northwards in search of work, taking their cuisine with them. This trend was accelerated by war. When Allied soldiers invaded Italy in 1943-44, they were so taken with the pizza they asked for it everywhere. Tourism and declining cost of travel in the post-war period consolidated the pizza's position as a truly Italian dish.

But it was in America that pizza found its second home. By the end of the 19th century, Italian emigrants had already reached the East Coast; and in 1905, the first pizzeria - Lombardi's - was opened in New York City. Soon, pizza became an American institution. Spreading across the country in step with the growing pace of urbanisation, it was quickly taken up by

enterprising restaurateurs and adapted to reflect local tastes, identities and needs.

From the 1950s onwards, the rapid pace of economic and technological change in the US transformed the pizza even more radically. Two changes are worthy of note. The first was the 'domestication' of pizza. As disposable incomes grew, fridges and freezers became increasingly common and demand for 'convenience' foods grew - prompting the development of the frozen pizza. The second change was the 'commercialisation' of pizza. With the growing availability of cars and motorcycles, it became possible to deliver freshly cooked food to customers' doors - and pizza was among the first dishes to be served up. In 1960, Tom and James Monaghan founded 'Dominik's' in Michigan and, after winning a reputation for speedy delivery, took their company - which they renamed 'Domino's' - nationwide.

Paradoxically, the effect of these changes was to make pizza both more standardised and more susceptible to variation. While the form became more firmly entrenched, the need to appeal to customers' desire for novelty led to ever more elaborate varieties being offered, so that now Pizza Hut in Poland sells a spicy 'Indian' version and Domino's in Japan has developed an 'Elvis' pizza, with just about everything on it.

**Q21.** Through this passage, the author is trying to

- a) chart the growth in the popularity of the pizza and the reasons for the same.
- b) **explain how the poor man's dish went on to become a national dish.** □ **Your answer is incorrect**
- c) **discuss several reasons that may have led to pizzas coming into existence.**
- d) **demonstrate how the pizza is versatile and can be modified to suit various needs.**

Show Correct Answer

#### Time spent / Accuracy Analysis

Time taken by you to answer this question	336
Avg. time spent on this question by all students	297
Difficulty Level	E
Avg. time spent on this question by students who got this question right	289
% of students who attempted this question	52.49
% of students who got the question right of those who attempted	69.39

[Video Solution](#)

[Text Solution](#)

#### Number of words and Explanatory notes for RC:

Number of words: 620

Option A: The passage starts with the origin of the pizza and then moves on to explaining how royal approval made it more acceptable before the popularity soared thanks to tourism and the consequences of urbanisation. So, Option A reasonably depicts what the author was trying to do.

Option B: The author doesn't stop at just explaining how it became a national dish. There were other factors that took pizza from Italy to America. Hence, Option B is not the answer.

Option C: The passage doesn't discuss several origin stories of the pizza. There was only one – in Naples. The rest of the passage was about how the popularity of the pizza spread. Hence, Option C is not the answer.

Option D: The passage did discuss how the pizza is susceptible to variations to cater to the taste of customers and their desire for novelty. Nevertheless, not the entire passage is about the versatility of the pizza and its modifications. In fact, only in the second half of the passage was the radical transformation of the pizza discussed. Hence, Option D is not the answer.

Choice (A)

undefined

**DIRECTIONS** for questions 21 to 26: The passage given below is accompanied by a set of six questions. Choose the best

answer to each question.

It was in late 18th-century Naples that the pizza originated. Fuelled by overseas trade and a steady influx of peasants from the countryside, its population ballooned and an ever greater number of the city's inhabitants fell into poverty. The most abject of these were known as lazzaroni, who scraped by on the pittance they earned as porters, messengers or casual labourers. Always rushing about in search of work, they needed food that was cheap and easy to eat. Pizzas as we know it came into existence.

For a long time, pizzas were scorned by food writers. Associated with the crushing poverty of the lazzaroni, they were frequently denigrated as 'disgusting', especially by foreign visitors. In 1831, Samuel Morse - inventor of the telegraph - described pizza as a 'species of the most nauseating cake ... covered over with slices of pomodoro or tomatoes, and sprinkled with little fish and black pepper and I know not what other ingredients, it altogether looks like a piece of bread that has been taken reeking out of the sewer'.

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**Q22.** The author may have mentioned Samuel Morse to drive home the point that

- a) pizzas were considered repulsive because of their association with poverty.
- b) **pizzas were generally scorned by foreigners.**
- c) **pizzas disgusted food-writers.**
- d) **pizzas were considered to be the food of the gutters.** Your answer is incorrect

Show Correct Answer

#### Time spent / Accuracy Analysis

Time taken by you to answer this question	<b>178</b>
Avg. time spent on this question by all students	<b>100</b>
Difficulty Level	<b>E</b>
Avg. time spent on this question by students who got this question right	<b>97</b>
% of students who attempted this question	<b>53.12</b>
% of students who got the question right of those who attempted	<b>26.93</b>

[Video Solution](#)

## Text Solution

### **Number of words and Explanatory notes for RC:**

Number of words: 620

Consider the sentences: 'Associated with the crushing poverty of the lazzaroni, they were frequently denigrated as 'disgusting', especially by foreign visitors. In 1831, Samuel Morse – inventor of the telegraph – described pizza as a 'species of the most nauseating cake...'. From this we can understand that Samuel Morse was mentioned as an example of someone who denigrated (criticised) pizzas. Probably, Morse was a foreigner too.

Option A: Pizzas were associated with poverty and were called disgusting especially by foreigners. We cannot imply causation here and infer that they were called disgusting because of the association with poverty. Correlation doesn't imply causation. Hence, Option A is not the answer.

Option B: Since, the author stresses 'especially by foreign visitors' and then mentions Samuel Morse, we could infer that Morse may be a foreigner who had disgust for pizzas. Hence, Option B is the best possible answer.

Option C: We do not have enough evidence to believe Morse was a food writer, especially when he was mentioned as an inventor. Hence, Option C is not the answer.

Option D: Morse connects pizzas to the sewers, but the example was not used just for that literal association. Morse's literal description cannot be the reason why the author used the example. Hence, Option D is not the answer.

Choice (B)

undefined

**DIRECTIONS** for questions 21 to 26: The passage given below is accompanied by a set of six questions. Choose the best answer to each question.

It was in late 18th-century Naples that the pizza originated. Fuelled by overseas trade and a steady influx of peasants from the countryside, its population ballooned and an ever greater number of the city's inhabitants fell into poverty. The most abject of these were known as lazzaroni, who scraped by on the pittance they earned as porters, messengers or casual labourers. Always rushing about in search of work, they needed food that was cheap and easy to eat. Pizzas as we know it came into existence.

For a long time, pizzas were scorned by food writers. Associated with the crushing poverty of the lazzaroni, they were frequently denigrated as 'disgusting', especially by foreign visitors. In 1831, Samuel Morse - inventor of the telegraph - described pizza as a 'species of the most nauseating cake ... covered over with slices of pomodoro or tomatoes, and sprinkled with little fish and black pepper and I know not what other ingredients, it altogether looks like a piece of bread that has been taken reeking out of the sewer'.

All that changed after Italian unification. While on a visit to Naples in 1889, King Umberto I and Queen Margherita grew tired of the complicated French dishes they were served. Hastily summoned to prepare some local specialities for the queen, the pizzaiolo Raffaele Esposito cooked three sorts of pizza: one with lard, caciocavallo and basil; another with cecenielli; and a third with tomatoes, mozzarella and basil. Her favourite, the last, was christened pizza margherita in her honour.

This signalled an important shift. Margherita's seal of approval not only elevated the pizza from being a food fit only for lazzaroni to being something a royal family could enjoy, but also transformed pizza from a local into a truly national dish.

From the 1930s onwards, a growing number of Neapolitans moved northwards in search of work, taking their cuisine with them. This trend was accelerated by war. When Allied soldiers invaded Italy in 1943-44, they were so taken with the pizza they asked for it everywhere. Tourism and declining cost of travel in the post-war period consolidated the pizza's position as a truly Italian dish.

But it was in America that pizza found its second home. By the end of the 19th century, Italian emigrants had already reached the East Coast; and in 1905, the first pizzeria - Lombardi's - was opened in New York City. Soon, pizza became an American institution. Spreading across the country in step with the growing pace of urbanisation, it was quickly taken up by enterprising restaurateurs and adapted to reflect local tastes, identities and needs.

From the 1950s onwards, the rapid pace of economic and technological change in the US transformed the pizza even more radically. Two changes are worthy of note. The first was the 'domestication' of pizza. As disposable incomes grew, fridges and freezers became increasingly common and demand for 'convenience' foods grew - prompting the development of the frozen pizza. The second change was the 'commercialisation' of pizza. With the growing availability of cars and motorcycles, it became possible to deliver freshly cooked food to customers' doors - and pizza was among the first dishes to be served up. In 1960, Tom and James Monaghan founded 'Dominik's' in Michigan and, after winning a reputation for speedy delivery, took their company - which they renamed 'Domino's' - nationwide.

Paradoxically, the effect of these changes was to make pizza both more standardised and more susceptible to variation. While the form became more firmly entrenched, the need to appeal to customers' desire for novelty led to ever more elaborate varieties being offered, so that now Pizza Hut in Poland sells a spicy 'Indian' version and Domino's in Japan has developed an 'Elvis' pizza, with just about everything on it.

**Q23.** The paradox mentioned in the last para is that

- a) pizza is both standardised and variable.
- b) **pizzas despite their popularity became more standardised.**
- c) **technology and customers' desire for novelty lead to variations in pizza.** □ **Your answer is incorrect**
- d) **pizza's Italian origin has given way to Indian and American variations.**

[Show Correct Answer](#)

#### Time spent / Accuracy Analysis

Time taken by you to answer this question	<b>158</b>
Avg. time spent on this question by all students	<b>77</b>
Difficulty Level	<b>E</b>
Avg. time spent on this question by students who got this question right	<b>68</b>
% of students who attempted this question	<b>51.97</b>
% of students who got the question right of those who attempted	<b>63.19</b>

[Video Solution](#)

#### Text Solution

##### Number of words and Explanatory notes for RC:

Number of words: 620

Consider the sentence: 'Paradoxically, the effect of these changes was to make pizza **both** more standardised and more susceptible to variation'. The changes mentioned here are – domestication and commercialisation of the pizza. Paradox means the existence of contradictions. So, while the pizza was standardised to some extent (form) there was also scope for variation.

Option A: This option mentions both the sides, the contradictions. Hence, Option A is the answer.

Option B: Popularity was not a parameter discussed with respect to the mentioned line or the para. Hence, Option B is not the answer.

Option C: While factors that affected the popularity of the pizza and encouraged variations has been mentioned, it doesn't talk about standardisation of the form. Hence, Option C is not the answer.

Option D: The Indian and American variations were examples of how pizzas were susceptible to variation. The standardisation part has not been mentioned here. Hence, Option D is not the answer.

Choice (A)

undefined

**DIRECTIONS** for questions 21 to 26: The passage given below is accompanied by a set of six questions. Choose the best answer to each question.

It was in late 18th-century Naples that the pizza originated. Fuelled by overseas trade and a steady influx of peasants from the countryside, its population ballooned and an ever greater number of the city's inhabitants fell into poverty. The most abject of these were known as lazzaroni, who scraped by on the pittance they earned as porters, messengers or casual labourers. Always rushing about in search of work, they needed food that was cheap and easy to eat. Pizzas as we know it came into existence.

For a long time, pizzas were scorned by food writers. Associated with the crushing poverty of the lazzaroni, they were frequently denigrated as 'disgusting', especially by foreign visitors. In 1831, Samuel Morse - inventor of the telegraph -

described pizza as a 'species of the most nauseating cake ... covered over with slices of pomodoro or tomatoes, and sprinkled with little fish and black pepper and I know not what other ingredients, it altogether looks like a piece of bread that has been taken reeking out of the sewer'.

All that changed after Italian unification. While on a visit to Naples in 1889, King Umberto I and Queen Margherita grew tired of the complicated French dishes they were served. Hastily summoned to prepare some local specialities for the queen, the pizzaiolo Raffaele Esposito cooked three sorts of pizza: one with lard, caciocavallo and basil; another with cecenielli; and a third with tomatoes, mozzarella and basil. Her favourite, the last, was christened pizza margherita in her honour.

This signalled an important shift. Margherita's seal of approval not only elevated the pizza from being a food fit only for lazzaroni to being something a royal family could enjoy, but also transformed pizza from a local into a truly national dish.

From the 1930s onwards, a growing number of Neapolitans moved northwards in search of work, taking their cuisine with them. This trend was accelerated by war. When Allied soldiers invaded Italy in 1943-44, they were so taken with the pizza they asked for it everywhere. Tourism and declining cost of travel in the post-war period consolidated the pizza's position as a truly Italian dish.

But it was in America that pizza found its second home. By the end of the 19th century, Italian emigrants had already reached the East Coast; and in 1905, the first pizzeria - Lombardi's - was opened in New York City. Soon, pizza became an American institution. Spreading across the country in step with the growing pace of urbanisation, it was quickly taken up by enterprising restaurateurs and adapted to reflect local tastes, identities and needs.

From the 1950s onwards, the rapid pace of economic and technological change in the US transformed the pizza even more radically. Two changes are worthy of note. The first was the 'domestication' of pizza. As disposable incomes grew, fridges and freezers became increasingly common and demand for 'convenience' foods grew - prompting the development of the frozen pizza. The second change was the 'commercialisation' of pizza. With the growing availability of cars and motorcycles, it became possible to deliver freshly cooked food to customers' doors - and pizza was among the first dishes to be served up. In 1960, Tom and James Monaghan founded 'Dominik's' in Michigan and, after winning a reputation for speedy delivery, took their company - which they renamed 'Domino's' - nationwide.

Paradoxically, the effect of these changes was to make pizza both more standardised and more susceptible to variation. While the form became more firmly entrenched, the need to appeal to customers' desire for novelty led to ever more elaborate varieties being offered, so that now Pizza Hut in Poland sells a spicy 'Indian' version and Domino's in Japan has developed an 'Elvis' pizza, with just about everything on it.

**Q24.** Which of the following is the 'important shift' signalled by Queen Margherita's seal of approval?

- a) Pizza went from being the common man's dish to being the royal family's dish because of its popularity going from local to national.
- b) **Pizza's reputation expanded from being a local dish for the poor to a national dish enjoyed by everyone.**
- c) **Pizza's status was elevated from being a local dish to being a national dish because of the royal family's approval.** Your answer is correct
- d) **Pizza went national from local, available not just to the poor but also to the wealthy.**

#### Time spent / Accuracy Analysis

Time taken by you to answer this question	<b>110</b>
Avg. time spent on this question by all students	<b>102</b>
Difficulty Level	<b>M</b>
Avg. time spent on this question by students who got this question right	<b>94</b>
% of students who attempted this question	<b>54.55</b>
% of students who got the question right of those who attempted	<b>54.78</b>

[Video Solution](#)

[Text Solution](#)

**Number of words and Explanatory notes for RC:**

Number of words: 620

Consider the sentences: '*This signalled an important shift. Margherita's seal of approval not only elevated the pizza from being a food fit only for lazzaroni to being something a royal family could enjoy, but also transformed pizza from a local into a truly national dish.*'

Option A: The popularity of pizza going from local to national is not the reason why pizza became the royal family's dish. It is the other way around. Also, the 'shift' is not that it became the 'royal family's dish'. It just rose in stature. Hence, Option A is not the answer.

Option B: This option connects local dish with poverty which is incorrect. They are separate parameters. Hence, Option B is not the answer.

Option C: This option indicates that the status change from local to national came about because of the royal approval. The royal approval elevated the status of the pizza to show that it can be enjoyed not just by the poor but also by the royal family. More importantly, it gave the pizza a national recognition. This can be observed in the sentence structure – Margherita's approval not only [X] but also [transformed...] Option C is the answer.

Option D: This option talks about the availability of the pizza which was never discussed. It wasn't that it was not "available" to the rich before. The perception changed about the pizza. Hence, Option D is not the answer.                      Choice (C)

undefined

**DIRECTIONS** for questions 21 to 26: The passage given below is accompanied by a set of six questions. Choose the best answer to each question.

It was in late 18th-century Naples that the pizza originated. Fuelled by overseas trade and a steady influx of peasants from the countryside, its population ballooned and an ever greater number of the city's inhabitants fell into poverty. The most abject of these were known as lazzaroni, who scraped by on the pittance they earned as porters, messengers or casual labourers. Always rushing about in search of work, they needed food that was cheap and easy to eat. Pizzas as we know it came into existence.

For a long time, pizzas were scorned by food writers. Associated with the crushing poverty of the lazzaroni, they were frequently denigrated as 'disgusting', especially by foreign visitors. In 1831, Samuel Morse - inventor of the telegraph - described pizza as a 'species of the most nauseating cake ... covered over with slices of pomodoro or tomatoes, and sprinkled with little fish and black pepper and I know not what other ingredients, it altogether looks like a piece of bread that has been taken reeking out of the sewer'.

All that changed after Italian unification. While on a visit to Naples in 1889, King Umberto I and Queen Margherita grew tired of the complicated French dishes they were served. Hastily summoned to prepare some local specialities for the queen, the pizzaiolo Raffaele Esposito cooked three sorts of pizza: one with lard, caciocavallo and basil; another with cecenielli; and a third with tomatoes, mozzarella and basil. Her favourite, the last, was christened pizza margherita in her honour.

This signalled an important shift. Margherita's seal of approval not only elevated the pizza from being a food fit only for lazzaroni to being something a royal family could enjoy, but also transformed pizza from a local into a truly national dish.

From the 1930s onwards, a growing number of Neapolitans moved northwards in search of work, taking their cuisine with them. This trend was accelerated by war. When Allied soldiers invaded Italy in 1943-44, they were so taken with the pizza they asked for it everywhere. Tourism and declining cost of travel in the post-war period consolidated the pizza's position as a truly Italian dish.

But it was in America that pizza found its second home. By the end of the 19th century, Italian emigrants had already reached the East Coast; and in 1905, the first pizzeria - Lombardi's - was opened in New York City. Soon, pizza became an American institution. Spreading across the country in step with the growing pace of urbanisation, it was quickly taken up by enterprising restaurateurs and adapted to reflect local tastes, identities and needs.

From the 1950s onwards, the rapid pace of economic and technological change in the US transformed the pizza even more radically. Two changes are worthy of note. The first was the 'domestication' of pizza. As disposable incomes grew, fridges and freezers became increasingly common and demand for 'convenience' foods grew - prompting the development of the frozen pizza. The second change was the 'commercialisation' of pizza. With the growing availability of cars and motorcycles, it became possible to deliver freshly cooked food to customers' doors - and pizza was among the first dishes to be served up. In 1960, Tom and James Monaghan founded 'Dominik's' in Michigan and, after winning a reputation for speedy delivery, took their company - which they renamed 'Domino's' - nationwide.

Paradoxically, the effect of these changes was to make pizza both more standardised and more susceptible to variation. While the form became more firmly entrenched, the need to appeal to customers' desire for novelty led to ever more elaborate varieties being offered, so that now Pizza Hut in Poland sells a spicy 'Indian' version and Domino's in Japan has developed an 'Elvis' pizza, with just about everything on it.

**Q25.** All of the following contributed to making pizza ubiquitous in its 'second home' EXCEPT:

- a) There was an increase in demand for convenience foods with the increase in disposable incomes.
- b) **Food delivery became easier thanks to the availability of cars and motorcycles.**
- c) Innovative restaurateurs modified the pizza to suit local taste and needs.
- d) Freezers and motorcycles became more cheaply available. Your answer is correct

#### Time spent / Accuracy Analysis

Time taken by you to answer this question	<b>68</b>
Avg. time spent on this question by all students	<b>106</b>
Difficulty Level	<b>M</b>
Avg. time spent on this question by students who got this question right	<b>108</b>
% of students who attempted this question	<b>52.26</b>
% of students who got the question right of those who attempted	<b>71.35</b>

[Video Solution](#)

#### Text Solution

##### Number of words and Explanatory notes for RC:

Number of words: 620

The second home referred to here is America.

Option A: Consider the sentence: 'As disposable incomes grew, fridges and freezers became increasingly common and demand for 'convenience' foods grew – prompting the development of the frozen pizza'. From this, we can understand that increase in disposable incomes did lead to how easily pizzas were available. Hence, Option A is not the answer.

Option B: Consider the sentence: The second change was the 'commercialisation' of pizza. With the growing availability of cars and motorcycles, it became possible to deliver freshly cooked food to customers' doors – and pizza was among the first dishes to be served up. From this we can understand that delivery and ease of delivery were factors responsible for pizzas becoming available way more easily. Hence, Option B is not the answer.

Option C: Consider the sentence: Spreading across the country in step with the growing pace of urbanisation, it was quickly taken up by enterprising restaurateurs and adapted to reflect local tastes, identities and needs. From this, we can understand that innovative restaurateurs, through their changes, brought more variety making sure pizzas suit the customers' taste. Hence, Option C is not the answer.

Option D: The cost of freezers and motorcycles has not been discussed in the passage. They were available more easily but whether cost was a factor or not is not clear from the passage. Hence, Option D may not have contributed to the way pizzas were available and became popular. Option D is the answer at it cannot be inferred.

Choice (D)

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**Q26.** Which of the following cannot be inferred from the sixth para of the passage ('But it was in America...identities and needs')?

- a) Pizzas could be modified to suit local tastes.
- b) **Italian emigrants brought pizza to America.**
- c) **Pizzas found favour with innovative restaurateurs.** □ **Your answer is incorrect**
- d) Growing urbanisation made pizza more popular in America.

Show Correct Answer

**Time spent / Accuracy Analysis**

Time taken by you to answer this question	173
Avg. time spent on this question by all students	104
Difficulty Level	M
Avg. time spent on this question by students who got this question right	104
% of students who attempted this question	50.6

**Time spent / Accuracy Analysis**

% of students who got the question right of those who attempted

**29.99**

[Video Solution](#)

[Text Solution](#)

**Number of words and Explanatory notes for RC:**

Number of words: 620

Consider the sentences: '*But it was in America that pizza found its second home. By the end of the 19th century, Italian emigrants had already reached the East Coast; and in 1905, the first pizzeria – Lombardi's – was opened in New York City. Soon, pizza became an American institution. Spreading across the country in step with the growing pace of urbanisation, it was quickly taken up by enterprising restaurateurs and adapted to reflect local tastes, identities and needs.*'

Option A: From '*it was quickly taken up by enterprising restaurateurs and adapted to reflect local tastes, identities and needs*', we can understand that pizzas could be modified to suit local tastes. Hence, Option A can be inferred.

Option B: From '*By the end of the 19th century, Italian emigrants had already reached the East Coast; and in 1905, the first pizzeria – Lombardi's – was opened in New York City*', we can understand that it was the emigrants who brought pizza to America. If that were not the case, there is no purpose left to mention Italian emigration. Hence, Option B can be inferred.

Option C: From '*it was quickly taken up by enterprising(innovative/imaginative) restaurateurs*', we can understand that pizzas found favour (preferred, accepted, adopted) by such restaurateurs. Hence, Option C can be inferred.

Option D: From '*Spreading across the country in step with the growing pace of urbanisation*' we can understand that pizza spread with the pace of urbanisation. That doesn't confirm to us that it was urbanisation that made pizza popular in America. There is no causation here, just correlation. Hence, Option D cannot be inferred.

Choice (D)

undefined

**Q27. DIRECTIONS** for question 27: Five sentences related to a topic are given in the question below. Four of them can be put together to form a meaningful and coherent short paragraph. Identify the odd one out. Choose its number as your answer and key it in.

1. To begin a sentence with "Architecture is" is a bold step into treacherous territory.
2. Most days, architecture is a tough practice; on others, it is wonderfully satisfying.
3. And yet, many of us have uttered - or at least thought - "Architecture is..." while we've toiled away on an important project, or reflected on why we've chosen this professional path.
4. There are at least as many definitions of architecture as there are architects or people who comment on the practice of it.
5. While some embrace it as art, others defend architecture's seminal social responsibility as its most definitive attribute.

**Your Answer:2 Your answer is correct**

**Time spent / Accuracy Analysis**

Time taken by you to answer this question	<b>44</b>
Avg. time spent on this question by all students	<b>96</b>
Difficulty Level	<b>D</b>
Avg. time spent on this question by students who got this question right	<b>89</b>
% of students who attempted this question	<b>44.6</b>
% of students who got the question right of those who attempted	<b>51.56</b>

[Video Solution](#)

[Text Solution](#)

Sentence 1 lays the foundation for how difficult it is to define what architecture is. The negativity is conveyed by the negative word 'treacherous'.

Sentence 2 talks about what architecture is as work – tough practice and wonderfully satisfying.

Sentence 3 introduces a contrast 'And yet' followed by how many of us have tried to define architecture. So, this sentence must be preceded by something that says it is difficult to define architecture. That makes 13 a logical block.

Sentence 4 talks about several definitions of architecture which is more in line with 3 than with 1 (In a block that represents a contrast like 13 – the first sentence represents one side of the story and the second a different side.) 4 talks about many people trying to define it – which is more in line with people trying to define architecture in 3 than its being difficult to define in 1.

Sentence 5 talks about the varied perspectives on architecture.

So, 13 is a logical block – giving us the core of the para – definition of architecture. 4 talks about definitions. Either 2 or 5 is the odd-one. In 5, we have the term 'definitive attribute' which clinches the deal and blends it with the core idea. 5 is an elaboration of 4 – the two parts (some do this, and some do that) of the people referred to in 4. 45 is also a logical block. So, the odd-one-out is 2 as it talks about what architecture is and not about the definitions, and also, there are two blocks of two sentences (13 and 45).

Ans: (2)

undefined

**Q28. DIRECTIONS** for question 28: The question has a paragraph which is followed by four alternative summaries. Choose the alternative that best captures the essence of the paragraph.

Moral thinking is steeped in sharp dualities: Good v Evil, God v Satan, Right v Wrong, Heaven v Hell. Popular mythology, from humanity's fall from grace in the Garden of Eden to Star Wars, is full of tales of people going over to the dark side. But long before modern psychology told us that we all have our shadow side, an ancient Greek philosopher came up with an idea that was even more subtle: it is not that there are shades of grey between moral black and white - good and bad aren't opposites at all. Rather, the good is a 'mean' that stands between two 'bad's: that of excess and that of deficiency. Courage, for instance, is the mean between the excess of rashness and the deficit of cowardice. Mercy is the mean between the excess of vengefulness and the deficiency of surrender. It's a brilliant idea that utterly transforms how you look at right and wrong.

- a) Good and bad are not opposites; rather, they are the 'mean' between two opposite phases - 'good' the mean between two bad phases, and 'bad' the mean between two good phases.
- b) While moral thinking is mostly about dualities, and modern psychology avers that everyone has a dark side, an ancient Greek philosopher came up with a notion that good and bad weren't extremes; rather, good separated the two 'bad's of superfluity and paucity.
- c) An ancient Greek philosopher provided us with a subtler version of modern psychology's core belief that good is not the opposite of bad, but just an intermittent period between two bad extremes.
- d) Modern psychology opposes moral thinking steeped in dualities and finds support in the subtle theory of an ancient philosopher who believed that it is not shades of grey that separate good and bad, but 'good' which separates two 'bad's.

You did not answer this question

Show Correct Answer

**Time spent / Accuracy Analysis**

Time taken by you to answer this question	<b>3</b>
Avg. time spent on this question by all students	<b>159</b>
Difficulty Level	<b>D</b>
Avg. time spent on this question by students who got this question right	<b>157</b>
% of students who attempted this question	<b>28.43</b>
% of students who got the question right of those who attempted	<b>60.68</b>

[Video Solution](#)

[Text Solution](#)

The para has three parts:

The introduction is about the dualities in moral thinking – with examples.

This is followed by the twist on the original idea – the other side. The other side which doesn't believe in duality is again manifested in two ways: modern psychology's viewpoint where people have a darker side and the viewpoint of an ancient philosopher who felt 'good' is the mean between two 'bads'. This is followed by examples.

Option A: This option has a problem at the core – the para only makes 'good' the mean between two bads. This option calls 'bad' the mean between two goods, which is an incorrect extrapolation. Hence, Option A is not the answer.

Option B: This option has all the three ideas: what moral thinking is about, what modern psychology avers(asserts) and what the ancient philosopher's brilliant (and radical) notion was. Hence, Option B is the answer.

Option C: Good is not an "intermittent period", although bad can be either extreme. Secondly, it is modern psychology's core belief that good is not the opposite of bad. Modern psychology only talks about a darker side.

Option D: This option indicates that modern psychology 'opposes' moral thinking which although inferred is not necessarily a representation of the idea of the para. Secondly, it indicates that modern psychology is supported by the ancient philosopher's theory, which is once again an extrapolation not mentioned in the para. It is indicative. Hence, Option D is not the best possible essence.

Choice (B)

undefined

**DIRECTIONS** for questions 29 to 34: The passage given below is accompanied by a set of six questions. Choose the best answer to each question.

I often encounter the assumption that philosophy is a branch of literature, that a philosopher was somebody giving voice to his attitudes towards things in general, in the same way as an essayist might, or even a poet, but more systematically, and perhaps on a larger scale: less opinionated than the essayist, less emotional than the poet, more rigorous than either, and perhaps more impartial.

With the philosopher, as with the other two, the quality of writing was an essential part of what was most important. Just as the essayist and the poet had a distinctive style which was recognisably theirs, and was an integral part of what they were expressing, so did the philosopher. And just as it would be self-evidently nonsense to say of someone that he was a bad writer but a good essayist, or a bad writer but a good poet, so it must surely be nonsense to say of someone that he was a bad writer but a good philosopher.

This attitude is completely mistaken, of course, because it is refuted using the examples of some of the greatest philosophers. Aristotle is regarded as one of the greatest philosophers of all time, but all that remains of his work are lecture notes, made either by him or by a pupil. And as we would expect of lecture notes, they are stodgy, bereft of literary merit. But they are wonderful philosophy just the same, and they have made Aristotle one of the key figures of western civilisation. The conventional wisdom has long held that the outstanding philosopher since the ancient Greeks is Immanuel Kant, but I cannot believe that anyone has regarded Kant as a good writer, let alone a great stylist: to anyone who has actually read his work such an idea would be as difficult to understand as some parts of his transcendental deduction of the categories. The founder of modern empiricism and modern liberal political theory, John Locke, is another central figure in western philosophy, but he writes in a way that most people seem to find dull and pedestrian.

These examples - one from each of the three languages richest in philosophy - are enough to establish the point that the quality of the prose in which we read a philosophy bears no necessary connection with its value as philosophy. There is no law which says that philosophy cannot be written well, and some philosophers have been very good writers - half a dozen, great ones; but this does nothing to make them better philosophers. Plato is widely regarded as the finest writer of any Greek prose which has survived, but this does not make him a better philosopher than Aristotle, and people who regard him as such do not admire him for his style. In any case, it so happens that the works Aristotle published in his lifetime were admired throughout the ancient world for their beauty. Cicero described Aristotle's writing as a "river of gold." In the German-speaking world, Schopenhauer and Nietzsche are regarded as being among the best writers of German prose, perhaps as good as any apart from Goethe; but this does not make them better philosophers than Kant.

Good style comes about only - as Kant shows - when the writer is primarily concerned with his subject, not with himself and what others will think of him. Only then will everything about the way he writes be subordinated to the matter in hand. Style has therefore to do with integrity of purpose: a good stylist in philosophy is always one who is self-forgetfully devoted to what he is writing about. The fact that he is writing at all is an indication that he wants to communicate with others for subject-oriented reasons, not for self-oriented reasons. His prose will be uncluttered by all those little flags and signposts whose real purpose is to indicate things about himself.

**Q29.** The author mentions Cicero's 'river of gold' remark to demonstrate that

- a) Aristotle's notes were proof enough of his brilliance as a philosopher.
- b) **had Aristotle's writing survived, Plato wouldn't have been considered the finest writer of Greek prose.**
- c) **Aristotle's lecture notes were considered to be examples of his great writing.**
- d) **Aristotle's published work was widely acclaimed for its writing quality.** Your answer is correct

#### Time spent / Accuracy Analysis

Time taken by you to answer this question	<b>278</b>
Avg. time spent on this question by all students	<b>325</b>
Difficulty Level	<b>D</b>
Avg. time spent on this question by students who got this question right	<b>322</b>
% of students who attempted this question	<b>36.8</b>
% of students who got the question right of those who attempted	<b>38.19</b>

[Video Solution](#)

[Text Solution](#)

#### Number of words and Explanatory notes for RC:

Number of words: 644

Option A: We are discussing about Aristotle's published work and not his lecture notes. Hence, Option A is not the answer.

Option B: We are not comparing who the better writer is. We are also not making a justification for why Plato is considered to be the better writer. Hence, Option B is not the answer.

Option C: Aristotle's lecture notes were famous for the philosophy and not for the writing, per se, as explained in the passage. Hence, Option C is not the answer.

Option D: Consider the sentence: 'In any case, it so happens that the works Aristotle published in his lifetime were admired throughout the ancient world for their beauty. Cicero described Aristotle's writing as a "river of gold." From this we can understand that the author is trying to praise Aristotle's writing. The author is trying to explain how despite Plato being considered probably the best writer, he is not considered to be a superior philosopher than Aristotle, to drive home the point that philosophy doesn't owe its greatness to writing style. However, the author goes on to add 'In any case' to say that it's not that Aristotle was a bad writer' and it's not that we need to justify that he was a good philosopher despite being a bad writer. Aristotle himself was brilliant as can be understood from Cicero's remarks about his published work. Hence, Option D is the answer.

Choice (D)

**DIRECTIONS** for questions 29 to 34: The passage given below is accompanied by a set of six questions. Choose the best answer to each question.

I often encounter the assumption that philosophy is a branch of literature, that a philosopher was somebody giving voice to his attitudes towards things in general, in the same way as an essayist might, or even a poet, but more systematically, and perhaps on a larger scale: less opinionated than the essayist, less emotional than the poet, more rigorous than either, and perhaps more impartial.

With the philosopher, as with the other two, the quality of writing was an essential part of what was most important. Just as the essayist and the poet had a distinctive style which was recognisably theirs, and was an integral part of what they were expressing, so did the philosopher. And just as it would be self-evidently nonsense to say of someone that he was a bad writer but a good essayist, or a bad writer but a good poet, so it must surely be nonsense to say of someone that he was a bad writer but a good philosopher.

This attitude is completely mistaken, of course, because it is refuted using the examples of some of the greatest philosophers. Aristotle is regarded as one of the greatest philosophers of all time, but all that remains of his work are lecture notes, made either by him or by a pupil. And as we would expect of lecture notes, they are stodgy, bereft of literary merit. But they are wonderful philosophy just the same, and they have made Aristotle one of the key figures of western civilisation. The conventional wisdom has long held that the outstanding philosopher since the ancient Greeks is Immanuel Kant, but I cannot believe that anyone has regarded Kant as a good writer, let alone a great stylist: to anyone who has actually read his work such an idea would be as difficult to understand as some parts of his transcendental deduction of the categories. The founder of modern empiricism and modern liberal political theory, John Locke, is another central figure in western philosophy, but he writes in a way that most people seem to find dull and pedestrian.

These examples - one from each of the three languages richest in philosophy - are enough to establish the point that the quality of the prose in which we read a philosophy bears no necessary connection with its value as philosophy. There is no law which says that philosophy cannot be written well, and some philosophers have been very good writers - half a dozen, great ones; but this does nothing to make them better philosophers. Plato is widely regarded as the finest writer of any Greek prose which has survived, but this does not make him a better philosopher than Aristotle, and people who regard him as such do not admire him for his style. In any case, it so happens that the works Aristotle published in his lifetime were admired throughout the ancient world for their beauty. Cicero described Aristotle's writing as a "river of gold." In the German-speaking world, Schopenhauer and Nietzsche are regarded as being among the best writers of German prose, perhaps as good as any apart from Goethe; but this does not make them better philosophers than Kant.

Good style comes about only - as Kant shows - when the writer is primarily concerned with his subject, not with himself and what others will think of him. Only then will everything about the way he writes be subordinated to the matter in hand. Style has therefore to do with integrity of purpose: a good stylist in philosophy is always one who is self-forgetfully devoted to what he is writing about. The fact that he is writing at all is an indication that he wants to communicate with others for subject-oriented reasons, not for self-oriented reasons. His prose will be uncluttered by all those little flags and signposts whose real purpose is to indicate things about himself.

**Q30.** Which of the following best depicts the mistaken attitude the author is trying to argue against in the third para of the passage?

- a) Bad writing cannot really bring out the essence of good philosophical ideas.
- b) **A good philosopher must be a good writer.** Your answer is correct
- c) A philosopher's writing is as important as the quality of her or his ideas.
- d) The quality of writing of a philosopher is an oft-ignored parameter.

#### Time spent / Accuracy Analysis

Time taken by you to answer this question	197
Avg. time spent on this question by all students	116
Difficulty Level	D
Avg. time spent on this question by students who got this question right	103
% of students who attempted this question	37.7
% of students who got the question right of those who attempted	57.01

[Video Solution](#)

## Text Solution

### Number of words and Explanatory notes for RC:

Number of words: 644

In the first para: '*I often encounter the assumption that philosophy is a branch of literature.*' In the second para: '*With the philosopher, as with the other two, the quality of writing was an essential part of what was most important.*' '*And just as it would be self-evidently nonsense to say of someone that he was a bad writer but a good essayist, or a bad writer but a good poet, so it must surely be nonsense to say of someone that he was a bad writer but a good philosopher.*'

So, we can understand that the author thinks we are mistaken about this principle – it must surely be nonsense to say of someone that he was a bad writer but a good philosopher. If we are mistaken, according to the author, the argument is that philosophy and writing aren't intertwined. Please note, we are looking for the mistaken attitude. In other words, the answer is something the author disagrees with, and not agrees with.

Option A: While the tone of this option matches that of what we need for the answer, we didn't discuss writing with respect to the content of the philosophical ideas. Why good writing is essential to be able to express a 'good philosophical idea' has not been discussed. The reasons for why some people consider philosophy to be a branch of literature has not been linked with the essence of good/bad philosophical ideas. Hence, Option A is not the answer.

Option B: The mistaken attitude is that bad writers cannot be good philosophers, since philosophers are the same as essayists and poets. Hence, Option B is the answer.

Option C: While writing and philosophy have been interlinked, the quality of writing as a parameter and the quality of the philosophical ideas has not been compared. So, this is not the mistaken attitude described in the first two paras. Option C is not the answer.

Option D: The first two paras talk about the importance of writing to expressing philosophy. They do not criticise or bemoan the absence of consideration of good writing as a parameter, as the option seems to suggest. Hence, Option D is not the answer.

Choice (B)

undefined

**DIRECTIONS** for questions 29 to 34: The passage given below is accompanied by a set of six questions. Choose the best answer to each question.

I often encounter the assumption that philosophy is a branch of literature, that a philosopher was somebody giving voice to his attitudes towards things in general, in the same way as an essayist might, or even a poet, but more systematically, and perhaps on a larger scale: less opinionated than the essayist, less emotional than the poet, more rigorous than either, and perhaps more impartial.

With the philosopher, as with the other two, the quality of writing was an essential part of what was most important. Just as the essayist and the poet had a distinctive style which was recognisably theirs, and was an integral part of what they were expressing, so did the philosopher. And just as it would be self-evidently nonsense to say of someone that he was a bad writer but a good essayist, or a bad writer but a good poet, so it must surely be nonsense to say of someone that he was a bad writer but a good philosopher.

This attitude is completely mistaken, of course, because it is refuted using the examples of some of the greatest philosophers. Aristotle is regarded as one of the greatest philosophers of all time, but all that remains of his work are lecture notes, made either by him or by a pupil. And as we would expect of lecture notes, they are stodgy, bereft of literary merit. But they are wonderful philosophy just the same, and they have made Aristotle one of the key figures of western civilisation. The conventional wisdom has long held that the outstanding philosopher since the ancient Greeks is Immanuel Kant, but I cannot believe that anyone has regarded Kant as a good writer, let alone a great stylist: to anyone who has actually read his work such an idea would be as difficult to understand as some parts of his transcendental deduction of the categories. The founder of modern empiricism and modern liberal political theory, John Locke, is another central figure in western philosophy, but he writes in a way that most people seem to find dull and pedestrian.

These examples - one from each of the three languages richest in philosophy - are enough to establish the point that the quality of the prose in which we read a philosophy bears no necessary connection with its value as philosophy. There is no law which says that philosophy cannot be written well, and some philosophers have been very good writers - half a dozen, great ones; but this does nothing to make them better philosophers. Plato is widely regarded as the finest writer of any Greek prose which has survived, but this does not make him a better philosopher than Aristotle, and people who regard him as such do not admire him for his style. In any case, it so happens that the works Aristotle published in his lifetime were admired throughout the ancient world for their beauty. Cicero described Aristotle's writing as a "river of gold." In the

German-speaking world, Schopenhauer and Nietzsche are regarded as being among the best writers of German prose, perhaps as good as any apart from Goethe; but this does not make them better philosophers than Kant.

Good style comes about only - as Kant shows - when the writer is primarily concerned with his subject, not with himself and what others will think of him. Only then will everything about the way he writes be subordinated to the matter in hand. Style has therefore to do with integrity of purpose: a good stylist in philosophy is always one who is self-forgetfully devoted to what he is writing about. The fact that he is writing at all is an indication that he wants to communicate with others for subject-oriented reasons, not for self-oriented reasons. His prose will be uncluttered by all those little flags and signposts whose real purpose is to indicate things about himself.

**Q31.** Which of the following can be inferred from the third para ('This attitude...pedestrian')?

- a) Aristotle, Locke and Kant wrote in different languages.
- b) **Kant's writings are indecipherable.**
- c) **Dull writing doesn't take away from the greatness of a philosopher.** Your answer is correct
- d) Aristotle didn't pen books on philosophy.

#### Time spent / Accuracy Analysis

Time taken by you to answer this question	<b>153</b>
Avg. time spent on this question by all students	<b>80</b>
Difficulty Level	<b>M</b>
Avg. time spent on this question by students who got this question right	<b>73</b>
% of students who attempted this question	<b>38.27</b>
% of students who got the question right of those who attempted	<b>79.26</b>

[Video Solution](#)

[Text Solution](#)

#### Number of words and Explanatory notes for RC:

Number of words: 644

Option A: This piece of information can be inferred from the first line of the fourth para. Nothing about the languages has been mentioned in the third para. Hence, Option A is not the answer.

Option B: From 'to anyone who has actually read his work such an idea would be as difficult to understand as some parts of his transcendental deduction of the categories', we can understand that Kant's writing was difficult to understand. We cannot infer that it was indecipherable (impossible to comprehend). If that were so, he wouldn't be so highly regarded by the author. Hence, Option B is not the answer.

Option C: From the sentence 'John Locke, is another central figure in western philosophy, but he writes in a way that most people seem to find dull and pedestrian', as well as from the author's impressions about Kant, we can infer that writing isn't a parameter as far as considering the greatness of a philosopher. Hence, Option C is the answer.

Option D: From the sentence 'Aristotle is regarded as one of the greatest philosophers of all time, but all that remains of his work are lecture notes, made either by him or by a pupil', we can understand that none of Aristotle's books are left with us. We cannot infer that he hasn't penned anything. Hence, Option D is not the answer.

Choice (C)

undefined

**DIRECTIONS** for questions 29 to 34: The passage given below is accompanied by a set of six questions. Choose the best answer to each question.

I often encounter the assumption that philosophy is a branch of literature, that a philosopher was somebody giving voice to his attitudes towards things in general, in the same way as an essayist might, or even a poet, but more systematically, and

perhaps on a larger scale: less opinionated than the essayist, less emotional than the poet, more rigorous than either, and perhaps more impartial.

With the philosopher, as with the other two, the quality of writing was an essential part of what was most important. Just as the essayist and the poet had a distinctive style which was recognisably theirs, and was an integral part of what they were expressing, so did the philosopher. And just as it would be self-evidently nonsense to say of someone that he was a bad writer but a good essayist, or a bad writer but a good poet, so it must surely be nonsense to say of someone that he was a bad writer but a good philosopher.

This attitude is completely mistaken, of course, because it is refuted using the examples of some of the greatest philosophers. Aristotle is regarded as one of the greatest philosophers of all time, but all that remains of his work are lecture notes, made either by him or by a pupil. And as we would expect of lecture notes, they are stodgy, bereft of literary merit. But they are wonderful philosophy just the same, and they have made Aristotle one of the key figures of western civilisation. The conventional wisdom has long held that the outstanding philosopher since the ancient Greeks is Immanuel Kant, but I cannot believe that anyone has regarded Kant as a good writer, let alone a great stylist: to anyone who has actually read his work such an idea would be as difficult to understand as some parts of his transcendental deduction of the categories. The founder of modern empiricism and modern liberal political theory, John Locke, is another central figure in western philosophy, but he writes in a way that most people seem to find dull and pedestrian.

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Good style comes about only - as Kant shows - when the writer is primarily concerned with his subject, not with himself and what others will think of him. Only then will everything about the way he writes be subordinated to the matter in hand. Style has therefore to do with integrity of purpose: a good stylist in philosophy is always one who is self-forgetfully devoted to what he is writing about. The fact that he is writing at all is an indication that he wants to communicate with others for subject-oriented reasons, not for self-oriented reasons. His prose will be uncluttered by all those little flags and signposts whose real purpose is to indicate things about himself.

**Q32.** All of the following are true about philosophers according to the first para of the passage EXCEPT:

- a) Philosophers are more unprejudiced than essayists and poets.
- b) **Philosophers are more dogmatic than essayists.**
- c) **Philosophers are more apathetic than poets.**
- d) **Philosophers are more pedantic in their approach.** □ **Your answer is incorrect**

**Show Correct Answer**

#### Time spent / Accuracy Analysis

Time taken by you to answer this question	<b>106</b>
Avg. time spent on this question by all students	<b>86</b>
Difficulty Level	<b>M</b>
Avg. time spent on this question by students who got this question right	<b>84</b>
% of students who attempted this question	<b>27.87</b>
% of students who got the question right of those who attempted	<b>44.59</b>

[Video Solution](#)

[Text Solution](#)

**Number of words and Explanatory notes for RC:**

Number of words: 644

I often encounter the assumption that philosophy is a branch of literature, that a philosopher was somebody giving voice to his attitudes towards things in general, in the same way as an essayist might, or even a poet, but more systematically, and perhaps on a larger scale: less opinionated than the essayist, less emotional than the poet, more rigorous than either, and perhaps more impartial.

Option A: Philosophers are more impartial according to the para. So, it is true that they are more unprejudiced (neutral/unbiased) than poets or essayists. Option A is not the answer.

Option B: Philosophers are less opinionated than the essayist according to the para. So, it is not true that they are more dogmatic (rigid/orthodox/prejudiced/biased) than the essayist, who has stronger (read one-sided) opinions. It is important not to confuse rigour with dogma. Dogmatic is negative, while rigorous isn't. Hence, Option B is the answer.

Option C: Philosophers are less emotional than the poet, and hence, the statement that they are more apathetic (apathy is the lack of emotion) than the poet is true. Option C is not the answer.

Option D: Philosophers are more rigorous according to the para. Hence, it is true that they are pedantic (sticklers/finicky/meticulous/rigid) about their work – more thorough with respect to the fundamental principles. Option D is not the answer.

Choice (B)

undefined

**DIRECTIONS** for questions 29 to 34: The passage given below is accompanied by a set of six questions. Choose the best answer to each question.

I often encounter the assumption that philosophy is a branch of literature, that a philosopher was somebody giving voice to his attitudes towards things in general, in the same way as an essayist might, or even a poet, but more systematically, and perhaps on a larger scale: less opinionated than the essayist, less emotional than the poet, more rigorous than either, and perhaps more impartial.

With the philosopher, as with the other two, the quality of writing was an essential part of what was most important. Just as the essayist and the poet had a distinctive style which was recognisably theirs, and was an integral part of what they were expressing, so did the philosopher. And just as it would be self-evidently nonsense to say of someone that he was a bad writer but a good essayist, or a bad writer but a good poet, so it must surely be nonsense to say of someone that he was a bad writer but a good philosopher.

This attitude is completely mistaken, of course, because it is refuted using the examples of some of the greatest philosophers. Aristotle is regarded as one of the greatest philosophers of all time, but all that remains of his work are lecture notes, made either by him or by a pupil. And as we would expect of lecture notes, they are stodgy, bereft of literary merit. But they are wonderful philosophy just the same, and they have made Aristotle one of the key figures of western civilisation. The conventional wisdom has long held that the outstanding philosopher since the ancient Greeks is Immanuel Kant, but I cannot believe that anyone has regarded Kant as a good writer, let alone a great stylist: to anyone who has actually read his work such an idea would be as difficult to understand as some parts of his transcendental deduction of the categories. The founder of modern empiricism and modern liberal political theory, John Locke, is another central figure in western philosophy, but he writes in a way that most people seem to find dull and pedestrian.

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Good style comes about only - as Kant shows - when the writer is primarily concerned with his subject, not with himself and what others will think of him. Only then will everything about the way he writes be subordinated to the matter in hand. Style has therefore to do with integrity of purpose: a good stylist in philosophy is always one who is self-forgetfully devoted to what he is writing about. The fact that he is writing at all is an indication that he wants to communicate with others for subject-oriented reasons, not for self-oriented reasons. His prose will be uncluttered by all those little flags and signposts whose real purpose is to indicate things about himself.

**Q33.** Which of the following, if proven to be true, weakens the argument of those who believed that philosophy is a branch of literature?

- a) Philosophical ideas are inextricably linked to the language used to express them.
- b) **A philosopher's ideas are chained to the choice of words and style of expression.**
- c) **A philosopher must never suffer from an inability to express ideas clearly.**
- d) **The quality of a philosopher's ideas cannot be gauged unless stripped of the influences of language.**

You did not answer this question

Show Correct Answer

**Time spent / Accuracy Analysis**

Time taken by you to answer this question	<b>94</b>
Avg. time spent on this question by all students	<b>78</b>
Difficulty Level	<b>D</b>
Avg. time spent on this question by students who got this question right	<b>75</b>
% of students who attempted this question	<b>25.32</b>
% of students who got the question right of those who attempted	<b>68.3</b>

[Video Solution](#)

[Text Solution](#)

**Number of words and Explanatory notes for RC:**

Number of words: 644

The assumption made by those who consider philosophy to be a branch of literature is that philosophy is inextricably chained or linked to language and without language philosophizing is impossible. According to such people, philosophy is equivalent to poetry or writing essays.

Option A: This statement, if true, would strengthen the argument of people who connect philosophy to literature and judge it accordingly. Hence, Option A is not the answer.

Option B: If true, this statement proves that language is indeed important for a philosopher. Hence, it supports the people who think philosophy is a branch of literature. Option B is not the answer.

Option C: This option links clear expression (related to language) with the ability of being a good philosopher. Hence, Option C is not the answer.

Option D: This option if true shows that the worth of the philosopher's ideas are independent of language and in fact, can be understood better. Hence, these weaken the argument of those who think philosophy and language are deeply connected.

Choice (D)

undefined

**DIRECTIONS** for questions 29 to 34: The passage given below is accompanied by a set of six questions. Choose the best answer to each question.

I often encounter the assumption that philosophy is a branch of literature, that a philosopher was somebody giving voice to his attitudes towards things in general, in the same way as an essayist might, or even a poet, but more systematically, and perhaps on a larger scale: less opinionated than the essayist, less emotional than the poet, more rigorous than either, and

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Good style comes about only - as Kant shows - when the writer is primarily concerned with his subject, not with himself and what others will think of him. Only then will everything about the way he writes be subordinated to the matter in hand. Style has therefore to do with integrity of purpose: a good stylist in philosophy is always one who is self-forgetfully devoted to what he is writing about. The fact that he is writing at all is an indication that he wants to communicate with others for subject-oriented reasons, not for self-oriented reasons. His prose will be uncluttered by all those little flags and signposts whose real purpose is to indicate things about himself.

**Q34.** Which of the following is the author most likely to agree with about a good stylist in philosophy?

- a) A good stylist is forgetful about what he is writing about.
- b) **A good stylist thinks that the mere act of writing, in itself, is proof of his or her commitment.**
- c) **A good stylist writes prose that is uncluttered by indicators of the absence of self-oriented communication.**
- d) **A good stylist gives priority to the content over himself while writing.**

You did not answer this question

Show Correct Answer

**Time spent / Accuracy Analysis**

Time taken by you to answer this question	<b>58</b>
Avg. time spent on this question by all students	<b>103</b>
Difficulty Level	<b>M</b>
Avg. time spent on this question by students who got this question right	<b>97</b>
% of students who attempted this question	<b>32.69</b>
% of students who got the question right of those who attempted	<b>77.94</b>

[Video Solution](#)

[Text Solution](#)

**Number of words and Explanatory notes for RC:**

Number of words: 644

Good style comes about only – as Kant shows – when the writer is primarily concerned with his subject, not with himself and what others will think of him. Only then will everything about the way he writes be subordinated to the matter in hand. Style has therefore to do with integrity of purpose: a good stylist in philosophy is always one who is self-forgetfully devoted to what he is writing about.

Option A: A good stylist forgets about his own identity while writing. This option misrepresents information by indicating that a good stylist forgets about the content. Hence, Option A is not the answer.

Option B: It is the author's viewpoint that the fact that someone is writing is a proof that he is trying to communicate something to others. It is not the stylist who thinks that the act of writing is proof enough of their commitment (what commitment?). Hence, Option B is not the answer.

Option C: The absence of self-oriented communication is a good thing according to the author since, it should be about the subject and not about the writer. A good stylist will therefore write prose that is uncluttered or 'will not have' indicators of self-oriented writing. Hence, Option C is not the answer.

Option D: From the underlined portions above, we can understand that a good stylist gives precedence to the what he or she is writing about/the subject rather than to herself or himself. Hence, Option D is the answer.

Choice (D)

undefined

**DIRECTIONS** for questions 1 to 4: Answer the questions on the basis of the information given below.

Six cities, A through F, are connected by certain two-way roads, such that any of the six cities can be reached from any of the other cities, using these roads, either directly or after passing through some of the other cities. The following table provides partial information about the minimum number of cities that one must pass through when travelling between any pair of cities:

From	To					
	A	B	C	D	E	F
A	-	1	2	1		1
B		-	2	0		
C			-	1		
D				-		
E					-	
F						-

**Q1. DIRECTIONS** for question 1: Select the correct alternative from the given choices.

Which of the following pairs of cities are directly connected?

- E and C
- D and F
- B and E

- a) Only (i) and (ii)
- b) **Only (ii)**
- c) **Only (iii)**
- d) **Only (ii) and (iii)**

You did not answer this question

[Show Correct Answer](#)

#### Time spent / Accuracy Analysis

Time taken by you to answer this question	<b>79</b>
Avg. time spent on this question by all students	<b>460</b>
Difficulty Level	<b>M</b>
Avg. time spent on this question by students who got this question right	<b>483</b>
% of students who attempted this question	<b>23.41</b>
% of students who got the question right of those who attempted	<b>68.86</b>

[Video Solution](#)

#### Text Solution

From the table, we can see that A is not directly connected to B or C or D or F. However, for a person to reach any city from A, A must be directly connected to at least one of the other five cities. Hence, A must be directly connected to E and only E. For a person to reach B from A by passing through only one city, B must be connected to E (since E is the only city that A is directly connected to).

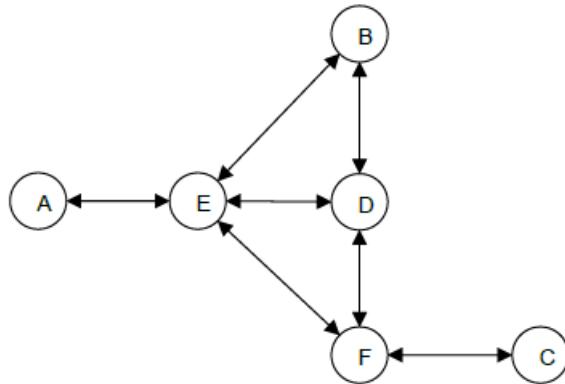
Similarly, D and F must also be connected to E. Also, to travel from A to C by passing through two cities in between, C must not be connected to E. (If C was connected to E, a person can go from A to C by passing through only one city, i.e., E)

B is directly connected to D. C is not connected to B and to go from B to C, a person has to pass through two cities. Hence, C cannot be connected to D (as B – C – D must not be possible).

C is not directly connected to A or B or D or E. Hence, C must be directly connected to F.

To travel from D to C, a person has to pass through only one city. However, with the routes that we have determined till now, to go from D to C a person has to go through E and F. For a person to pass through only one city to go from D to C, D and F must be connected. In this case, a person can from D to F to C.

The following diagram provides the network of routes between the six cities:



D and F are directly connected. B and D are also directly connected. Hence, (ii) and (iii) are directly connected.

undefined

**DIRECTIONS** for questions 1 to 4: Answer the questions on the basis of the information given below.

Six cities, A through F, are connected by certain two-way roads, such that any of the six cities can be reached from any of the other cities, using these roads, either directly or after passing through some of the other cities. The following table provides partial information about the minimum number of cities that one must pass through when travelling between any

pair of cities:

From	To					
	A	B	C	D	E	F
A	-	1	2	1		1
B		-	2	0		
C			-	1		
D				-		
E					-	
F						-

**Q2. DIRECTIONS** for questions 2 and 3: Type your answer in the text box provided below the question.

In how many ways can a person travel from C to D without passing through any city twice?

**You did not answer this question**

[Show Correct Answer](#)

#### Time spent / Accuracy Analysis

Time taken by you to answer this question	0
Avg. time spent on this question by all students	73
Difficulty Level	M
Avg. time spent on this question by students who got this question right	69
% of students who attempted this question	25.83
% of students who got the question right of those who attempted	55.01

[Video Solution](#)

#### Text Solution

From the table, we can see that A is not directly connected to B or C or D or F. However, for a person to reach any city from A, A must be directly connected to at least one of the other five cities. Hence, A must be directly connected to E and only E. For a person to reach B from A by passing through only one city, B must be connected to E (since E is the only city that A is directly connected to).

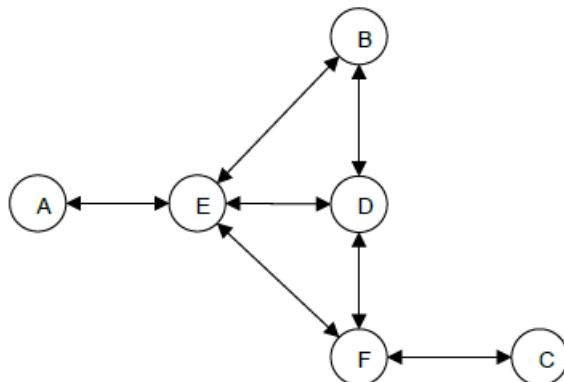
Similarly, D and F must also be connected to E. Also, to travel from A to C by passing through two cities in between, C must not be connected to E. (If C was connected to E, a person can go from A to C by passing through only one city, i.e., E)

B is directly connected to D. C is not connected to B and to go from B to C, a person has to pass through two cities. Hence, C cannot be connected to D (as B – C – D must not be possible).

C is not directly connected to A or B or D or E. Hence, C must be directly connected to F.

To travel from D to C, a person has to pass through only one city. However, with the routes that we have determined till now, to go from D to C a person has to go through E and F. For a person to pass through only one city to go from D to C, D and F must be connected. In this case, a person can from D to F to C.

The following diagram provides the network of routes between the six cities:



There are three possible routes between C and D: C – F – D, C – F – E – D, C – F – E – B – D.  
Ans: (3)

undefined

**DIRECTIONS** for questions 1 to 4: Answer the questions on the basis of the information given below.

Six cities, A through F, are connected by certain two-way roads, such that any of the six cities can be reached from any of the other cities, using these roads, either directly or after passing through some of the other cities. The following table provides partial information about the minimum number of cities that one must pass through when travelling between any pair of cities:

From	To					
	A	B	C	D	E	F
A	-	1	2	1		1
B		-	2	0		
C			-	1		
D				-		
E					-	
F						-

**Q3. DIRECTIONS** for questions 2 and 3: Type your answer in the text box provided below the question.

In how many ways can a person travel from A to C without passing through any city twice?

**You did not answer this question**

[Show Correct Answer](#)

**Time spent / Accuracy Analysis**

Time taken by you to answer this question	<b>0</b>
Avg. time spent on this question by all students	<b>48</b>
Difficulty Level	<b>M</b>
Avg. time spent on this question by students who got this question right	<b>51</b>
% of students who attempted this question	<b>25.22</b>
% of students who got the question right of those who attempted	<b>54.63</b>

[Video Solution](#)

[Text Solution](#)

From the table, we can see that A is not directly connected to B or C or D or F. However, for a person to reach any city from A, A must be directly connected to at least one of the other five cities. Hence, A must be directly connected to E and only E. For a person to reach B from A by passing through only one city, B must be connected to E (since E is the only city that A is directly connected to).

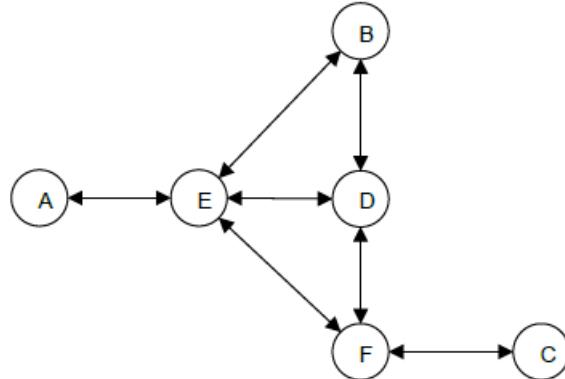
Similarly, D and F must also be connected to E. Also, to travel from A to C by passing through two cities in between, C must not be connected to E. (If C was connected to E, a person can go from A to C by passing through only one city, i.e., E)

B is directly connected to D. C is not connected to B and to go from B to C, a person has to pass through two cities. Hence, C cannot be connected to D (as B – C – D must not be possible).

C is not directly connected to A or B or D or E. Hence, C must be directly connected to F.

To travel from D to C, a person has to pass through only one city. However, with the routes that we have determined till now, to go from D to C a person has to go through E and F. For a person to pass through only one city to go from D to C, D and F must be connected. In this case, a person can go from D to F to C.

The following diagram provides the network of routes between the six cities:



There are three possible routes between A and C: A – E – F – C, A – E – D – F – C,  
A – E – B – D – F – C.

Ans: (3)

undefined

**DIRECTIONS** for questions 1 to 4: Answer the questions on the basis of the information given below.

Six cities, A through F, are connected by certain two-way roads, such that any of the six cities can be reached from any of the other cities, using these roads, either directly or after passing through some of the other cities. The following table

provides partial information about the minimum number of cities that one must pass through when travelling between any pair of cities:

From	To					
	A	B	C	D	E	F
A	-	1	2	1	1	
B		-	2	0		
C			-	1		
D				-		
E					-	
F						-

**Q4. DIRECTIONS** for question 4: Select the correct alternative from the given choices.

If two of the cities, say X and Y, which are presently not directly connected were to be connected by a new two-way road, as a result of which any city can be reached from any other city by passing through at most one city in between, which of the following pairs of cities could X and Y be?

- a) A and B
- b) **B and C**
- c) **C and E**
- d) **None of the above**

You did not answer this question

[Show Correct Answer](#)

#### Time spent / Accuracy Analysis

Time taken by you to answer this question	<b>0</b>
Avg. time spent on this question by all students	<b>101</b>
Difficulty Level	<b>M</b>
Avg. time spent on this question by students who got this question right	<b>103</b>
% of students who attempted this question	<b>16.02</b>
% of students who got the question right of those who attempted	<b>72.85</b>

[Video Solution](#)

[Text Solution](#)

From the table, we can see that A is not directly connected to B or C or D or F. However, for a person to reach any city from A, A must be directly connected to at least one of the other five cities. Hence, A must be directly connected to E and only E. For a person to reach B from A by passing through only one city, B must be connected to E (since E is the only city that A is directly connected to).

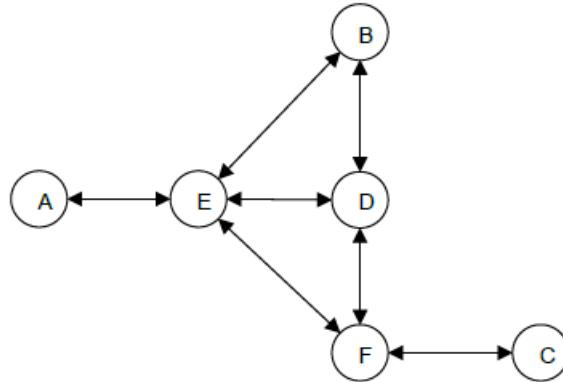
Similarly, D and F must also be connected to E. Also, to travel from A to C by passing through two cities in between, C must not be connected to E. (If C was connected to E, a person can go from A to C by passing through only one city, i.e., E)

B is directly connected to D. C is not connected to B and to go from B to C, a person has to pass through two cities. Hence, C cannot be connected to D (as B – C – D must not be possible).

C is not directly connected to A or B or D or E. Hence, C must be directly connected to F.

To travel from D to C, a person has to pass through only one city. However, with the routes that we have determined till now, to go from D to C a person has to go through E and F. For a person to pass through only one city to go from D to C, D and F must be connected. In this case, a person can from D to F to C.

The following diagram provides the network of routes between the six cities:



The only pairs of cities for which the minimum number of cities that one has to pass through in between is more than 1 are (A, C) and (B, C).  
By connecting E and C, the given condition will be satisfied. From the given options, the answer is option C.  
Choice (C)

undefined

**DIRECTIONS** for questions 5 to 8: Answer the questions on the basis of the information given below.

Seven children, Ankit, Balu, Chintu, Dev, Eswar, Farooq and Gautam, are standing in a line, from left to right, all facing the same direction. The seven children are wearing hats of four different colours among Red, Green, Blue and Yellow, such that at least one child is wearing a hat of each colour.

Pavan, a logician, was standing in front of the children, with his back to them, and asked each child to introduce himself and make statements about the positions and the colours of the hats of the children. He knew that there were seven children and that their hats were of the four different colours mentioned above, but did not know their relative positions and the exact colour of the hat that each child was wearing. They made the following statements, one after the other, in the order mentioned below, all of which are true:

Ankit: *I am Ankit. I am not standing at any extreme end and, among the children to the left of me, there are three children who are wearing Green hat.*

Balu: *I am Balu. I am wearing a Red hat, and the child standing two places to my left and the child standing two places to my right are both wearing Yellow hats. I am not standing adjacent to Ankit.*

Chintu: *I am Chintu. The child to Dev's immediate left is wearing a Green hat.*

Dev: *I am Dev. Eswar is neither to the left of Farooq nor is he adjacent to any child wearing a Red Hat.*

Eswar: *I am Eswar. Chintu is wearing a Green hat.*

Farooq: *I am Farooq. I am standing to the left of Balu but to the right of Gautam.*

Gautam: *I am Gautam. Ankit, who is wearing a Yellow hat, is standing to the immediate right of Chintu.*

Immediately after each child made his statement and before the next child made his statement, Pavan deduced all the possible information from the statement that each child made.

**Q5. DIRECTIONS** for questions 5 to 8: Select the correct alternative from the given choices.

Immediately after which child made his statement would Pavan have been able to deduce the colour of the hat of the child standing at the extreme right?

- a) Balu
- b) Chintu
- c) Dev Your answer is incorrect
- d) Farooq

Show Correct Answer

#### Time spent / Accuracy Analysis

Time taken by you to answer this question	<b>2056</b>
Avg. time spent on this question by all students	<b>765</b>
Difficulty Level	<b>D</b>
Avg. time spent on this question by students who got this question right	<b>702</b>
% of students who attempted this question	<b>36.86</b>
% of students who got the question right of those who attempted	<b>45.45</b>

[Video Solution](#)

[Text Solution](#)

Given the nature of the questions and the fact that Pavan deduced information in the order in which the statements were made, we have to analyse all possible information from each statement before moving on to the next.

A is not standing at any extreme end but there are at least three children standing to the left of him. This provides us with three possible cases:

Case 1				A			
	Green	Green	Green				
Case 2					A		
Case 3						A	

This is all that we can infer from A's statement.

B is wearing a Red hat. The child standing two places to his left and right are both wearing Yellow hats.

In Case 1, B cannot be in the first three positions (as B is wearing a Red hat). B cannot be in the fifth position because he cannot be adjacent to A. B cannot be in the sixth or seventh position because there will not be anyone two places to his right. Hence, Case 1 is not possible.

In Case 2, if B is anywhere in the third or fourth positions, then there will be one child to his left who is wearing a Yellow hat. This implies that there cannot be three children wearing Green hat to A's left. And B cannot be to A's right because there will not be anyone two places to his right. Hence, Case 2 is not possible.

In Case 3, if B is in the third position, the child in the first position and fifth position must both be wearing Yellow hats. However, in this case, there cannot be three children to A's left wearing Green hats. Hence, this is not possible. If B is in the fourth position, A must be wearing a Yellow hat and the child in the second position must be wearing a Yellow hat. B cannot be in the fifth position (as he is not adjacent to A). B also cannot be in seventh position as there will not be any one to his right. Hence, B must be in the fourth position. The child in the second position must be wearing Yellow. The children in the first, third and fifth positions must be wearing Green. The child in the seventh position must be wearing Blue hat.

Hence, after B made his statement, Pavan can deduce the following information:

			B		A	
Green	Yellow	Green	Red	Green	Yellow	Blue

From C's statement, D must be in the second position.

	D		B		A	
Green	Yellow	Green	Red	Green	Yellow	Blue

From D's statement, E cannot be at the extreme left (as he is to the right of F). E also cannot be at the third or fifth positions. Hence, E must be in the seventh position.

	D		B		A	E
Green	Yellow	Green	Red	Green	Yellow	Blue

E said that C was wearing a Green hat. However, C has to wear a Green hat based on the information from the above statements. Hence, Pavan cannot deduce anything from E's statement.

F was standing to the left of B. Hence, F can be first or third. However, F is standing to the right of G. Hence, G must be first, F must be third. C must be fifth.

After F's statement, Pavan will know the relative positions and colours of the hats of all the children. This is presented below:

G	D	F	B	C	A	E
Green	Yellow	Green	Red	Green	Yellow	Blue

Pavan would have deduced the colour of the hat of the child standing at the extreme right immediately after Balu made his statement. Choice (A)

undefined

**DIRECTIONS** for questions 5 to 8: Answer the questions on the basis of the information given below.

Seven children, Ankit, Balu, Chintu, Dev, Eswar, Farooq and Gautam, are standing in a line, from left to right, all facing the same direction. The seven children are wearing hats of four different colours among Red, Green, Blue and Yellow, such that at least one child is wearing a hat of each colour.

Pavan, a logician, was standing in front of the children, with his back to them, and asked each child to introduce himself and make statements about the positions and the colours of the hats of the children. He knew that there were seven children and that their hats were of the four different colours mentioned above, but did not know their relative positions and the exact colour of the hat that each child was wearing. They made the following statements, one after the other, in the order mentioned below, all of which are true:

Ankit: *I am Ankit. I am not standing at any extreme end and, among the children to the left of me, there are three children who are wearing Green hat.*

Balu: *I am Balu. I am wearing a Red hat, and the child standing two places to my left and the child standing two places to my right are both wearing Yellow hats. I am not standing adjacent to Ankit.*

Chintu: *I am Chintu. The child to Dev's immediate left is wearing a Green hat.*

Dev: *I am Dev. Eswar is neither to the left of Farooq nor is he adjacent to any child wearing a Red Hat.*

Eswar: *I am Eswar. Chintu is wearing a Green hat.*

Farooq: *I am Farooq. I am standing to the left of Balu but to the right of Gautam.*

Gautam: *I am Gautam. Ankit, who is wearing a Yellow hat, is standing to the immediate right of Chintu.*

Immediately after each child made his statement and before the next child made his statement, Pavan deduced all the possible information from the statement that each child made.

**Q6. DIRECTIONS** for questions 5 to 8: Select the correct alternative from the given choices.

Immediately after Dev made his statement, how many possibilities would have existed for the colour of the hat that Farooq was wearing?

- a) 2 Your answer is incorrect
- b) 1
- c) 3
- d) 4

**Show Correct Answer**

**Time spent / Accuracy Analysis**

Time taken by you to answer this question	219
Avg. time spent on this question by all students	119
Difficulty Level	D
Avg. time spent on this question by students who got this question right	120
% of students who attempted this question	32.08
% of students who got the question right of those who attempted	48.66

[Video Solution](#)

[Text Solution](#)

Given the nature of the questions and the fact that Pavan deduced information in the order in which the statements were made, we have to analyse all possible information from each statement before moving on to the next.

A is not standing at any extreme end but there are at least three children standing to the left of him. This provides us with three possible cases:

Case 1				A			
	Green	Green	Green				
Case 2					A		
Case 3						A	

This is all that we can infer from A's statement.

B is wearing a Red hat. The child standing two places to his left and right are both wearing Yellow hats.

In Case 1, B cannot be in the first three positions (as B is wearing a Red hat). B cannot be in the fifth position because he cannot be adjacent to A. B cannot be in the sixth or seventh position because there will not be anyone two places to his right. Hence, Case 1 is not possible.

In Case 2, if B is anywhere in the third or fourth positions, then there will be one child to his left who is wearing a Yellow hat. This implies that there cannot be three children wearing Green hat to A's left. And B cannot be to A's right because there will not be anyone two places to his right. Hence, Case 2 is not possible.

In Case 3, if B is in the third position, the child in the first position and fifth position must both be wearing Yellow hats. However, in this case, there cannot be three children to A's left wearing Green hats. Hence, this is not possible. If B is in the fourth position, A must be wearing a Yellow hat and the child in the second position must be wearing a Yellow hat. B cannot be in the fifth position (as he is not adjacent to A). B also cannot be in seventh position as there will not be any one to his right. Hence, B must be in the fourth position. The child in the second position must be wearing Yellow. The children in the first, third and fifth positions must be wearing Green. The child in the seventh position must be wearing Blue hat.

Hence, after B made his statement, Pavan can deduce the following information:

			B		A	
Green	Yellow	Green	Red	Green	Yellow	Blue

From C's statement, D must be in the second position.

	D		B		A	
Green	Yellow	Green	Red	Green	Yellow	Blue

From D's statement, E cannot be at the extreme left (as he is to the right of F). E also cannot be at the third or fifth positions. Hence, E must be in the seventh position.

	D		B		A	E
Green	Yellow	Green	Red	Green	Yellow	Blue

E said that C was wearing a Green hat. However, C has to wear a Green hat based on the information from the above statements. Hence, Pavan cannot deduce anything from E's statement.

F was standing to the left of B. Hence, F can be first or third. However, F is standing to the right of G. Hence, G must be first, F must be third. C must be fifth.

After F's statement, Pavan will know the relative positions and colours of the hats of all the children. This is presented below:

G	D	F	B	C	A	E
Green	Yellow	Green	Red	Green	Yellow	Blue

This is the possibility after Dev made his statement.

	D		B		A	E
Green	Yellow	Green	Red	Green	Yellow	Blue

Farooq must have been wearing a Green hat. Hence, only one possibility exists.

Choice (B)

undefined

**DIRECTIONS** for questions 5 to 8: Answer the questions on the basis of the information given below.

Seven children, Ankit, Balu, Chintu, Dev, Eswar, Farooq and Gautam, are standing in a line, from left to right, all facing the same direction. The seven children are wearing hats of four different colours among Red, Green, Blue and Yellow, such that at least one child is wearing a hat of each colour.

Pavan, a logician, was standing in front of the children, with his back to them, and asked each child to introduce himself and make statements about the positions and the colours of the hats of the children. He knew that there were seven children and that their hats were of the four different colours mentioned above, but did not know their relative positions and the exact colour of the hat that each child was wearing. They made the following statements, one after the other, in the order mentioned below, all of which are true:

Ankit: *I am Ankit. I am not standing at any extreme end and, among the children to the left of me, there are three children who are wearing Green hat.*

Balu: *I am Balu. I am wearing a Red hat, and the child standing two places to my left and the child standing two places to my right are both wearing Yellow hats. I am not standing adjacent to Ankit.*

Chintu: *I am Chintu. The child to Dev's immediate left is wearing a Green hat.*

Dev: *I am Dev. Eswar is neither to the left of Farooq nor is he adjacent to any child wearing a Red Hat.*

Eswar: *I am Eswar. Chintu is wearing a Green hat.*

Farooq: *I am Farooq. I am standing to the left of Balu but to the right of Gautam.*

Gautam: *I am Gautam. Ankit, who is wearing a Yellow hat, is standing to the immediate right of Chintu.*

Immediately after each child made his statement and before the next child made his statement, Pavan deduced all the possible information from the statement that each child made.

**Q7. DIRECTIONS** for questions 5 to 8: Select the correct alternative from the given choices.

Which of the following information would Pavan know only after Gautam makes his statement?

a) The colour of Ankit's hat Your answer is incorrect

b) The position in which Chintu is standing

c) The colour of Gautam's hat

d) None of the above

Show Correct Answer

Time spent / Accuracy Analysis

Time taken by you to answer this question	57
Avg. time spent on this question by all students	79
Difficulty Level	D
Avg. time spent on this question by students who got this question right	95
% of students who attempted this question	35.7
% of students who got the question right of those who attempted	32.12

[Video Solution](#)

[Text Solution](#)

Given the nature of the questions and the fact that Pavan deduced information in the order in which the statements were made, we have to analyse all possible information from each statement before moving on to the next.

A is not standing at any extreme end but there are at least three children standing to the left of him. This provides us with three possible cases:

Case 1				A			
	Green	Green	Green				
Case 2					A		
Case 3						A	

This is all that we can infer from A's statement.

B is wearing a Red hat. The child standing two places to his left and right are both wearing Yellow hats.

In Case 1, B cannot be in the first three positions (as B is wearing a Red hat). B cannot be in the fifth position because he cannot be adjacent to A. B cannot be in the sixth or seventh position because there will not be anyone two places to his right. Hence, Case 1 is not possible.

In Case 2, if B is anywhere in the third or fourth positions, then there will be one child to his left who is wearing a Yellow hat. This implies that there cannot be three children wearing Green hat to A's left. And B cannot be to A's right because there will not be anyone two places to his right. Hence, Case 2 is not possible.

In Case 3, if B is in the third position, the child in the first position and fifth position must both be wearing Yellow hats. However, in this case, there cannot be three children to A's left wearing Green hats. Hence, this is not possible. If B is in the fourth position, A must be wearing a Yellow hat and the child in the second position must be wearing a Yellow hat. B cannot be in the fifth position (as he is not adjacent to A). B also cannot be in seventh position as there will not be any one to his right. Hence, B must be in the fourth position. The child in the second position must be wearing Yellow. The children in the first, third and fifth positions must be wearing Green. The child in the seventh position must be wearing Blue hat.

Hence, after B made his statement, Pavan can deduce the following information:

			B		A	
Green	Yellow	Green	Red	Green	Yellow	Blue

From C's statement, D must be in the second position.

	D		B		A	
Green	Yellow	Green	Red	Green	Yellow	Blue

From D's statement, E cannot be at the extreme left (as he is to the right of F). E also cannot be at the third or fifth positions. Hence, E must be in the seventh position.

	D		B		A	E
Green	Yellow	Green	Red	Green	Yellow	Blue

E said that C was wearing a Green hat. However, C has to wear a Green hat based on the information from the above statements. Hence, Pavan cannot deduce anything from E's statement.

F was standing to the left of B. Hence, F can be first or third. However, F is standing to the right of G. Hence, G must be first, F must be third. C must be fifth.

After F's statement, Pavan will know the relative positions and colours of the hats of all the children. This is presented below:

G	D	F	B	C	A	E
Green	Yellow	Green	Red	Green	Yellow	Blue

This is the possibility after Dev made his statement.

	D		B		A	E
Green	Yellow	Green	Red	Green	Yellow	Blue

By the time Gautam makes his statement, Pavan will have all the information.

Choice (D)

undefined

**DIRECTIONS** for questions 5 to 8: Answer the questions on the basis of the information given below.

Seven children, Ankit, Balu, Chintu, Dev, Eswar, Farooq and Gautam, are standing in a line, from left to right, all facing the same direction. The seven children are wearing hats of four different colours among Red, Green, Blue and Yellow, such that at least one child is wearing a hat of each colour.

Pavan, a logician, was standing in front of the children, with his back to them, and asked each child to introduce himself and make statements about the positions and the colours of the hats of the children. He knew that there were seven children and that their hats were of the four different colours mentioned above, but did not know their relative positions and the exact colour of the hat that each child was wearing. They made the following statements, one after the other, in the order mentioned below, all of which are true:

Ankit: *I am Ankit. I am not standing at any extreme end and, among the children to the left of me, there are three children who are wearing Green hat.*

Balu: *I am Balu. I am wearing a Red hat, and the child standing two places to my left and the child standing two places to my right are both wearing Yellow hats. I am not standing adjacent to Ankit.*

Chintu: *I am Chintu. The child to Dev's immediate left is wearing a Green hat.*

Dev: *I am Dev. Eswar is neither to the left of Farooq nor is he adjacent to any child wearing a Red Hat.*

Eswar: *I am Eswar. Chintu is wearing a Green hat.*

Farooq: *I am Farooq. I am standing to the left of Balu but to the right of Gautam.*

Gautam: *I am Gautam. Ankit, who is wearing a Yellow hat, is standing to the immediate right of Chintu.*

Immediately after each child made his statement and before the next child made his statement, Pavan deduced all the possible information from the statement that each child made.

**Q8. DIRECTIONS** for questions 5 to 8: Select the correct alternative from the given choices.

Pavan would have been able to make the statement, "Gautam is not standing to the right of Dev" immediately after which of the following child made his statement?

a) **Farooq** Your answer is correct

b) **Balu**

c) **Chintu**

d) **Gautam**

**Time spent / Accuracy Analysis**

Time taken by you to answer this question	<b>94</b>
Avg. time spent on this question by all students	<b>80</b>
Difficulty Level	<b>D</b>
Avg. time spent on this question by students who got this question right	<b>78</b>
% of students who attempted this question	<b>29.74</b>
% of students who got the question right of those who attempted	<b>80.38</b>

[Video Solution](#)

[Text Solution](#)

Given the nature of the questions and the fact that Pavan deduced information in the order in which the statements were made, we have to analyse all possible information from each statement before moving on to the next.

A is not standing at any extreme end but there are at least three children standing to the left of him. This provides us with three possible cases:

Case 1				A			
	Green	Green	Green				
Case 2					A		
Case 3						A	

This is all that we can infer from A's statement.

B is wearing a Red hat. The child standing two places to his left and right are both wearing Yellow hats.

In Case 1, B cannot be in the first three positions (as B is wearing a Red hat). B cannot be in the fifth position because he cannot be adjacent to A. B cannot be in the sixth or seventh position because there will not be anyone two places to his right. Hence, Case 1 is not possible.

In Case 2, if B is anywhere in the third or fourth positions, then there will be one child to his left who is wearing a Yellow hat. This implies that there cannot be three children wearing Green hat to A's left. And B cannot be to A's right because there will not be anyone two places to his right. Hence, Case 2 is not possible.

In Case 3, if B is in the third position, the child in the first position and fifth position must both be wearing Yellow hats. However, in this case, there cannot be three children to A's left wearing Green hats. Hence, this is not possible. If B is in the fourth position, A must be wearing a Yellow hat and the child in the second position must be wearing a Yellow hat. B cannot be in the fifth position (as he is not adjacent to A). B also cannot be in seventh position as there will not be any one to his right. Hence, B must be in the fourth position. The child in the second position must be wearing Yellow. The children in the first, third and fifth positions must be wearing Green. The child in the seventh position must be wearing Blue hat.

Hence, after B made his statement, Pavan can deduce the following information:

			B		A	
Green	Yellow	Green	Red	Green	Yellow	Blue

From C's statement, D must be in the second position.

	D		B		A	
Green	Yellow	Green	Red	Green	Yellow	Blue

From D's statement, E cannot be at the extreme left (as he is to the right of F). E also cannot be at the third or fifth positions. Hence, E must be in the seventh position.

	D		B		A	E
Green	Yellow	Green	Red	Green	Yellow	Blue

E said that C was wearing a Green hat. However, C has to wear a Green hat based on the information from the above statements. Hence, Pavan cannot deduce anything from E's statement.

F was standing to the left of B. Hence, F can be first or third. However, F is standing to the right of G. Hence, G must be first, F must be third. C must be fifth.

After F's statement, Pavan will know the relative positions and colours of the hats of all the children. This is presented below:

G	D	F	B	C	A	E
Green	Yellow	Green	Red	Green	Yellow	Blue

This is the possibility after Dev made his statement.

	D		B		A	E
Green	Yellow	Green	Red	Green	Yellow	Blue

For Pavan to find that Gautam is not to the right of Dev, Farooq has to make his statement.

Choice (A)

undefined

**DIRECTIONS** for questions 9 to 12: Answer the questions on the basis of the information given below.

Anusha, a teacher, conducted an exam for five students, Pavan, Kiran, Gaurav, Sravan and Ram. Each student received a different mark in the exam and Anusha ranked the five students from 1 to 5 based on their marks in the exam such that a numerically lower rank is considered better than a numerically higher rank. However, before revealing their ranks to the five students, she asked each of them to guess the ranks of all the five students.

The following information is known about the ranks guessed by the five students:

- i. Except for Pavan, none of the students guessed that the rank of Gaurav would be better than that of Ram.
- ii. None of the students correctly guessed the actual rank of any student and no student guessed their rank to be worse than third.
- iii. Except for Kiran, none of the students guessed their own rank to be one, while no student guessed that the rank of Pavan will be better than third.
- iv. Except for Ram and Gaurav, none of the others guessed that Sravan would be ranked third, and Ram guessed Pavan's rank to be four.
- v. Except for Kiran, the rank of each student was guessed to be five by at least one student, while Sravan guessed the rank of Ram to be less than four.
- vi. Kiran guessed that Pavan would be ranked better than Gaurav, while Pavan guessed Gaurav would be ranked first.
- vii. Sravan guessed the rank of the student whose actual rank was five to be one, and the rank of the student whose actual rank was three to be five.

**Q9. DIRECTIONS** for questions 9 and 10: Select the correct alternative from the given choices.

Kiran guessed Gaurav's rank to be

- a) 2.
- b) 3.
- c) 4.
- d) 5.

You did not answer this question

Show Correct Answer

Time spent / Accuracy Analysis

Time taken by you to answer this question	31
Avg. time spent on this question by all students	549
Difficulty Level	VD
Avg. time spent on this question by students who got this question right	631

### Time spent / Accuracy Analysis

% of students who attempted this question **16.81**

% of students who got the question right of those who attempted **42**

[Video Solution](#)

### Text Solution

From (iii), Kiran guessed his rank to be one. From (iv), Ram and Gaurav guessed rank of Sravan to be three. Ram guessed Pavan's rank to be four.

Also, since no person guessed their rank to be worse than third (from (ii)) and no person guessed that the rank of Pavan will be better than third (from (iii)), Pavan would have guessed his rank to be three.

From (vi), Pavan guessed Gaurav would be ranked first.

Also, except for Kiran, every student was ranked five by at least one student. Since none of them correctly guessed the rank of any student, none of the others (except Kiran) can be actually ranked five. Hence, Kiran's actual rank must be five. Further, Pavan and Sravan were guessed to have the third rank by Pavan and Gaurav respectively. Hence, none of the two can have an actual rank of three. From (v), Ram was guessed to have a rank of 1 or 2 or 3 by Sravan. However, Sravan guessed the rank of the person whose actual rank was 3 to be 5 (from (vii)). Hence, Ram cannot be the person whose actual rank is 3. Hence, Gaurav must be ranked third.

From (vii), Sravan must have given rank one to Kiran and rank five to Gaurav. Since no one except Ram and Gaurav guessed Sravan's rank to be 3, Sravan would have guessed his rank to be 2.

Since Kiran was the only person to have guessed his rank to be 1, Ram must have guessed his rank to be 2.

Since Kiran's actual rank is 5, Ram must have guessed it to be 1. Ram must have guessed Gaurav's rank to be 5.

The following table lists the possible ranks based on the information analysed so far:

		Guessed by					Actual Rank
		Pavan	Kiran	Gaurav	Sravan	Ram	
Rank of	Pavan	3	3/4/5	4/5	4/3	4	2
	Kiran		1		1	1	5
	Gaurav	1		1/2	5	5	3
	Sravan			3	2	3	4/1
	Ram				3/4	2	1/4

From (i), except for Pavan, everyone guessed that Gaurav would be ranked worse than Ram. Hence, no one (except Pavan) can guess Gaurav's rank to be 1. Hence, Gaurav himself would have guessed his rank to be 2 and Ram's rank to be 1. Hence, Ram's actual rank must be 4. Sravan's actual rank must be 1. Sravan must have guessed Ram's rank to be 3 and Pavan's rank to be 4. Since Kiran's rank is 5, Gaurav could not have guessed Kiran's rank to be 5. Gaurav must have guessed Kiran's rank to be 4 and Pavan's rank to be 5.

Ram could not have guessed Kiran's rank to be 1 or 2 and Ram's rank to be 1 or 2. Hence, Ram must have guessed Gaurav's rank to be 5. And Ram must have guessed Kiran's rank to be 1.

Also, at least one person must have guessed Ram's rank to be five (from (v)). The only person who could have guessed this is Pavan (as everyone else ranked Ram better than Gaurav). Hence, Pavan must have guessed Ram's rank to be 5.

Also, at least one person must have guessed Sravan's rank to be 5 and this must be Kiran. Also, Kiran guessed Pavan's rank to be better than Gaurav's. Hence, Kiran must have guessed Pavan's rank to be 3, Gaurav's rank to be 4 and Ram's rank to be 2.

The following table provides the ranks guessed by each person and the actual ranks of each person:

		Guessed by					Actual Rank
		Pavan	Kiran	Gaurav	Sravan	Ram	
Rank of	Pavan	3	3	5	4	4	2
	Kiran	4/2	1	4	1	1	5
	Gaurav	1	4	2	5	5	3
	Sravan	2/4	5	3	2	3	1
	Ram	5	2	1	3	2	4

Kiran guessed Gaurav's rank to be 4.

Choice (C)

undefined

**DIRECTIONS** for questions 9 to 12: Answer the questions on the basis of the information given below.

Anusha, a teacher, conducted an exam for five students, Pavan, Kiran, Gaurav, Sravan and Ram. Each student received a different mark in the exam and Anusha ranked the five students from 1 to 5 based on their marks in the exam such that a numerically lower rank is considered better than a numerically higher rank. However, before revealing their ranks to the five students, she asked each of them to guess the ranks of all the five students.

The following information is known about the ranks guessed by the five students:

- i. Except for Pavan, none of the students guessed that the rank of Gaurav would be better than that of Ram.
- ii. None of the students correctly guessed the actual rank of any student and no student guessed their rank to be worse than third.
- iii. Except for Kiran, none of the students guessed their own rank to be one, while no student guessed that the rank of Pavan will be better than third.
- iv. Except for Ram and Gaurav, none of the others guessed that Sravan would be ranked third, and Ram guessed Pavan's rank to be four.
- v. Except for Kiran, the rank of each student was guessed to be five by at least one student, while Sravan guessed the rank of Ram to be less than four.
- vi. Kiran guessed that Pavan would be ranked better than Gaurav, while Pavan guessed Gaurav would be ranked first.
- vii. Sravan guessed the rank of the student whose actual rank was five to be one, and the rank of the student whose actual rank was three to be five.

**Q10. DIRECTIONS** for questions 9 and 10: Select the correct alternative from the given choices.

Which student was actually ranked first?

- a) **Pavan**
- b) **Sravan**
- c) **Ram**
- d) **Cannot be determined**

You did not answer this question

Show Correct Answer

**Time spent / Accuracy Analysis**

Time taken by you to answer this question	<b>0</b>
Avg. time spent on this question by all students	<b>103</b>
Difficulty Level	<b>VD</b>
Avg. time spent on this question by students who got this question right	<b>126</b>
% of students who attempted this question	<b>13.42</b>
% of students who got the question right of those who attempted	<b>22.76</b>

[Video Solution](#)[Text Solution](#)

From (iii), Kiran guessed his rank to be one. From (iv), Ram and Gaurav guessed rank of Sravan to be three. Ram guessed Pavan's rank to be four.

Also, since no person guessed their rank to be worse than third (from (ii)) and no person guessed that the rank of Pavan will be better than third (from (iii)), Pavan would have guessed his rank to be three.

From (vi), Pavan guessed Gaurav would be ranked first.

Also, except for Kiran, every student was ranked five by at least one student. Since none of them correctly guessed the rank of any student, none of the others (except Kiran) can be actually ranked five. Hence, Kiran's actual rank must be five. Further, Pavan and Sravan were guessed to have the third rank by Pavan and Gaurav respectively. Hence, none of the two can have an actual rank of three. From (v), Ram was guessed to have a rank of 1 or 2 or 3 by Sravan. However, Sravan guessed the rank of the person whose actual rank was 3 to be 5 (from (vii)). Hence, Ram cannot be the person whose actual rank is 3. Hence, Gaurav must be ranked third.

From (vii), Sravan must have given rank one to Kiran and rank five to Gaurav. Since no one except Ram and Gaurav guessed Sravan's rank to be 3, Sravan would have guessed his rank to be 2.

Since Kiran was the only person to have guessed his rank to be 1, Ram must have guessed his rank to be 2.

Since Kiran's actual rank is 5. Ram must have guessed it to be 1. Ram must have guessed Gaurav's rank to be 5.

The following table lists the possible ranks based on the information analysed so far:

		Guessed by					Actual Rank
		Pavan	Kiran	Gaurav	Sravan	Ram	
Rank of	Pavan	3	3/4/5	4/5	4/3	4	2
	Kiran		1		1	1	5
	Gaurav	1		1/2	5	5	3
	Sravan			3	2	3	4/1
	Ram				3/4	2	1/4

From (i), except for Pavan, everyone guessed that Gaurav would be ranked worse than Ram. Hence, no one (except Pavan) can guess Gaurav's rank to be 1. Hence, Gaurav himself would have guessed his rank to be 2 and Ram's rank to be 1. Hence, Ram's actual rank must be 4. Sravan's actual rank must be 1. Sravan must have guessed Ram's rank to be 3 and Pavan's rank to be 4. Since Kiran's rank is 5, Gaurav could not have guessed Kiran's rank to be 5. Gaurav must have guessed Kiran's rank to be 4 and Pavan's rank to be 5.

Ram could not have guessed Kiran's rank to be 1 or 2 and Ram's rank to be 1 or 2. Hence, Ram must have guessed Gaurav's rank to be 5. And Ram must have guessed Kiran's rank to be 1.

Also, at least one person must have guessed Ram's rank to be five (from (v)). The only person who could have guessed this is Pavan (as everyone else ranked Ram better than Gaurav). Hence, Pavan must have guessed Ram's rank to be 5.

Also, at least one person must have guessed Sravan's rank to be 5 and this must be Kiran. Also, Kiran guessed Pavan's rank to be better than Gaurav's. Hence, Kiran must have guessed Pavan's rank to be 3, Gaurav's rank to be 4 and Ram's rank to be 2.

The following table provides the ranks guessed by each person and the actual ranks of each person:

		Guessed by					Actual Rank
		Pavan	Kiran	Gaurav	Sravan	Ram	
Rank of	Pavan	3	3	5	4	4	2
	Kiran	4/2	1	4	1	1	5
	Gaurav	1	4	2	5	5	3
	Sravan	2/4	5	3	2	3	1
	Ram	5	2	1	3	2	4

Sravan was actually ranked first.

Choice (B)

undefined

**DIRECTIONS** for questions 9 to 12: Answer the questions on the basis of the information given below.

Anusha, a teacher, conducted an exam for five students, Pavan, Kiran, Gaurav, Sravan and Ram. Each student received a different mark in the exam and Anusha ranked the five students from 1 to 5 based on their marks in the exam such that a numerically lower rank is considered better than a numerically higher rank. However, before revealing their ranks to the five students, she asked each of them to guess the ranks of all the five students.

The following information is known about the ranks guessed by the five students:

- i. Except for Pavan, none of the students guessed that the rank of Gaurav would be better than that of Ram.
- ii. None of the students correctly guessed the actual rank of any student and no student guessed their rank to be worse than third.
- iii. Except for Kiran, none of the students guessed their own rank to be one, while no student guessed that the rank of Pavan will be better than third.
- iv. Except for Ram and Gaurav, none of the others guessed that Sravan would be ranked third, and Ram guessed Pavan's rank to be four.
- v. Except for Kiran, the rank of each student was guessed to be five by at least one student, while Sravan guessed the rank of Ram to be less than four.
- vi. Kiran guessed that Pavan would be ranked better than Gaurav, while Pavan guessed Gaurav would be ranked first.
- vii. Sravan guessed the rank of the student whose actual rank was five to be one, and the rank of the student whose actual rank was three to be five.

**Q11. DIRECTIONS** for questions 11 and 12: Type your answer in the text box provided below the question.

What is the rank of Ram as guessed by Pavan?

**You did not answer this question**

[Show Correct Answer](#)

**Time spent / Accuracy Analysis**

Time taken by you to answer this question	0
Avg. time spent on this question by all students	79
Difficulty Level	VD
Avg. time spent on this question by students who got this question right	69
% of students who attempted this question	19.09
% of students who got the question right of those who attempted	29.39

[Video Solution](#)

[Text Solution](#)

From (iii), Kiran guessed his rank to be one. From (iv), Ram and Gaurav guessed rank of Sravan to be three. Ram guessed Pavan's rank to be four.

Also, since no person guessed their rank to be worse than third (from (ii)) and no person guessed that the rank of Pavan will be better than third (from (iii)), Pavan would have guessed his rank to be three.

From (vi), Pavan guessed Gaurav would be ranked first.

Also, except for Kiran, every student was ranked five by at least one student. Since none of them correctly guessed the rank of any student, none of the others (except Kiran) can be actually ranked five. Hence, Kiran's actual rank must be five. Further, Pavan and Sravan were guessed to have the third rank by Pavan and Gaurav respectively. Hence, none of the two can have an actual rank of three. From (v), Ram was guessed to have a rank of 1 or 2 or 3 by Sravan. However, Sravan guessed the rank of the person whose actual rank was 3 to be 5 (from (vii)). Hence, Ram cannot be the person whose actual rank is 3. Hence, Gaurav must be ranked third.

From (vii), Sravan must have given rank one to Kiran and rank five to Gaurav. Since no one except Ram and Gaurav guessed Sravan's rank to be 3, Sravan would have guessed his rank to be 2.

Since Kiran was the only person to have guessed his rank to be 1, Ram must have guessed his rank to be 2.

Since Kiran's actual rank is 5. Ram must have guessed it to be 1. Ram must have guessed Gaurav's rank to be 5.

The following table lists the possible ranks based on the information analysed so far:

		Guessed by					Actual Rank
Rank of	Pavan	Pavan	Kiran	Gaurav	Sravan	Ram	
	Pavan	3	3/4/5	4/5	4/3	4	2
	Kiran		1		1	1	5
	Gaurav	1		1/2	5	5	3
	Sravan			3	2	3	4/1
	Ram				3/4	2	1/4

From (i), except for Pavan, everyone guessed that Gaurav would be ranked worse than Ram. Hence, no one (except Pavan) can guess Gaurav's rank to be 1. Hence, Gaurav himself would have guessed his rank to be 2 and Ram's rank to be 1. Hence, Ram's actual rank must be 4. Sravan's actual rank must be 1. Sravan must have guessed Ram's rank to be 3 and Pavan's rank to be 4. Since Kiran's rank is 5, Gaurav could not have guessed Kiran's rank to be 5. Gaurav must have guessed Kiran's rank to be 4 and Pavan's rank to be 5.

Ram could not have guessed Kiran's rank to be 1 or 2 and Ram's rank to be 1 or 2. Hence, Ram must have guessed Gaurav's rank to be 5. And Ram must have guessed Kiran's rank to be 1.

Also, at least one person must have guessed Ram's rank to be five (from (v)). The only person who could have guessed this is Pavan (as everyone else ranked Ram better than Gaurav). Hence, Pavan must have guessed Ram's rank to be 5.

Also, at least one person must have guessed Sravan's rank to be 5 and this must be Kiran. Also, Kiran guessed Pavan's rank to be better than Gaurav's. Hence, Kiran must have guessed Pavan's rank to be 3, Gaurav's rank to be 4 and Ram's rank to be 2.

The following table provides the ranks guessed by each person and the actual ranks of each person:

		Guessed by					Actual Rank
Rank of	Pavan	Pavan	Kiran	Gaurav	Sravan	Ram	
	Pavan	3	3	5	4	4	2
	Kiran	4/2	1	4	1	1	5
	Gaurav	1	4	2	5	5	3
	Sravan	2/4	5	3	2	3	1
	Ram	5	2	1	3	2	4

Pavan guessed Ram's rank to be 5.

Ans: (5)

**DIRECTIONS** for questions 9 to 12: Answer the questions on the basis of the information given below.

Anusha, a teacher, conducted an exam for five students, Pavan, Kiran, Gaurav, Sravan and Ram. Each student received a different mark in the exam and Anusha ranked the five students from 1 to 5 based on their marks in the exam such that a numerically lower rank is considered better than a numerically higher rank. However, before revealing their ranks to the five students, she asked each of them to guess the ranks of all the five students.

The following information is known about the ranks guessed by the five students:

- i. Except for Pavan, none of the students guessed that the rank of Gaurav would be better than that of Ram.
- ii. None of the students correctly guessed the actual rank of any student and no student guessed their rank to be worse than third.
- iii. Except for Kiran, none of the students guessed their own rank to be one, while no student guessed that the rank of Pavan will be better than third.
- iv. Except for Ram and Gaurav, none of the others guessed that Sravan would be ranked third, and Ram guessed Pavan's rank to be four.
- v. Except for Kiran, the rank of each student was guessed to be five by at least one student, while Sravan guessed the rank of Ram to be less than four.
- vi. Kiran guessed that Pavan would be ranked better than Gaurav, while Pavan guessed Gaurav would be ranked first.
- vii. Sravan guessed the rank of the student whose actual rank was five to be one, and the rank of the student whose actual rank was three to be five.

**Q12. DIRECTIONS** for questions 11 and 12: Type your answer in the text box provided below the question.

How many students guessed the rank of Kiran to be 1?

**You did not answer this question** [Show Correct Answer](#)

**Time spent / Accuracy Analysis**

Time taken by you to answer this question	2
Avg. time spent on this question by all students	53
Difficulty Level	VD
Avg. time spent on this question by students who got this question right	61
% of students who attempted this question	19.24
% of students who got the question right of those who attempted	31.25

[Video Solution](#)

[Text Solution](#)

From (iii), Kiran guessed his rank to be one. From (iv), Ram and Gaurav guessed rank of Sravan to be three. Ram guessed Pavan's rank to be four.

Also, since no person guessed their rank to be worse than third (from (ii)) and no person guessed that the rank of Pavan will be better than third (from (iii)), Pavan would have guessed his rank to be three.

From (vi), Pavan guessed Gaurav would be ranked first.

Also, except for Kiran, every student was ranked five by at least one student. Since none of them correctly guessed the rank of any student, none of the others (except Kiran) can be actually ranked five. Hence, Kiran's actual rank must be five. Further, Pavan and Sravan were guessed to have the third rank by Pavan and Gaurav respectively. Hence, none of the two can have an actual rank of three. From (v), Ram was guessed to have a rank of 1 or 2 or 3 by Sravan. However, Sravan guessed the rank of the person whose actual rank was 3 to be 5 (from (vii)). Hence, Ram cannot be the person whose actual rank is 3. Hence, Gaurav must be ranked third.

From (vii), Sravan must have given rank one to Kiran and rank five to Gaurav. Since no one except Ram and Gaurav guessed Sravan's rank to be 3, Sravan would have guessed his rank to be 2.

Since Kiran was the only person to have guessed his rank to be 1, Ram must have guessed his rank to be 2.

Since Kiran's actual rank is 5. Ram must have guessed it to be 1. Ram must have guessed Gaurav's rank to be 5.

The following table lists the possible ranks based on the information analysed so far:

		Guessed by					Actual Rank
Rank of	Pavan	3	3/4/5	4/5	4/3	4	
	Kiran		1		1	1	5
	Gaurav	1		1/2	5	5	3
	Sravan			3	2	3	4/1
	Ram				3/4	2	1/4

From (i), except for Pavan, everyone guessed that Gaurav would be ranked worse than Ram. Hence, no one (except Pavan) can guess Gaurav's rank to be 1. Hence, Gaurav himself would have guessed his rank to be 2 and Ram's rank to be 1. Hence, Ram's actual rank must be 4. Sravan's actual rank must be 1. Sravan must have guessed Ram's rank to be 3 and Pavan's rank to be 4. Since Kiran's rank is 5, Gaurav could not have guessed Kiran's rank to be 5. Gaurav must have guessed Kiran's rank to be 4 and Pavan's rank to be 5.

Ram could not have guessed Kiran's rank to be 1 or 2 and Ram's rank to be 1 or 2. Hence, Ram must have guessed Gaurav's rank to be 5. And Ram must have guessed Kiran's rank to be 1.

Also, at least one person must have guessed Ram's rank to be five (from (v)). The only person who could have guessed this is Pavan (as everyone else ranked Ram better than Gaurav). Hence, Pavan must have guessed Ram's rank to be 5.

Also, at least one person must have guessed Sravan's rank to be 5 and this must be Kiran. Also, Kiran guessed Pavan's rank to be better than Gaurav's. Hence, Kiran must have guessed Pavan's rank to be 3, Gaurav's rank to be 4 and Ram's rank to be 2.

The following table provides the ranks guessed by each person and the actual ranks of each person:

		Guessed by					Actual Rank
Rank of	Pavan	3	3	5	4	4	
	Kiran	4/2	1	4	1	1	5
	Gaurav	1	4	2	5	5	3
	Sravan	2/4	5	3	2	3	1
	Ram	5	2	1	3	2	4

Three students, Kiran, Sravan and Ram, guessed Kiran's rank to be 1.

Ans: (3)

**DIRECTIONS** for questions 13 to 16: Answer the questions on the basis of the information given below.

Harish, a manager at an FMCG company, conducted a survey to find the most preferred brand of soaps among Luck, Smenthol and Tears. The survey had 240 respondents and each respondent must vote for at least one and at most three brands as his preferred brand. After the survey, Harish found that Luck received twice the number of votes as Smenthol, which, in turn, received forty votes more than Tears. Further, the number of respondents who voted for exactly one, exactly two and all three brands are in the ratio 2 : 3 : 1.

**Q13. DIRECTIONS** for questions 13 and 14: Type your answer in the text box provided below the question.

What is the total number of votes that Luck received?

**Your Answer:** 192  **Your answer is incorrect**

Show Correct Answer

#### Time spent / Accuracy Analysis

Time taken by you to answer this question	132
Avg. time spent on this question by all students	383
Difficulty Level	M
Avg. time spent on this question by students who got this question right	371
% of students who attempted this question	37.33
% of students who got the question right of those who attempted	52.38

[Video Solution](#)

#### Text Solution

Let the adjacent Venn diagram represents the number of respondents who voted for each brand.

Given that Luck received twice the number of votes as Smenthol, which, in turn, received forty votes more than Tears.

Let  $x$  be the number of votes that Tears received. Hence,  $c + e + f + g = x$

Smenthol would have received  $x + 40$  votes  $\Rightarrow b + d + g + f = x + 40$

Luck would have received  $2x + 80$  votes  $\Rightarrow a + d + e + g = 2x + 80$

Adding all the three, we get  $a + b + c + 2(d + e + f) + 3g = 4x + 120$

Also, the number of respondents who voted for one, two and three brands are in the ratio 2:3:1.

Since the total number of respondents is 240,

the number of respondents who voted for one brand =  $a + b + c = 80$  ----- (1)

The number of respondents who voted for two brands =  $d + e + f = 120$  ----- (2)

The number of respondents who voted for three brands =  $g = 40$  ----- (3)

Combining these with the above equation,  $80 + 2 \times 120 + 3 \times 40 = 4x + 120 \Rightarrow x = 80$

$c + e + f = x = 80$

$\Rightarrow c + e + f = 40$  ----- (4)

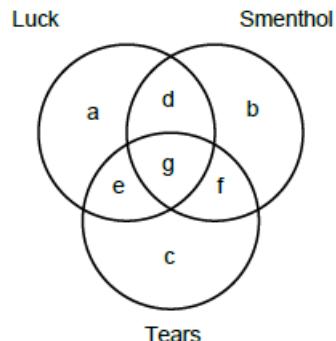
$b + d + f = 80$  ----- (5)

$a + d + e = 200$  ----- (6)

From (1) and (2),  $a + b + c + d + e + f = 200$

However, from (6),  $a + d + e = 200 \Rightarrow b + c + f = 0 \Rightarrow b = 0; c = 0; f = 0$ .

From (5),  $d = 80; e = 40$  and  $a = 80$ .



**Note:** After finding the value of  $x$ , we can see that the number of respondents that voted for Luck is  $2x + 80 = 240$ , which is the same as the total number of respondents. From this, we can infer that every respondent voted for Luck (but not necessarily Luck alone). Hence, none of them voted for only Smenthol OR only Tears OR only Tears and Smenthol. Therefore,  $b = f = c = 0$ .

Total number of votes that Luck received =  $2x + 80 = 240$ .

Ans: (240)

**DIRECTIONS** for questions 13 to 16: Answer the questions on the basis of the information given below.

Harish, a manager at an FMCG company, conducted a survey to find the most preferred brand of soaps among Luck, Smenthol and Tears. The survey had 240 respondents and each respondent must vote for at least one and at most three brands as his preferred brand. After the survey, Harish found that Luck received twice the number of votes as Smenthol, which, in turn, received forty votes more than Tears. Further, the number of respondents who voted for exactly one, exactly two and all three brands are in the ratio 2 : 3 : 1.

**Q14. DIRECTIONS** for questions 13 and 14: Type your answer in the text box provided below the question.

How many respondents voted for Luck but not Tears?

**You did not answer this question** Show Correct Answer

**Time spent / Accuracy Analysis**

Time taken by you to answer this question	<b>112</b>
Avg. time spent on this question by all students	<b>179</b>
Difficulty Level	<b>M</b>
Avg. time spent on this question by students who got this question right	<b>197</b>
% of students who attempted this question	<b>23.23</b>
% of students who got the question right of those who attempted	<b>42.98</b>

[Video Solution](#)

**Text Solution**

Let the adjacent Venn diagram represents the number of respondents who voted for each brand.

Given that Luck received twice the number of votes as Smenthol, which, in turn, received forty votes more than Tears.

Let  $x$  be the number of votes that Tears received. Hence,  $c + e + f + g = x$

Smenthol would have received  $x + 40$  votes  $\Rightarrow b + d + g + f = x + 40$

Luck would have received  $2x + 80$  votes  $\Rightarrow a + d + e + g = 2x + 80$

Adding all the three, we get  $a + b + c + 2(d + e + f) + 3g = 4x + 120$

Also, the number of respondents who voted for one, two and three brands are in the ratio 2:3:1.

Since the total number of respondents is 240,

the number of respondents who voted for one brand  $= a + b + c = 80$  ----- (1)

The number of respondents who voted for two brands  $= d + e + f = 120$  ----- (2)

The number of respondents who voted for three brands  $= g = 40$  ----- (3)

Combining these with the above equation,  $80 + 2 \times 120 + 3 \times 40 = 4x + 120 \Rightarrow x = 80$

$$c + e + f + g = x = 80$$

$$\Rightarrow c + e + f = 40 \quad \text{----- (4)}$$

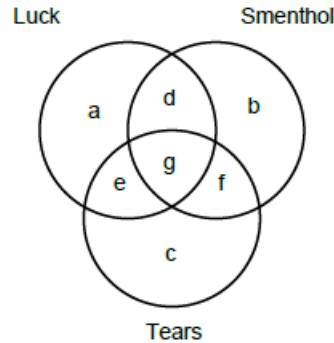
$$b + d + f = 80 \quad \text{----- (5)}$$

$$a + d + e = 200 \quad \text{----- (6)}$$

From (1) and (2),  $a + b + c + d + e + f = 200$

However, from (6),  $a + d + e = 200 \Rightarrow b + c + f = 0 \Rightarrow b = 0; c = 0; f = 0$ .

From (5),  $d = 80; e = 40$  and  $a = 80$ .



**Note:** After finding the value of  $x$ , we can see that the number of respondents that voted for Luck is  $2x + 80 = 240$ , which is the same as the total number of respondents. From this, we can infer that every respondent voted for Luck (but not necessarily Luck alone). Hence, none of them voted for only Smenthol OR only Tears OR only Tears and Smenthol. Therefore,  $b = f = c = 0$ .

The number of respondents who voted for Luck but not Tears  $= a + d = 160$

Ans: (160)

undefined

**DIRECTIONS** for questions 13 to 16: Answer the questions on the basis of the information given below.

Harish, a manager at an FMCG company, conducted a survey to find the most preferred brand of soaps among Luck, Smenthol and Tears. The survey had 240 respondents and each respondent must vote for at least one and at most three brands as his preferred brand. After the survey, Harish found that Luck received twice the number of votes as Smenthol, which, in turn, received forty votes more than Tears. Further, the number of respondents who voted for exactly one, exactly two and all three brands are in the ratio 2 : 3 : 1.

**Q15. DIRECTIONS** for questions 15 and 16: Select the correct alternative from the given choices.

How many respondents voted for both Luck and Smenthol but not Tears?

- a) 80
- b) 40
- c) 110
- d) 130

You did not answer this question

[Show Correct Answer](#)

**Time spent / Accuracy Analysis**

Time taken by you to answer this question	<b>95</b>
Avg. time spent on this question by all students	<b>109</b>
Difficulty Level	<b>M</b>
Avg. time spent on this question by students who got this question right	<b>99</b>
% of students who attempted this question	<b>19.08</b>
% of students who got the question right of those who attempted	<b>59.91</b>

[Video Solution](#)

[Text Solution](#)

Let the adjacent Venn diagram represents the number of respondents who voted for each brand.

Given that Luck received twice the number of votes as Smenthol, which, in turn, received forty votes more than Tears.

Let  $x$  be the number of votes that Tears received. Hence,  $c + e + f + g = x$

Smenthol would have received  $x + 40$  votes  $\Rightarrow b + d + g + f = x + 40$

Luck would have received  $2x + 80$  votes  $\Rightarrow a + d + e + g = 2x + 80$

Adding all the three, we get  $a + b + c + 2(d + e + f) + 3g = 4x + 120$

Also, the number of respondents who voted for one, two and three brands are in the ratio 2:3:1.

Since the total number of respondents is 240,

the number of respondents who voted for one brand  $= a + b + c = 80 \quad \dots \dots \dots (1)$

The number of respondents who voted for two brands  $= d + e + f = 120 \quad \dots \dots \dots (2)$

The number of respondents who voted for three brands  $= g = 40 \quad \dots \dots \dots (3)$

Combining these with the above equation,  $80 + 2 \times 120 + 3 \times 40 = 4x + 120 \Rightarrow x = 80$

$$c + e + f + g = x = 80$$

$$\Rightarrow c + e + f = 40 \quad \dots \dots \dots (4)$$

$$b + d + f = 80 \quad \dots \dots \dots (5)$$

$$a + d + e = 200 \quad \dots \dots \dots (6)$$

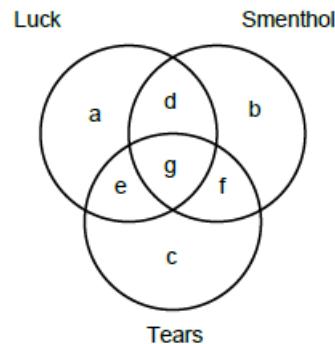
From (1) and (2),  $a + b + c + d + e + f = 200$

However, from (6),  $a + d + e = 200 \Rightarrow b + c + f = 0 \Rightarrow b = 0; c = 0; f = 0$ .

From (5),  $d = 80; e = 40$  and  $a = 80$ .

**Note:** After finding the value of  $x$ , we can see that the number of respondents that voted for Luck is  $2x + 80 = 240$ , which is the same as the total number of respondents. From this, we can infer that every respondent voted for Luck (but not necessarily Luck alone). Hence, none of them voted for only Smenthol OR only Tears OR only Tears and Smenthol. Therefore,  $b = f = c = 0$ .

The number of respondents who voted for both Luck and Smenthol but not Tears  $= d = 80$ . Choice (A)



undefined

**DIRECTIONS** for questions 13 to 16: Answer the questions on the basis of the information given below.

Harish, a manager at an FMCG company, conducted a survey to find the most preferred brand of soaps among Luck, Smenthol and Tears. The survey had 240 respondents and each respondent must vote for at least one and at most three brands as his preferred brand. After the survey, Harish found that Luck received twice the number of votes as Smenthol, which, in turn, received forty votes more than Tears. Further, the number of respondents who voted for exactly one, exactly two and all three brands are in the ratio 2 : 3 : 1.

**Q16. DIRECTIONS** for questions 15 and 16: Select the correct alternative from the given choices.

What is the maximum possible number of respondents who could have voted only for Tears?

- a) 60
- b) 50
- c) 0
- d) None of the above

You did not answer this question

Show Correct Answer

#### Time spent / Accuracy Analysis

Time taken by you to answer this question	11
Avg. time spent on this question by all students	52
Difficulty Level	M
Avg. time spent on this question by students who got this question right	49
% of students who attempted this question	19.73
% of students who got the question right of those who attempted	60.53

[Video Solution](#)

#### Text Solution

Let the adjacent Venn diagram represents the number of respondents who voted for each brand.

Given that Luck received twice the number of votes as Smenthol, which, in turn, received forty votes more than Tears.

Let  $x$  be the number of votes that Tears received. Hence,  $c + e + f + g = x$   
Smenthol would have received  $x + 40$  votes  $\Rightarrow b + d + g + f = x + 40$

Luck would have received  $2x + 80$  votes  $\Rightarrow a + d + e + g = 2x + 80$

Adding all the three, we get  $a + b + c + 2(d + e + f) + 3g = 4x + 120$

Also, the number of respondents who voted for one, two and three brands are in the ratio 2:3:1.

Since the total number of respondents is 240,  
the number of respondents who voted for one brand =  $a + b + c = 80$  ..... (1)  
The number of respondents who voted for two brands =  $d + e + f = 120$  ..... (2)

The number of respondents who voted for three brands =  $g = 40$  ..... (3)

Combining these with the above equation,  $80 + 2 \times 120 + 3 \times 40 = 4x + 120 \Rightarrow x = 80$

$$c + e + f + g = x = 80$$

$$\Rightarrow c + e + f = 40 \quad \dots \dots \dots (4)$$

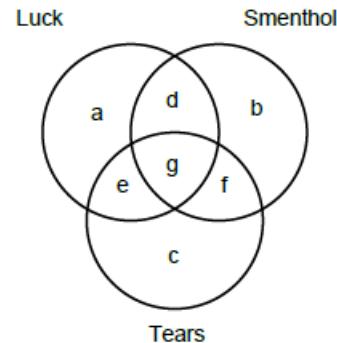
$$b + d + f = 80 \quad \dots \dots \dots (5)$$

$$a + d + e = 200 \quad \dots \dots \dots (6)$$

From (1) and (2),  $a + b + c + d + e + f = 200$

However, from (6),  $a + d + e = 200 \Rightarrow b + c + f = 0 \Rightarrow b = 0; c = 0; f = 0$ .

From (5),  $d = 80; e = 40$  and  $a = 80$ .

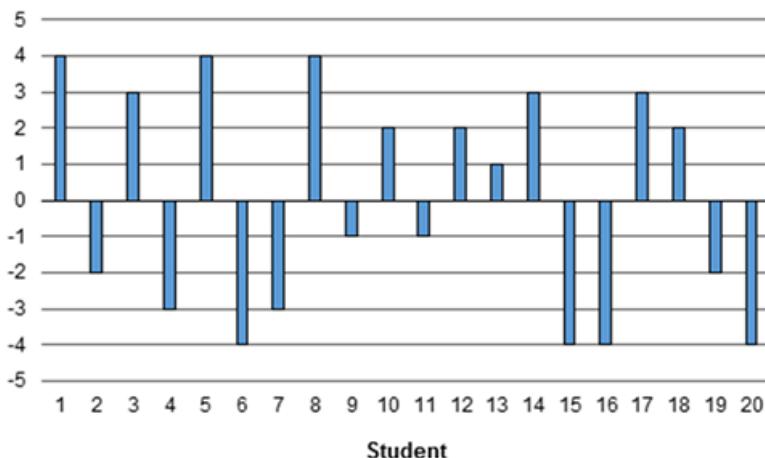


**Note:** After finding the value of  $x$ , we can see that the number of respondents that voted for Luck is  $2x + 80 = 240$ , which is the same as the total number of respondents. From this, we can infer that every respondent voted for Luck (but not necessarily Luck alone). Hence, none of them voted for only Smenthol OR only Tears OR only Tears and Smenthol. Therefore,  $b = f = c = 0$ .

undefined

**DIRECTIONS** for questions 17 to 20: Answer the questions on the basis of the information given below.

Parthiv, a professor in a college, conducted a test for the twenty students in his class. Each student scored at least 10 and at most 20 marks in the test and the score of each student was an integer. The bar graph given below provides, for each student, the value of the average marks scored by the twenty students in the test minus the score of that student in the test.



**Q17. DIRECTIONS** for questions 17 to 20: Select the correct alternative from the given choices.

Which of the following can be the number of students who scored exactly 13 marks in the test?

- a) 4
- b) 3
- c) 2
- d) 0

You did not answer this question

Show Correct Answer

Time spent / Accuracy Analysis

Time taken by you to answer this question	19
Avg. time spent on this question by all students	362
Difficulty Level	M
Avg. time spent on this question by students who got this question right	388
% of students who attempted this question	25
% of students who got the question right of those who attempted	60.05

[Video Solution](#)

[Text Solution](#)

The graph provides the average score minus the score of each student.  
 If  $X$  is the average score of each student, the following table provides the number of students who scored each mark in the test:

Mark	No. of students
$X - 4$	3
$X - 3$	3
$X - 2$	3
$X - 1$	1
$X + 1$	2
$X + 2$	2
$X + 3$	2
$X + 4$	4

Each student scored at least 10 marks and at most 20 marks. Since the marks of the students range from  $X - 4$  to  $X + 4$ , the average can only be 14 or 15 or 16.

Since the average can only be 14 or 15 or 16, for a student to score 13 marks, he must have scored  $X - 1$  or  $X - 2$  or  $X - 3$ .

Only 1 student scored  $X - 1$  marks.

3 students scored  $X - 2$  marks.

3 students scored  $X - 3$  marks.

Hence, the maximum number of students who could have scored 13 marks is 3 (if the average is 15 or 16).

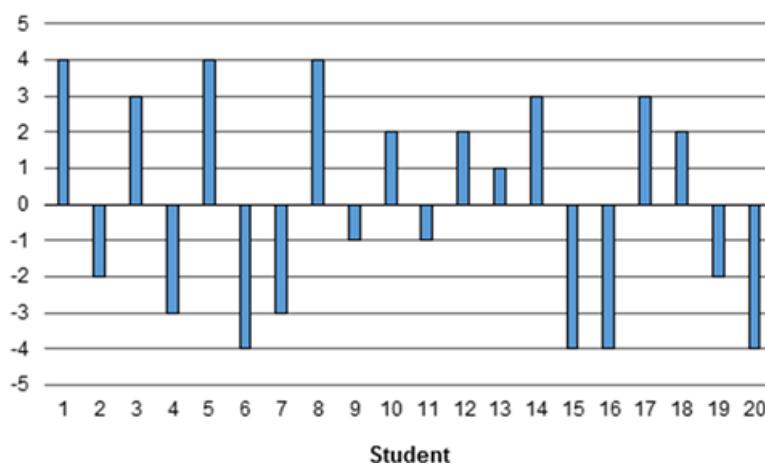
From the given options, the answer is option B.

Choice (B)

undefined

**DIRECTIONS** for questions 17 to 20: Answer the questions on the basis of the information given below.

Parthiv, a professor in a college, conducted a test for the twenty students in his class. Each student scored at least 10 and at most 20 marks in the test and the score of each student was an integer. The bar graph given below provides, for each student, the value of the average marks scored by the twenty students in the test minus the score of that student in the test.



**Q18. DIRECTIONS** for questions 17 to 20: Select the correct alternative from the given choices.

How many students definitely scored at least 16 marks in the test?

- a) 7
- b) 8
- c) 9
- d) 10

You did not answer this question

[Show Correct Answer](#)

**Time spent / Accuracy Analysis**

Time taken by you to answer this question	<b>0</b>
Avg. time spent on this question by all students	<b>84</b>
Difficulty Level	<b>M</b>
Avg. time spent on this question by students who got this question right	<b>91</b>
% of students who attempted this question	<b>23.44</b>
% of students who got the question right of those who attempted	<b>35.29</b>

[Video Solution](#)

[Text Solution](#)

The graph provides the average score minus the score of each student.  
If  $X$  is the average score of each student, the following table provides the number of students who scored each mark in the test:

Mark	No. of students
$X - 4$	3
$X - 3$	3
$X - 2$	3
$X - 1$	1
$X + 1$	2
$X + 2$	2
$X + 3$	2
$X + 4$	4

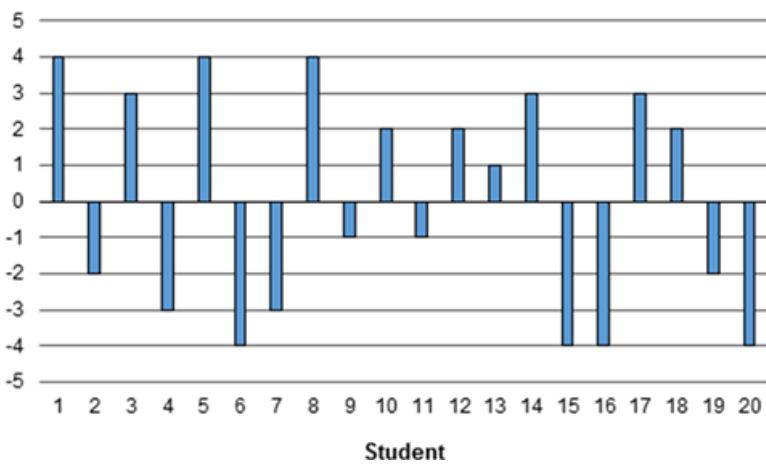
Any person who scored  $X + 2$  or more would have scored at least 16 marks in the test.  
Hence, a total of 8 students would definitely have scored at least 16 marks in the test.

Choice (B)

undefined

**DIRECTIONS** for questions 17 to 20: Answer the questions on the basis of the information given below.

Parthiv, a professor in a college, conducted a test for the twenty students in his class. Each student scored at least 10 and at most 20 marks in the test and the score of each student was an integer. The bar graph given below provides, for each student, the value of the average marks scored by the twenty students in the test minus the score of that student in the test.



**Q19. DIRECTIONS** for questions 17 to 20: Select the correct alternative from the given choices.

If the number of students who scored exactly 15 marks is two less than the number of students who scored exactly 12 marks, what is the average marks of the students in the test?

- a) **16**
- b) **15**
- c) **14**
- d) **Cannot be determined**

You did not answer this question

[Show Correct Answer](#)

#### Time spent / Accuracy Analysis

Time taken by you to answer this question	<b>0</b>
Avg. time spent on this question by all students	<b>108</b>
Difficulty Level	<b>M</b>
Avg. time spent on this question by students who got this question right	<b>113</b>
% of students who attempted this question	<b>19.27</b>
% of students who got the question right of those who attempted	<b>62.13</b>

[Video Solution](#)

[Text Solution](#)

The graph provides the average score minus the score of each student. If  $X$  is the average score of each student, the following table provides the number of students who scored each mark in the test:

Mark	No. of students
$X - 4$	3
$X - 3$	3
$X - 2$	3
$X - 1$	1
$X + 1$	2
$X + 2$	2
$X + 3$	2
$X + 4$	4

Among the values in the table, only  $X + 1$  or  $X$  or  $X - 1$  can be 15.

And,  $X - 2$  or  $X - 3$  or  $X - 4$  can be 12. In any of the three cases, the number of students is 3.

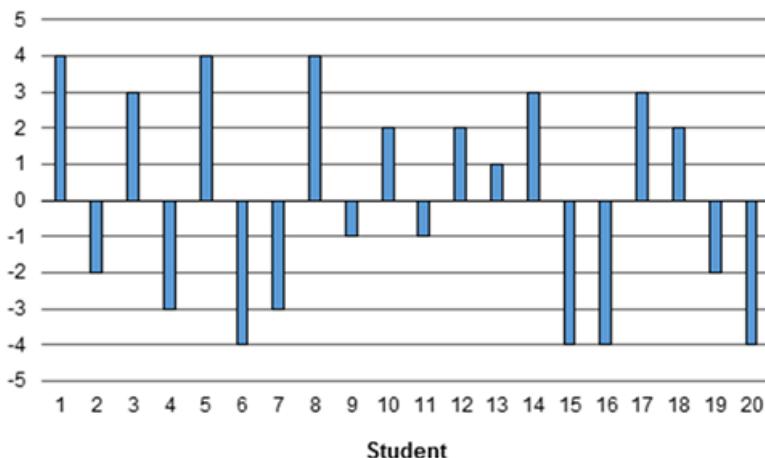
Hence, the number of students who scored 15 must be 1. Since the number of students who scored  $X - 1$  is 1,  $X - 1$  must be 15 and the average must be 16.

Choice (A)

undefined

**DIRECTIONS** for questions 17 to 20: Answer the questions on the basis of the information given below.

Parthiv, a professor in a college, conducted a test for the twenty students in his class. Each student scored at least 10 and at most 20 marks in the test and the score of each student was an integer. The bar graph given below provides, for each student, the value of the average marks scored by the twenty students in the test minus the score of that student in the test.



**Q20. DIRECTIONS** for questions 17 to 20: Select the correct alternative from the given choices.

If the number of students who scored at least 14 marks was one less than the number of students who scored at most 16 marks, what is the average marks of the students in the test?

- a) 14
- b) 15
- c) 16
- d) Data Inconsistent

You did not answer this question

[Show Correct Answer](#)

**Time spent / Accuracy Analysis**

Time taken by you to answer this question	0
Avg. time spent on this question by all students	136
Difficulty Level	D
Avg. time spent on this question by students who got this question right	148
% of students who attempted this question	15.92
% of students who got the question right of those who attempted	53.31

[Video Solution](#)

[Text Solution](#)

The graph provides the average score minus the score of each student.  
 If X is the average score of each student, the following table provides the number of students who scored each mark in the test:

Mark	No. of students
X - 4	3
X - 3	3
X - 2	3
X - 1	1
X + 1	2
X + 2	2
X + 3	2
X + 4	4

The number of students who scored at least 14 marks can be 10 (for average of 14) or 11 (for average of 15) or 14 (for average of 16).

The number of students who scored at most 16 marks can be 14 (for average of 14) or 12 (for average of 15) or 10 (for average of 16).

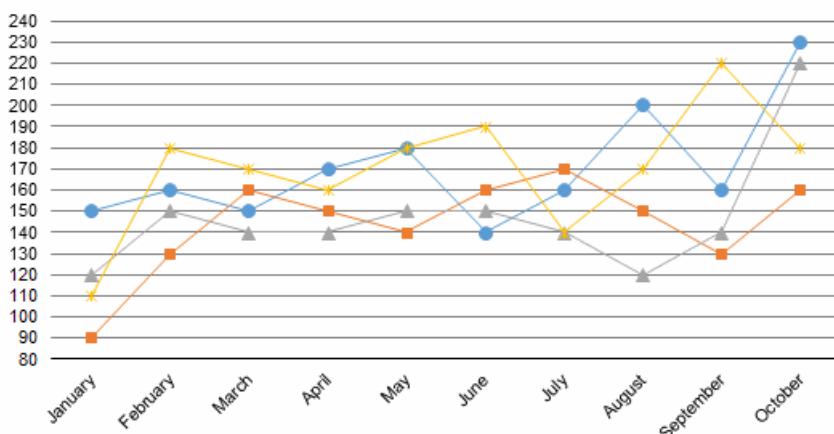
For the former to be one less than the latter, the average must be 15.

Choice (B)

undefined

**DIRECTIONS** for questions 21 to 24: Answer the questions on the basis of the information given below.

Four companies, Alpha, Beta, Gamma and Delta, manufacture ovens. In the graph below, each line represents the number of ovens manufactured by one of the four companies in each month between January and October of a particular year. The legend for the graph has been intentionally left out.



Further, Beta considers Alpha their closest competitor and, in any month, always manufactures at least as many ovens as what Alpha manufactured in the previous month. Similarly, Gamma considers Beta to be their closest competitor and, in any month, always manufactures at least as many ovens as what Beta manufactured in the previous month; Delta considers Gamma to be their closest competitor and, in any month, always manufactures at least as many ovens as what Gamma manufactured in the previous month.

**Q21. DIRECTIONS** for questions 21 to 24: Select the correct alternative from the given choices.

What is the difference between the number of ovens manufactured by Alpha and Gamma in May?

- a) 10
- b) 0
- c) 30
- d) 40

You did not answer this question

[Show Correct Answer](#)

#### Time spent / Accuracy Analysis

Time taken by you to answer this question	14
Avg. time spent on this question by all students	515
Difficulty Level	M
Avg. time spent on this question by students who got this question right	538
% of students who attempted this question	31.42
% of students who got the question right of those who attempted	71.12

[Video Solution](#)

#### Text Solution

The lines given in the diagram can be named Squares, Triangles, Circles and Stars, based on the shape of the markers.

In any month, say month 1, if Alpha manufactures  $a$  units, then in month 2, Beta must manufacture  $a + b$  ( $b \geq 0$ ).

In month 3, Gamma must manufacture  $a + b + c$  ( $c \geq 0$ ). In month 4, Delta must manufacture  $a + b + c + d$  ( $d \geq 0$ ).

Hence, for any period of four months, each of the three lines (apart from the one that represents Alpha) must go above or reach the value represented by Alpha in the first month.

Let us take the case where Squares represent Alpha.

For any period of four months, the pattern mentioned above must hold.

We can choose the month in which the value represented by Squares is the highest, i.e., July. In July, the value for Squares is 170.

From August to October, each of the other three lines should reach 170 at least once. However, Triangles does not reach 170 in any of these three months. Hence, Squares cannot represent Alpha.

Consider that Triangles represents Alpha. The highest value of this is in February, May and June (apart from the last month). For each of these months, in the three subsequent months, the other three lines reach or go above this value at least once. Hence, we **cannot** eliminate this as a possibility.

Consider that Circles represents Alpha. The highest value occurs in August but the data is not given for the next three months. Hence, we can take the next highest value which occurs in May. In July, none of the other three companies reach the value of Circles in May. Hence, this cannot be Alpha.

Consider that Stars represent Alpha. In February, the value represented by Stars is 180. In March, none of the companies have more than 180. Hence, Stars cannot be Alpha.

By elimination, **Alpha must be represented by Triangles**.

To find Beta, we need to identify for which of the other lines its value is at least as much as Alpha's in the previous month.

By observation, we can see that Beta cannot be Circles because in the month of May, Alpha manufactured 150 and in the month of June, Beta would have manufactured 140.

Beta also cannot be Stars because in the month of June, Alpha manufactured 150 and in July, Beta would have manufactured 140.

Hence, **Beta must be Squares**.

To find Gamma, we need to identify for which of the other lines its value is at least as much as Beta's in the previous month.

Stars cannot be Gamma because in the month of June, Beta manufactured 160 in June and Gamma would have manufactured 140 in July.

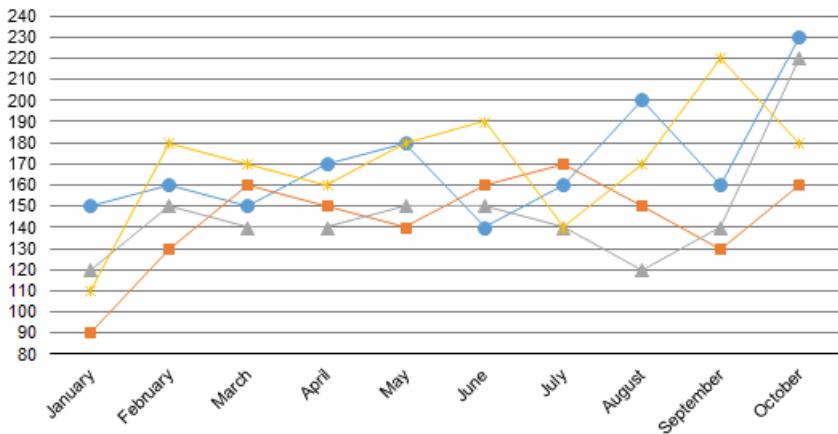
Hence, **Stars must be Delta and Circles must be Gamma**.

The difference between the number of ovens manufactured by Alpha and Gamma in May = 30  
Choice (C)

undefined

**DIRECTIONS** for questions 21 to 24: Answer the questions on the basis of the information given below.

Four companies, Alpha, Beta, Gamma and Delta, manufacture ovens. In the graph below, each line represents the number of ovens manufactured by one of the four companies in each month between January and October of a particular year. The legend for the graph has been intentionally left out.



Further, Beta considers Alpha their closest competitor and, in any month, always manufactures at least as many ovens as what Alpha manufactured in the previous month. Similarly, Gamma considers Beta to be their closest competitor and, in any month, always manufactures at least as many ovens as what Beta manufactured in the previous month; Delta considers Gamma to be their closest competitor and, in any month, always manufactures at least as many ovens as what Gamma manufactured in the previous month.

**Q22. DIRECTIONS** for questions 21 to 24: Select the correct alternative from the given choices.

In how many of the given months did Beta manufacture more number of ovens than Gamma?

- a) 2
- b) 3
- c) 4
- d) 5

You did not answer this question

Show Correct Answer

**Time spent / Accuracy Analysis**

Time taken by you to answer this question	0
Avg. time spent on this question by all students	76
Difficulty Level	M
Avg. time spent on this question by students who got this question right	63
% of students who attempted this question	27.71
% of students who got the question right of those who attempted	74.9

[Video Solution](#)

[Text Solution](#)

The lines given in the diagram can be named Squares, Triangles, Circles and Stars, based on the shape of the markers.

In any month, say month 1, if Alpha manufactures  $a$  units, then in month 2, Beta must manufacture  $a + b$  ( $b \geq 0$ ).

In month 3, Gamma must manufacture  $a + b + c$  ( $c \geq 0$ ). In month 4, Delta must manufacture  $a + b + c + d$  ( $d \geq 0$ ).

Hence, for any period of four months, each of the three lines (apart from the one that represents Alpha) must go above or reach the value represented by Alpha in the first month.

Let us take the case where Squares represent Alpha.

For any period of four months, the pattern mentioned above must hold.

We can choose the month in which the value represented by Squares is the highest, i.e., July. In July, the value for Squares is 170.

From August to October, each of the other three lines should reach 170 at least once. However, Triangles does not reach 170 in any of these three months. Hence, Squares cannot represent Alpha.

Consider that Triangles represents Alpha. The highest value of this is in February, May and June (apart from the last month). For each of these months, in the three subsequent months, the other three lines reach or go above this value at least once. Hence, we **cannot** eliminate this as a possibility.

Consider that Circles represents Alpha. The highest value occurs in August but the data is not given for the next three months. Hence, we can take the next highest value which occurs in May. In July, none of the other three companies reach the value of Circles in May. Hence, this cannot be Alpha.

Consider that Stars represent Alpha. In February, the value represented by Stars is 180. In March, none of the companies have more than 180. Hence, Stars cannot be Alpha.

By elimination, **Alpha must be represented by Triangles**.

To find Beta, we need to identify for which of the other lines its value is at least as much as Alpha's in the previous month.

By observation, we can see that Beta cannot be Circles because in the month of May, Alpha manufactured 150 and in the month of June, Beta would have manufactured 140.

Beta also cannot be Stars because in the month of June, Alpha manufactured 150 and in July, Beta would have manufactured 140.

Hence, **Beta must be Squares**.

To find Gamma, we need to identify for which of the other lines its value is at least as much as Beta's in the previous month.

Stars cannot be Gamma because in the month of June, Beta manufactured 160 in June and Gamma would have manufactured 140 in July.

Hence, **Stars must be Delta and Circles must be Gamma**.

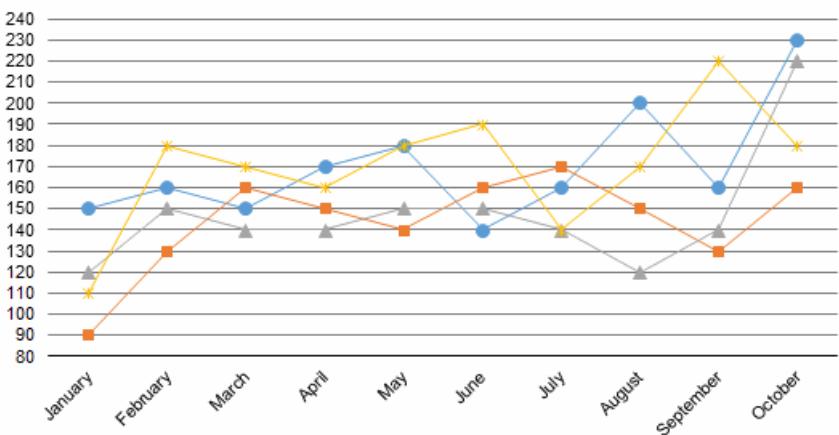
Beta manufactured more than Gamma in three months, March, June and July.

Choice (B)

undefined

**DIRECTIONS** for questions 21 to 24: Answer the questions on the basis of the information given below.

Four companies, Alpha, Beta, Gamma and Delta, manufacture ovens. In the graph below, each line represents the number of ovens manufactured by one of the four companies in each month between January and October of a particular year. The legend for the graph has been intentionally left out.



Further, Beta considers Alpha their closest competitor and, in any month, always manufactures at least as many ovens as what Alpha manufactured in the previous month. Similarly, Gamma considers Beta to be their closest competitor and, in any month, always manufactures at least as many ovens as what Beta manufactured in the previous month; Delta considers Gamma to be their closest competitor and, in any month, always manufactures at least as many ovens as what Gamma manufactured in the previous month.

**Q23. DIRECTIONS** for questions 21 to 24: Select the correct alternative from the given choices.

In how many of the given months was the number of ovens manufactured by Gamma at least 20 more than the number of ovens manufactured by Alpha?

- a) 4
- b) 5
- c) 6
- d) 7

You did not answer this question

[Show Correct Answer](#)

#### Time spent / Accuracy Analysis

Time taken by you to answer this question	<b>0</b>
Avg. time spent on this question by all students	<b>66</b>
Difficulty Level	<b>M</b>
Avg. time spent on this question by students who got this question right	<b>62</b>
% of students who attempted this question	<b>26.07</b>
% of students who got the question right of those who attempted	<b>68.73</b>

[Video Solution](#)

[Text Solution](#)

The lines given in the diagram can be named Squares, Triangles, Circles and Stars, based on the shape of the markers.

In any month, say month 1, if Alpha manufactures  $a$  units, then in month 2, Beta must manufacture  $a + b$  ( $b \geq 0$ ).

In month 3, Gamma must manufacture  $a + b + c$  ( $c \geq 0$ ). In month 4, Delta must manufacture  $a + b + c + d$  ( $d \geq 0$ ).

Hence, for any period of four months, each of the three lines (apart from the one that represents Alpha) must go above or reach the value represented by Alpha in the first month.

Let us take the case where Squares represent Alpha.

For any period of four months, the pattern mentioned above must hold.

We can choose the month in which the value represented by Squares is the highest, i.e., July. In July, the value for Squares is 170.

From August to October, each of the other three lines should reach 170 at least once. However, Triangles does not reach 170 in any of these three months. Hence, Squares cannot represent Alpha.

Consider that Triangles represents Alpha. The highest value of this is in February, May and June (apart from the last month). For each of these months, in the three subsequent months, the other three lines reach or go above this value at least once. Hence, we **cannot** eliminate this as a possibility.

Consider that Circles represents Alpha. The highest value occurs in August but the data is not given for the next three months. Hence, we can take the next highest value which occurs in May. In July, none of the other three companies reach the value of Circles in May. Hence, this cannot be Alpha.

Consider that Stars represent Alpha. In February, the value represented by Stars is 180. In March, none of the companies have more than 180. Hence, Stars cannot be Alpha.

By elimination, **Alpha must be represented by Triangles**.

To find Beta, we need to identify for which of the other lines its value is at least as much as Alpha's in the previous month.

By observation, we can see that Beta cannot be Circles because in the month of May, Alpha manufactured 150 and in the month of June, Beta would have manufactured 140.

Beta also cannot be Stars because in the month of June, Alpha manufactured 150 and in July, Beta would have manufactured 140.

Hence, **Beta must be Squares**.

To find Gamma, we need to identify for which of the other lines its value is at least as much as Beta's in the previous month.

Stars cannot be Gamma because in the month of June, Beta manufactured 160 in June and Gamma would have manufactured 140 in July.

Hence, **Stars must be Delta and Circles must be Gamma**.

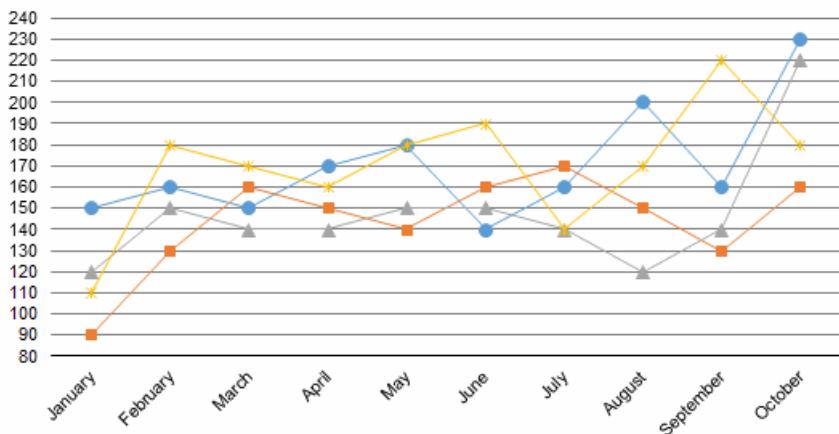
Gamma manufactured at least 20 more than Alpha in six months, January, April, May, July, August and September. Choice (C)

undefined

**DIRECTIONS** for questions 21 to 24: Answer the questions on the basis of the information given below.

Four companies, Alpha, Beta, Gamma and Delta, manufacture ovens. In the graph below, each line represents the number

of ovens manufactured by one of the four companies in each month between January and October of a particular year. The legend for the graph has been intentionally left out.



Further, Beta considers Alpha their closest competitor and, in any month, always manufactures at least as many ovens as what Alpha manufactured in the previous month. Similarly, Gamma considers Beta to be their closest competitor and, in any month, always manufactures at least as many ovens as what Beta manufactured in the previous month; Delta considers Gamma to be their closest competitor and, in any month, always manufactures at least as many ovens as what Gamma manufactured in the previous month.

**Q24. DIRECTIONS** for questions 21 to 24: Select the correct alternative from the given choices.

What is the maximum percentage increase in the number of ovens sold by Delta from one month to the next?

- a) **63.63%**
- b) **44.44%**
- c) **43.75%**
- d) **57.14%**

You did not answer this question Show Correct Answer

#### Time spent / Accuracy Analysis

Time taken by you to answer this question	<b>0</b>
Avg. time spent on this question by all students	<b>67</b>
Difficulty Level	<b>M</b>
Avg. time spent on this question by students who got this question right	<b>62</b>
% of students who attempted this question	<b>25</b>
% of students who got the question right of those who attempted	<b>81.48</b>

[Video Solution](#)

[Text Solution](#)

The lines given in the diagram can be named Squares, Triangles, Circles and Stars, based on the shape of the markers.

In any month, say month 1, if Alpha manufactures  $a$  units, then in month 2, Beta must manufacture  $a + b$  ( $b \geq 0$ ).

In month 3, Gamma must manufacture  $a + b + c$  ( $c \geq 0$ ). In month 4, Delta must manufacture  $a + b + c + d$  ( $d \geq 0$ ).

Hence, for any period of four months, each of the three lines (apart from the one that represents Alpha) must go above or reach the value represented by Alpha in the first month.

Let us take the case where Squares represent Alpha.

For any period of four months, the pattern mentioned above must hold.

We can choose the month in which the value represented by Squares is the highest, i.e., July. In July, the value for Squares is 170.

From August to October, each of the other three lines should reach 170 at least once. However, Triangles does not reach 170 in any of these three months. Hence, Squares cannot represent Alpha.

Consider that Triangles represents Alpha. The highest value of this is in February, May and June (apart from the last month). For each of these months, in the three subsequent months, the other three lines reach or go above this value at least once. Hence, we **cannot** eliminate this as a possibility.

Consider that Circles represents Alpha. The highest value occurs in August but the data is not given for the next three months. Hence, we can take the next highest value which occurs in May. In July, none of the other three companies reach the value of Circles in May. Hence, this cannot be Alpha.

Consider that Stars represent Alpha. In February, the value represented by Stars is 180. In March, none of the companies have more than 180. Hence, Stars cannot be Alpha.

By elimination, **Alpha must be represented by Triangles**.

To find Beta, we need to identify for which of the other lines its value is at least as much as Alpha's in the previous month.

By observation, we can see that Beta cannot be Circles because in the month of May, Alpha manufactured 150 and in the month of June, Beta would have manufactured 140.

Beta also cannot be Stars because in the month of June, Alpha manufactured 150 and in July, Beta would have manufactured 140.

Hence, **Beta must be Squares**.

To find Gamma, we need to identify for which of the other lines its value is at least as much as Beta's in the previous month.

Stars cannot be Gamma because in the month of June, Beta manufactured 160 in June and Gamma would have manufactured 140 in July.

Hence, **Stars must be Delta and Circles must be Gamma**.

The maximum percentage increase in the number of ovens sold by Delta from one month to the next (between January and February) =  $\frac{70}{110} = 63.63\%$

Choice (A)

undefined

**DIRECTIONS for questions 25 to 28:** Answer the questions on the basis of the information given below.

Three children, Rekha, Shankar and Mukesh, were playing the game of Tic-Tac-Toe, on a grid of  $3 \times 3$  squares. Each game was played by all the three children, with the rules slightly modified from the usual, as described below.

- o Each person has his/her own symbol, referred to as his/her 'mark' and in every turn, he/she places the same mark on the grid.
- o The columns are labelled A to C, from left to right, and the rows are numbered 1 to 3, from top to bottom. The position of a mark on the grid is given by the combination of the column and row labels of the square in which it is placed. For example, a mark in position C2 means that the mark is in column C and row 2.
- o The first person to play a game can place his mark on any square in the  $3 \times 3$  grid except B2.
- o In every subsequent turn, each person has to place his/her mark in any empty square, which is
  - not in the same row or column as that of the mark that was placed immediately before his turn
  - not in any diagonal position in any of the four possible directions to that of the mark that was placed immediately before his turn.

For example, if the first person places his/her mark in C2, the second person cannot place his/her mark in any square in column C or any square the 2<sup>nd</sup> row or in the squares in the diagonal positions to C2, i.e. B1 and B3.

- o The first person to get three of his/her marks in a straight line (horizontally, vertically, or diagonally) in the grid is the winner.
- o The game ends in a tie if all the nine squares are full or if it is not possible to place any other mark in the remaining squares, without having a winner.

A fresh grid is drawn at the beginning of each game.

The marks of the three persons, Rekha, Shankar and Mukesh, are 'X', 'O' and 'I' respectively. It is known that in any game that they played, the first person to play did not place his/her mark in B2.

**Q25. DIRECTIONS for question 25:** Type your answer in the text box provided below the question.

If a total of 34 games were played, how many games ended in a tie?

*Enter your answer as '-1' if you think that the answer cannot be determined with the given information.*

**You did not answer this question**

**Show Correct Answer**

**Time spent / Accuracy Analysis**

Time taken by you to answer this question	<b>26</b>
Avg. time spent on this question by all students	<b>236</b>
Difficulty Level	<b>D</b>
Avg. time spent on this question by students who got this question right	<b>355</b>
% of students who attempted this question	<b>14.07</b>
% of students who got the question right of those who attempted	<b>18.12</b>

[Video Solution](#)

[Text Solution](#)

Let us assume that the three marks of the first, second and third person are /, + and – respectively.

The first person to play can place his/her mark either in one of the corner squares or in one of the squares that are not in the corners. Given that none of them placed their marks in B2. So we will get two cases here.

**Case 1:** the first person to play placed his/her mark in one of the corner squares, say A1.

From (iii), we can say that the second person can place his/her mark in C2 or B3.

If the second person places his/her mark in C2, we'll get the following:

/		
		+

From (iii), the third person can place his/her mark in only A3. After that, it is the turn of the first person to place his/her mark and he can place it only in B1. Then the second person can place his/her mark in only C3. Next, the third person can place his/her mark in only A2. The first person can fix his/her mark in only C1 and he/she wins the game because he/she has three marks in a row in row 1. So the first person to start will win the game.

/	/	/
-		+
-		+

If the second person places his/her mark in B3, we will get the following:

/		
		+

From (iii), the third person can place his/her mark in only C1. After that, it is the turn of the first person to place his/her mark and he can place it only in A2. Then the second person can place his/her mark in only C3. Next, the third person can place his/her mark in only B1. The first person can fix his/her mark in only A3 and he/she wins the game because he/she has three marks in a row in column A. So the first person to start will win the game.

/	-	-
/		
/	+	+

So when the first person to start the game places his/her mark in A1, he/she will definitely win the game. The same can be extended to the other corners, C1, A3, and C3, as well. That is, the first person will win the game if he places his/her mark in any of the four corners.

**Case 2:** The first person places his/her mark in one of the squares that are not in the corners, say B1.

From (iii), we can say that the second person can place his/her mark in A3 or C3.

If the second person places his/her mark in A3, we'll get the following:

		/
+		

From (iii), the third person can place his/her mark in only C2. After that, it is the turn of the first person to place his/her mark and he can place it only in A1. Then the second person can place his/her mark in only B3. Next, the third person can place his/her mark in only C1. Then, the first person can fix his/her mark in only A2. Now, the second person can fix his/her mark in only C3 and he/she wins the game because he/she has three marks in a row in row 3. So the second person will win the game.

/	/	/	-
---	---	---	---

/	/	-
/	/	-
+	+	+

If the second person places his/her mark in B3, we will get the following:

	/	
		+

From (iii), the third person can place his/her mark in only A2. After that, it is the turn of the first person to place his/her mark and he/she can place it only in C1. Then the second person can place his/her mark in only B3. Next, the third person can place his/her mark in only A1. Then, the first person can fix his/her mark in only C2. Now, the second person can fix his/her mark in only A3 and he/she wins the game because he/she has three marks in a row in row 3. So the second person will win the game.

-	/	/
-		/
+	+	+

So when the first person to start the game places his/her mark in one of the squares that are not the corner squares, the second person will definitely win the game. The same can be extended to the remaining squares – A2, C2 and B3 – as well. That is, the second person will win the game if the first person places his/her mark in any of the squares B1, A2, C2 and B3.

Therefore, if the first person places his/her mark in A1, C1, A3 or C3, he/she will definitely win the game.

If the first person places his/her mark in B1, A2, C2 or B3, the second person will definitely win the game.

Since it is given that the first person did not place his/her mark in B2, any game will be won by either the first person or the second person. The third person can never win a game.

Each game will be won by either the first person or the second person. Therefore, there will be no games that will end in a tie. Hence, the number of games ending in a tie will be 0.

Ans: (0)

undefined

undefined

**DIRECTIONS for questions 25 to 28:** Answer the questions on the basis of the information given below.

Three children, Rekha, Shankar and Mukesh, were playing the game of Tic-Tac-Toe, on a grid of  $3 \times 3$  squares. Each game was played by all the three children, with the rules slightly modified from the usual, as described below.

- o Each person has his/her own symbol, referred to as his/her 'mark' and in every turn, he/she places the same mark on the grid.
- o The columns are labelled A to C, from left to right, and the rows are numbered 1 to 3, from top to bottom. The position of a mark on the grid is given by the combination of the column and row labels of the square in which it is placed. For example, a mark in position C2 means that the mark is in column C and row 2.
- o The first person to play a game can place his mark on any square in the  $3 \times 3$  grid except B2.

- In every subsequent turn, each person has to place his/her mark in any empty square, which is
  - not in the same row or column as that of the mark that was placed immediately before his turn
  - not in any diagonal position in any of the four possible directions to that of the mark that was placed immediately before his turn.

For example, if the first person places his/her mark in C2, the second person cannot place his/her mark in any square in column C or any square the 2<sup>nd</sup> row or in the squares in the diagonal positions to C2, i.e. B1 and B3.

- The first person to get three of his/her marks in a straight line (horizontally, vertically, or diagonally) in the grid is the winner.
- The game ends in a tie if all the nine squares are full or if it is not possible to place any other mark in the remaining squares, without having a winner.

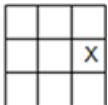
A fresh grid is drawn at the beginning of each game.

The marks of the three persons, Rekha, Shankar and Mukesh, are 'X', 'O' and 'I' respectively. It is known that in any game that they played, the first person to play did not place his/her mark in B2.

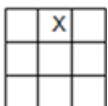
**Q26. DIRECTIONS** for questions 26 to 28: Select the correct alternative from the given choices.

In one of the games, Rekha, who was the first person to play, ended up winning the game. Which of the following options could represent the grid immediately after she placed her first mark?

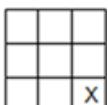
a)



b)



c)



d) **Data Inconsistent**

You did not answer this question

Show Correct Answer

Time spent / Accuracy Analysis

### Time spent / Accuracy Analysis

Time taken by you to answer this question	<b>0</b>
Avg. time spent on this question by all students	<b>159</b>
Difficulty Level	<b>D</b>
Avg. time spent on this question by students who got this question right	<b>168</b>
% of students who attempted this question	<b>11.77</b>
% of students who got the question right of those who attempted	<b>57.13</b>

[Video Solution](#)

[Text Solution](#)

Let us assume that the three marks of the first, second and third person are  $/$ ,  $+$  and  $-$  respectively.

The first person to play can place his/her mark either in one of the corner squares or in one of the squares that are not in the corners. Given that none of them placed their marks in B2. So we will get two cases here.

**Case 1:** the first person to play placed his/her mark in one of the corner squares, say A1.

From (iii), we can say that the second person can place his/her mark in C2 or B3.  
If the second person places his/her mark in C2, we'll get the following:

$/$		
		$+$

From (iii), the third person can place his/her mark in only A3. After that, it is the turn of the first person to place his/her mark and he can place it only in B1. Then the second person can place his/her mark in only C3. Next, the third person can place his/her mark in only A2. The first person can fix his/her mark in only C1 and he/she wins the game because he/she has three marks in a row in row 1. So the first person to start will win the game.

$/$	$/$	$/$
$-$		$+$
$-$		$+$

If the second person places his/her mark in B3, we will get the following:

$/$		
	$+$	

From (iii), the third person can place his/her mark in only C1. After that, it is the turn of the first person to place his/her mark and he can place it only in A2. Then the second person can place his/her mark in only C3. Next, the third person can place his/her mark in only B1. The first person can fix his/her mark in only A3 and he/she wins the game because he/she has three marks in a row in column A. So the first person to start will win the game.

$/$	$-$	$-$
$/$		
$/$	$+$	$+$

So when the first person to start the game places his/her mark in A1, he/she will definitely win the game. The same can be extended to the other corners, C1, A3, and C3, as well. That is, the first person will win the game if he places his/her mark in any of the four corners.

**Case 2:** The first person places his/her mark in one of the squares that are not in the corners, say B1.

From (iii), we can say that the second person can place his/her mark in A3 or C3.

If the second person places his/her mark in A3, we'll get the following:

	/	
+		

From (iii), the third person can place his/her mark in only C2. After that, it is the turn of the first person to place his/her mark and he can place it only in A1. Then the second person can place his/her mark in only B3. Next, the third person can place his/her mark in only C1. Then, the first person can fix his/her mark in only A2. Now, the second person can fix his/her mark in only C3 and he/she wins the game because he/she has three marks in a row in row 3. So the second person will win the game.

/	/	-
/		-
+	+	+

If the second person places his/her mark in B3, we will get the following:

	/	
		+

From (iii), the third person can place his/her mark in only A2. After that, it is the turn of the first person to place his/her mark and he/she can place it only in C1. Then the second person can place his/her mark in only B3. Next, the third person can place his/her mark in only A1. Then, the first person can fix his/her mark in only C2. Now, the second person can fix his/her mark in only A3 and he/she wins the game because he/she has three marks in a row in row 3. So the second person will win the game.

-	/	/
-		/
+	+	+

So when the first person to start the game places his/her mark in one of the squares that are not the corner squares, the second person will definitely win the game. The same can be extended to the remaining squares – A2, C2 and B3 – as well. That is, the second person will win the game if the first person places his/her mark in any of the squares B1, A2, C2 and B3.

Therefore, if the first person places his/her mark in A1, C1, A3 or C3, he/she will definitely win the game.

If the first person places his/her mark in B1, A2, C2 or B3, the second person will definitely win the game.

Since it is given that the first person did not place his/her mark in B2, any game will be won by either the first person or the second person. The third person can never win a game.

The first person to play wins the game. This/her implies that the first person placed his/her mark in one of the corner squares. Therefore, Rekha must have placed her first mark in A1 or C1 or A3 or C3. Only the grid represented in option C has the mark in one of these squares (C3). Choice (C)

**DIRECTIONS** for questions 25 to 28: Answer the questions on the basis of the information given below.

Three children, Rekha, Shankar and Mukesh, were playing the game of Tic-Tac-Toe, on a grid of  $3 \times 3$  squares. Each game was played by all the three children, with the rules slightly modified from the usual, as described below.

o

Each person has his/her own symbol, referred to as his/her 'mark' and in every turn, he/she places the same mark on the grid.

- o The columns are labelled A to C, from left to right, and the rows are numbered 1 to 3, from top to bottom. The position of a mark on the grid is given by the combination of the column and row labels of the square in which it is placed. For example, a mark in position C2 means that the mark is in column C and row 2.
- o The first person to play a game can place his mark on any square in the  $3 \times 3$  grid except B2.
- o In every subsequent turn, each person has to place his/her mark in any empty square, which is
  - not in the same row or column as that of the mark that was placed immediately before his turn
  - not in any diagonal position in any of the four possible directions to that of the mark that was placed immediately before his turn.

For example, if the first person places his/her mark in C2, the second person cannot place his/her mark in any square in column C or any square the 2<sup>nd</sup> row or in the squares in the diagonal positions to C2, i.e. B1 and B3.

- o The first person to get three of his/her marks in a straight line (horizontally, vertically, or diagonally) in the grid is the winner.
- o The game ends in a tie if all the nine squares are full or if it is not possible to place any other mark in the remaining squares, without having a winner.

A fresh grid is drawn at the beginning of each game.

The marks of the three persons, Rekha, Shankar and Mukesh, are 'X', 'O' and 'I' respectively. It is known that in any game that they played, the first person to play did not place his/her mark in B2.

**Q26. DIRECTIONS** for questions 26 to 28: Select the correct alternative from the given choices.

In one of the games, Rekha, who was the first person to play, ended up winning the game. Which of the following options could represent the grid immediately after she placed her first mark?

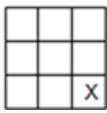
a)

X		

b)

	X	

c)



C d) Data Inconsistent

You did not answer this question

Show Correct Answer

Time spent / Accuracy Analysis

Time taken by you to answer this question	0
Avg. time spent on this question by all students	159
Difficulty Level	D
Avg. time spent on this question by students who got this question right	168
% of students who attempted this question	11.77
% of students who got the question right of those who attempted	57.13

[Video Solution](#)

[Text Solution](#)

Let us assume that the three marks of the first, second and third person are  $/$ ,  $+$  and  $-$  respectively.

The first person to play can place his/her mark either in one of the corner squares or in one of the squares that are not in the corners. Given that none of them placed their marks in B2. So we will get two cases here.

**Case 1:** the first person to play placed his/her mark in one of the corner squares, say A1.

From (iii), we can say that the second person can place his/her mark in C2 or B3.

If the second person places his/her mark in C2, we'll get the following:

/		
		+

From (iii), the third person can place his/her mark in only A3. After that, it is the turn of the first person to place his/her mark and he can place it only in B1. Then the second person can place his/her mark in only C3. Next, the third person can place his/her mark in only A2. The first person can fix his/her mark in only C1 and he/she wins the game because he/she has three marks in a row in row 1. So the first person to start will win the game.

/	/	/
-		+
-		+

If the second person places his/her mark in B3, we will get the following:

/		
		+

From (iii), the third person can place his/her mark in only C1. After that, it is the turn of the first person to place his/her mark and he can place it only in A2. Then the second person can place his/her mark in only C3. Next, the third person can place his/her mark in only B1. The first person can fix his/her mark in only A3 and he/she wins the game because he/she has three marks in a row in column A. So the first person to start will win the game.

/	-	-

/		
/	+	+

So when the first person to start the game places his/her mark in A1, he/she will definitely win the game. The same can be extended to the other corners, C1, A3, and C3, as well. That is, the first person will win the game if he places his/her mark in any of the four corners.

**Case 2:** The first person places his/her mark in one of the squares that are not in the corners, say B1.

From (iii), we can say that the second person can place his/her mark in A3 or C3. If the second person places his/her mark in A3, we'll get the following:

	/	
+		

From (iii), the third person can place his/her mark in only C2. After that, it is the turn of the first person to place his/her mark and he can place it only in A1. Then the second person can place his/her mark in only B3. Next, the third person can place his/her mark in only C1. Then, the first person can fix his/her mark in only A2. Now, the second person can fix his/her mark in only C3 and he/she wins the game because he/she has three marks in a row in row 3. So the second person will win the game.

/	/	-
/		-
+	+	+

If the second person places his/her mark in B3, we will get the following:

	/	
		+

From (iii), the third person can place his/her mark in only A2. After that, it is the turn of the first person to place his/her mark and he/she can place it only in C1. Then the second person can place his/her mark in only B3. Next, the third person can place his/her mark in only A1. Then, the first person can fix his/her mark in only C2. Now, the second person can fix his/her mark in only A3 and he/she wins the game because he/she has three marks in a row in row 3. So the second person will win the game.

-	/	/
-		/
+	+	+

So when the first person to start the game places his/her mark in one of the squares that are not the corner squares, the second person will definitely win the game. The same can be extended to the remaining squares – A2, C2 and B3 – as well. That is, the second person will win the game if the first person places his/her mark in any of the squares B1, A2, C2 and B3.

Therefore, if the first person places his/her mark in A1, C1, A3 or C3, he/she will definitely win the game.

If the first person places his/her mark in B1, A2, C2 or B3, the second person will definitely win the game.

Since it is given that the first person did not place his/her mark in B2, any game will be won by either the first person or the second person. The third person can never win a game.

The first person to play wins the game. This/her implies that the first person placed his/her mark in one of the corner squares. Therefore, Rekha must have placed her first mark in A1 or C1 or A3 or C3. Only the grid represented in option C has the mark in one of these squares (C3).

Choice (C)

undefined

**DIRECTIONS** for questions 25 to 28: Answer the questions on the basis of the information given below.

Three children, Rekha, Shankar and Mukesh, were playing the game of Tic-Tac-Toe, on a grid of  $3 \times 3$  squares. Each game was played by all the three children, with the rules slightly modified from the usual, as described below.

- Each person has his/her own symbol, referred to as his/her 'mark' and in every turn, he/she places the same mark on the grid.
- The columns are labelled A to C, from left to right, and the rows are numbered 1 to 3, from top to bottom. The position of a mark on the grid is given by the combination of the column and row labels of the square in which it is placed. For example, a mark in position C2 means that the mark is in column C and row 2.
- The first person to play a game can place his mark on any square in the  $3 \times 3$  grid except B2.
- In every subsequent turn, each person has to place his/her mark in any empty square, which is
  - not in the same row or column as that of the mark that was placed immediately before his turn
  - not in any diagonal position in any of the four possible directions to that of the mark that was placed immediately before his turn.

For example, if the first person places his/her mark in C2, the second person cannot place his/her mark in any square in column C or any square the 2<sup>nd</sup> row or in the squares in the diagonal positions to C2, i.e. B1 and B3.

- The first person to get three of his/her marks in a straight line (horizontally, vertically, or diagonally) in the grid is the winner.
- The game ends in a tie if all the nine squares are full or if it is not possible to place any other mark in the remaining squares, without having a winner.

A fresh grid is drawn at the beginning of each game.

The marks of the three persons, Rekha, Shankar and Mukesh, are 'X', 'O' and 'I' respectively. It is known that in any game that they played, the first person to play did not place his/her mark in B2.

**Q27. DIRECTIONS** for questions 26 to 28: Select the correct alternative from the given choices.

If 'I', 'O' and 'X' were the first three marks to be placed on the grid in that order, then who among the following could not have won that game?

- a) **Mukesh**
- b) **Rekha**
- c) **Shankar**
- d) **None of the above**

You did not answer this question

Show Correct Answer

#### Time spent / Accuracy Analysis

Time taken by you to answer this question	0
Avg. time spent on this question by all students	92
Difficulty Level	D
Avg. time spent on this question by students who got this question right	97
% of students who attempted this question	8.55
% of students who got the question right of those who attempted	55.91

[Video Solution](#)

[Text Solution](#)

Let us assume that the three marks of the first, second and third person are /, + and – respectively.

The first person to play can place his/her mark either in one of the corner squares or in one of the squares that are not in the corners. Given that none of them placed their marks in B2. So we will get two cases here.

**Case 1:** the first person to play placed his/her mark in one of the corner squares, say A1.

From (iii), we can say that the second person can place his/her mark in C2 or B3. If the second person places his/her mark in C2, we'll get the following:

/		
		+

From (iii), the third person can place his/her mark in only A3. After that, it is the turn of the first person to place his/her mark and he can place it only in B1. Then the second person can place his/her mark in only C3. Next, the third person can place his/her mark in only A2. The first person can fix his/her mark in only C1 and he/she wins the game because he/she has three marks in a row in row 1. So the first person to start will win the game.

/	/	/
-		+
-		+

If the second person places his/her mark in B3, we will get the following:

/		
		+

From (iii), the third person can place his/her mark in only C1. After that, it is the turn of the first person to place his/her mark and he can place it only in A2. Then the second person can place his/her mark in only C3. Next, the third person can place his/her mark in only B1. The first person can fix his/her mark in only A3 and he/she wins the game because he/she has three marks in a row in column A. So the first person to start will win the game.

/	-	-
/		
/	+	+

So when the first person to start the game places his/her mark in A1, he/she will definitely win the game. The same can be extended to the other corners, C1, A3, and C3, as well. That is, the first person will win the game if he places his/her mark in any of the four corners.

**Case 2:** The first person places his/her mark in one of the squares that are not in the

**Case 2:** The first person places his/her mark in one of the squares that are not in the corners, say B1.

From (iii), we can say that the second person can place his/her mark in A3 or C3.

If the second person places his/her mark in A3, we'll get the following:

	/	
+		

From (iii), the third person can place his/her mark in only C2. After that, it is the turn of the first person to place his/her mark and he can place it only in A1. Then the second person can place his/her mark in only B3. Next, the third person can place his/her mark in only C1. Then, the first person can fix his/her mark in only A2. Now, the second person can fix his/her mark in only C3 and he/she wins the game because he/she has three marks in a row in row 3. So the second person will win the game.

/	/	-
/		-
+	+	+

If the second person places his/her mark in B3, we will get the following:

	/	
		+

From (iii), the third person can place his/her mark in only A2. After that, it is the turn of the first person to place his/her mark and he/she can place it only in C1. Then the second person can place his/her mark in only B3. Next, the third person can place his/her mark in only A1. Then, the first person can fix his/her mark in only C2. Now, the second person can fix his/her mark in only A3 and he/she wins the game because he/she has three marks in a row in row 3. So the second person will win the game.

-	/	/
-		/
+	+	+

So when the first person to start the game places his/her mark in one of the squares that are not the corner squares, the second person will definitely win the game. The same can be extended to the remaining squares – A2, C2 and B3 – as well. That is, the second person will win the game if the first person places his/her mark in any of the squares B1, A2, C2 and B3.

Therefore, if the first person places his/her mark in A1, C1, A3 or C3, he/she will definitely win the game.

If the first person places his/her mark in B1, A2, C2 or B3, the second person will definitely win the game.

Since it is given that the first person did not place his/her mark in B2, any game will be won by either the first person or the second person. The third person can never win a game.

Since it is the third person who can never win a game, it is the person whose mark is 'X' who cannot win the game. X is Rekha's mark. Therefore, Rekha can never win a game.  
Choice (B)

undefined

**DIRECTIONS for questions 25 to 28:** Answer the questions on the basis of the information given below.

Three children, Rekha, Shankar and Mukesh, were playing the game of Tic-Tac-Toe, on a grid of  $3 \times 3$  squares. Each game was played by all the three children, with the rules slightly modified from the usual, as described below.

- o Each person has his/her own symbol, referred to as his/her 'mark' and in every turn, he/she places the same mark on the grid.
- o The columns are labelled A to C, from left to right, and the rows are numbered 1 to 3, from top to bottom. The position of a mark on the grid is given by the combination of the column and row labels of the square in which it is placed. For example, a mark in position C2 means that the mark is in column C and row 2.
- o The first person to play a game can place his mark on any square in the  $3 \times 3$  grid except B2.
- o In every subsequent turn, each person has to place his/her mark in any empty square, which is
  - not in the same row or column as that of the mark that was placed immediately before his turn
  - not in any diagonal position in any of the four possible directions to that of the mark that was placed immediately before his turn.

For example, if the first person places his/her mark in C2, the second person cannot place his/her mark in any square in column C or any square the 2<sup>nd</sup> row or in the squares in the diagonal positions to C2, i.e. B1 and B3.

- o The first person to get three of his/her marks in a straight line (horizontally, vertically, or diagonally) in the grid is the winner.
- o The game ends in a tie if all the nine squares are full or if it is not possible to place any other mark in the remaining squares, without having a winner.

A fresh grid is drawn at the beginning of each game.

The marks of the three persons, Rekha, Shankar and Mukesh, are 'X', 'O' and 'I' respectively. It is known that in any game that they played, the first person to play did not place his/her mark in B2.

**Q28. DIRECTIONS** for questions 26 to 28: Select the correct alternative from the given choices.

If Mukesh, Shankar and Rekha played a game, taking turns in that order and Mukesh did not win the game, which of the following options could represent the grid immediately after Rekha placed her first mark?

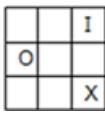
a)

	X	
I		
		O

b)

O		
		I
X		

c)



d) More than one of the above

You did not answer this question

Show Correct Answer

#### Time spent / Accuracy Analysis

Time taken by you to answer this question	0
Avg. time spent on this question by all students	129
Difficulty Level	D
Avg. time spent on this question by students who got this question right	135
% of students who attempted this question	8.62
% of students who got the question right of those who attempted	32.33

[Video Solution](#)

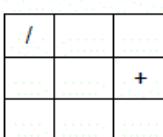
[Text Solution](#)

Let us assume that the three marks of the first, second and third person are /, + and – respectively.

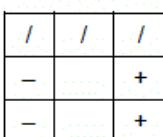
The first person to play can place his/her mark either in one of the corner squares or in one of the squares that are not in the corners. Given that none of them placed their marks in B2. So we will get two cases here.

**Case 1:** the first person to play placed his/her mark in one of the corner squares, say A1.

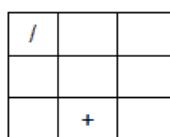
From (iii), we can say that the second person can place his/her mark in C2 or B3.  
If the second person places his/her mark in C2, we'll get the following:



From (iii), the third person can place his/her mark in only A3. After that, it is the turn of the first person to place his/her mark and he can place it only in B1. Then the second person can place his/her mark in only C3. Next, the third person can place his/her mark in only A2. The first person can fix his/her mark in only C1 and he/she wins the game because he/she has three marks in a row in row 1. So the first person to start will win the game.



If the second person places his/her mark in B3, we will get the following:



From (iii), the third person can place his/her mark in only C1. After that, it is the turn of the first person to place his/her mark and he can place it only in A2. Then the second person can place his/her mark in only C3. Next, the third person can place his/her mark in only B1. The first person can fix his/her mark in only A3 and he/she wins the game because he/she has three marks in a row in column A. So the first person to start will win the game.



/		
/	+	+

So when the first person to start the game places his/her mark in A1, he/she will definitely win the game. The same can be extended to the other corners, C1, A3, and C3, as well. That is, the first person will win the game if he places his/her mark in any of the four corners.

**Case 2:** The first person places his/her mark in one of the squares that are not in the corners, say B1.

From (iii), we can say that the second person can place his/her mark in A3 or C3.

If the second person places his/her mark in A3, we'll get the following:

	/	
+		

From (iii), the third person can place his/her mark in only C2. After that, it is the turn of the first person to place his/her mark and he can place it only in A1. Then the second person can place his/her mark in only B3. Next, the third person can place his/her mark in only C1. Then, the first person can fix his/her mark in only A2. Now, the second person can fix his/her mark in only C3 and he/she wins the game because he/she has three marks in a row in row 3. So the second person will win the game.

/	/	-
/		-
+	+	+

If the second person places his/her mark in B3, we will get the following:

	/	
		+

From (iii), the third person can place his/her mark in only A2. After that, it is the turn of the first person to place his/her mark and he/she can place it only in C1. Then the second person can place his/her mark in only B3. Next, the third person can place his/her mark in only A1. Then, the first person can fix his/her mark in only C2. Now, the second person can fix his/her mark in only A3 and he/she wins the game because he/she has three marks in a row in row 3. So the second person will win the game.

-	/	/
-		/
+	+	+

So when the first person to start the game places his/her mark in one of the squares that are not the corner squares, the second person will definitely win the game. The same can be extended to the remaining squares – A2, C2 and B3 – as well. That is, the second person will win the game if the first person places his/her mark in any of the squares B1, A2, C2 and B3.

Therefore, if the first person places his/her mark in A1, C1, A3 or C3, he/she will definitely win the game.

If the first person places his/her mark in B1, A2, C2 or B3, the second person will definitely win the game.

Since it is given that the first person did not place his/her mark in B2, any game will be won by either the first person or the second person. The third person can never win a game.

If the first person to play did not win the game, then the second person to play must have won the game. This/her is possible only when the first person placed his/her first mark in one of the squares that are not corner squares. Therefore, Mukesh could have placed his first mark in one of B1, A2, C2 or B3.

Hence, we can eliminate option C as a possibility. Also, option B violates the condition of the game (the third person, Rekha, violated the rules). The only possibility for the grid, among the given options, is the one in option A.

Choice (A)

undefined

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

During a period of ten days, Day 1 through Day 10, on each day, it rained or snowed or was windy. On any day that it rained, it did not snow. On any day that it snowed, it was not windy. On any day that was windy, it did not rain. If it rained on any day, Jatin went to a movie on that day. If it snowed on any day, Jatin went to the mall on that day. If it was windy on any day, Jatin went to the gym on that day. Further, if Jatin went to a mall but did not go to a movie on any day, he also went to the gym on that day. If Jatin went to a movie on any day, he also went to the mall on that day.

It is also known that, during the given period,

- i. it did not snow on any two consecutive days.
- ii. Jatin did not go to the mall on Day 8 and Day 10, while he went to a movie on Day 3.
- iii. it rained on at least three days and it snowed on at least three days.
- iv. on each of Day 2 and Day 5, Jatin went to the mall but did not go to a movie, while on each of Day 1 and Day 7 he went to the gym but did not go to the mall.
- v. he went to both a movie and the gym on exactly four days.

**Q29. DIRECTIONS** for question 29: Select the correct alternative from the given choices.

On how many days that it snowed did Jatin go to a movie?

- a) 0
- b) 1
- c) 2
- d) 3

You did not answer this question

Show Correct Answer

Time spent / Accuracy Analysis

Time taken by you to answer this question	<b>653</b>
Avg. time spent on this question by all students	<b>598</b>
Difficulty Level	<b>M</b>
Avg. time spent on this question by students who got this question right	<b>655</b>
% of students who attempted this question	<b>18.8</b>
% of students who got the question right of those who attempted	<b>37.49</b>

[Video Solution](#)

### Text Solution

From the given conditions, if it rained, he went to a movie and if he went to a movie, he went to a mall.

If it snowed, he went to a mall. If he went to a mall but not a movie, he went to the gym.

If it was windy, he went to the gym.

From (ii), Jatin did not go to the mall on Day 8 and Day 10. Hence, it could not have snowed on Day 8 and Day 10. Also, since he did not go to the mall on these days, he could not have gone to the movies. Hence, it could not have rained on these two days. Hence, it must have been windy. Hence, on Day 8 and Day 10, he went to the gym. Further, on these two days, he must have gone only to the gym.

From (iv), on day 2 and day 5, he went to a mall but not to a movie. From the given conditions, he must have gone to the gym. Hence, it could have snowed on these two days or it could have been windy.

From (iv), on Day 1 and Day 7 he went to the gym but not to the mall. Since he did not go to the mall, he could not have gone to a movie. Hence, it could not have been rainy or snowy. Hence, it must have been windy on Day 1 and Day 7.

Since four days were windy, among the other six days, from (iii), three days must be rainy and three, snowy.

Hence, on Day 2 and Day 5, it must have snowed. From (i), it did not snow on two consecutive days. Hence, the other day on which it must have snowed was Day 9. He must have visited the mall on Day 9. He could have visited the Movies or the gym or both or neither on this day.

On Day 3, Day 4 and Day 6, it must have rained. He must have gone to a movie and a mall on these three days. He could also have gone to the gym on these days.

From (v), he must have gone to movies and the gym on Day 9, Day 3, Day 6 and Day 4.

The following table provides the weather on each day and the places that he visited on each day:

Day	1	2	3	4	5	6	7	8	9	10
Weather	Wind	Snow	Rain	Rain	Snow	Rain	Wind	Wind	Snow	Wind
Places	Gym	Mall Gym	Movie Mall Gym	Movie Mall Gym	Mall Gym	Movie Mall Gym	Gym	Gym	Movie Mall Gym	Gym

On only 1 day, it snowed and Jatin went to a movie.

Choice (B)

undefined

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

During a period of ten days, Day 1 through Day 10, on each day, it rained or snowed or was windy. On any day that it rained, it did not snow. On any day that it snowed, it was not windy. On any day that was windy, it did not rain. If it rained on any day, Jatin went to a movie on that day. If it snowed on any day, Jatin went to the mall on that day. If it was windy on any day, Jatin went to the gym on that day. Further, if Jatin went to a mall but did not go to a movie on any day, he also went to the gym on that day. If Jatin went to a movie on any day, he also went to the mall on that day.

It is also known that, during the given period,

- i. it did not snow on any two consecutive days.
- ii. Jatin did not go to the mall on Day 8 and Day 10, while he went to a movie on Day 3.
- iii. it rained on at least three days and it snowed on at least three days.
- iv. on each of Day 2 and Day 5, Jatin went to the mall but did not go to a movie, while on each of Day 1 and Day 7 he went to the gym but did not go to the mall.

v.

he went to both a movie and the gym on exactly four days.

**Q30. DIRECTIONS** for question 30: Type your answer in the text box provided below the question.

On how many days that were windy did Jatin go only to the gym?

You did not answer this question

Show Correct Answer

**Time spent / Accuracy Analysis**

Time taken by you to answer this question	<b>0</b>
Avg. time spent on this question by all students	<b>65</b>
Difficulty Level	<b>M</b>
Avg. time spent on this question by students who got this question right	<b>62</b>
% of students who attempted this question	<b>24.05</b>
% of students who got the question right of those who attempted	<b>26.27</b>

[Video Solution](#)

[Text Solution](#)

From the given conditions, if it rained, he went to a movie and if he went to a movie, he went to a mall.

If it snowed, he went to a mall. If he went to a mall but not a movie, he went to the gym.

If it was windy, he went to the gym.

From (ii), Jatin did not go to the mall on Day 8 and Day 10. Hence, it could not have snowed on Day 8 and Day 10. Also, since he did not go the mall on these days, he could not have gone to the movies. Hence, it could not have rained on these two days. Hence, it must have been windy. Hence, on Day 8 and Day 10, he went to the gym. Further, on these two days, he must have gone only to the gym.

From (iv), on day 2 and day 5, he went to a mall but not to a movie. From the given conditions, he must have gone to the gym. Hence, it could have snowed on these two days or it could have been windy.

From (iv), on Day 1 and Day 7 he went to the gym but not to the mall. Since he did not go to the mall, he could not have gone to a movie. Hence, it could not have been rainy or snowy. Hence, it must have been windy on Day 1 and Day 7.

Since four days were windy, among the other six days, from (iii), three days must be rainy and three, snowy.

Hence, on Day 2 and Day 5, it must have snowed. From (i), it did not snow on two consecutive days. Hence, the other day on which it must have snowed was Day 9. He must have visited the mall on Day 9. He could have visited the Movies or the gym or both or neither on this day.

On Day 3, Day 4 and Day 6, it must have rained. He must have gone to a movie and a mall on these three days. He could also have gone to the gym on these days.

From (v), he must have gone to movies and the gym on Day 9, Day 3, Day 6 and Day 4.

The following table provides the weather on each day and the places that he visited on each day:

Day	1	2	3	4	5	6	7	8	9	10
Weather	Wind	Snow	Rain	Rain	Snow	Rain	Wind	Wind	Snow	Wind
Places	Gym	Mall Gym	Movie Mall Gym	Movie Mall Gym	Mall Gym	Movie Mall Gym	Gym	Gym	Movie Mall Gym	Gym

On all the 4 days that it was windy, Jatin went only to the gym.

Ans: (4)

undefined

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

During a period of ten days, Day 1 through Day 10, on each day, it rained or snowed or was windy. On any day that it rained, it did not snow. On any day that it snowed, it was not windy. On any day that was windy, it did not rain. If it rained on any day, Jatin went to a movie on that day. If it snowed on any day, Jatin went to the mall on that day. If it was windy on any day, Jatin went to the gym on that day. Further, if Jatin went to a mall but did not go to a movie on any day, he also went to the gym on that day. If Jatin went to a movie on any day, he also went to the mall on that day.

It is also known that, during the given period,

- i. it did not snow on any two consecutive days.
- ii. Jatin did not go to the mall on Day 8 and Day 10, while he went to a movie on Day 3.
- iii. it rained on at least three days and it snowed on at least three days.
- iv. on each of Day 2 and Day 5, Jatin went to the mall but did not go to a movie, while on each of Day 1 and Day 7 he went to the gym but did not go to the mall.
- v. he went to both a movie and the gym on exactly four days.

**Q31. DIRECTIONS** for question 31: Select the correct alternative from the given choices.

On which of the following days did it not snow but Jatin went to the mall?

- a) Day 4
- b) Day 5
- c) Day 9
- d) None of the above

You did not answer this question

[Show Correct Answer](#)

**Time spent / Accuracy Analysis**

Time taken by you to answer this question	0
Avg. time spent on this question by all students	63
Difficulty Level	M
Avg. time spent on this question by students who got this question right	62
% of students who attempted this question	17.18
% of students who got the question right of those who attempted	48.36

[Video Solution](#)

[Text Solution](#)

From the given conditions, if it rained, he went to a movie and if he went to a movie, he went to a mall.

If it snowed, he went to a mall. If he went to a mall but not a movie, he went to the gym.

If it was windy, he went to the gym.

From (ii), Jatin did not go to the mall on Day 8 and Day 10. Hence, it could not have snowed on Day 8 and Day 10. Also, since he did not go to the mall on these days, he could not have gone to the movies. Hence, it could not have rained on these two days. Hence, it must have been windy. Hence, on Day 8 and Day 10, he went to the gym. Further, on these two days, he must have gone only to the gym.

From (iv), on day 2 and day 5, he went to a mall but not to a movie. From the given conditions, he must have gone to the gym. Hence, it could have snowed on these two days or it could have been windy.

From (iv), on Day 1 and Day 7 he went to the gym but not to the mall. Since he did not go to the mall, he could not have gone to a movie. Hence, it could not have been rainy or snowy. Hence, it must have been windy on Day 1 and Day 7.

Since four days were windy, among the other six days, from (iii), three days must be rainy and three, snowy.

Hence, on Day 2 and Day 5, it must have snowed. From (i), it did not snow on two consecutive days. Hence, the other day on which it must have snowed was Day 9. He must have visited the mall on Day 9. He could have visited the Movies or the gym or both or neither on this day.

On Day 3, Day 4 and Day 6, it must have rained. He must have gone to a movie and a mall on these three days. He could also have gone to the gym on these days.

From (v), he must have gone to movies and the gym on Day 9, Day 3, Day 6 and Day 4.

The following table provides the weather on each day and the places that he visited on each day:

Day	1	2	3	4	5	6	7	8	9	10
Weather	Wind	Snow	Rain	Rain	Snow	Rain	Wind	Wind	Snow	Wind
Places	Gym	Mall Gym	Movie Mall Gym	Movie Mall Gym	Mall Gym	Movie Mall Gym	Gym	Gym	Movie Mall Gym	Gym

On Day 4, it did not snow but Jatin went to the mall.

Choice (A)

undefined

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

During a period of ten days, Day 1 through Day 10, on each day, it rained or snowed or was windy. On any day that it rained, it did not snow. On any day that it snowed, it was not windy. On any day that was windy, it did not rain. If it rained on any day, Jatin went to a movie on that day. If it snowed on any day, Jatin went to the mall on that day. If it was windy on any day, Jatin went to the gym on that day. Further, if Jatin went to a mall but did not go to a movie on any day, he also went to the gym on that day. If Jatin went to a movie on any day, he also went to the mall on that day.

It is also known that, during the given period,

i.

it did not snow on any two consecutive days.

ii.

Jatin did not go to the mall on Day 8 and Day 10, while he went to a movie on Day 3.

- iii. it rained on at least three days and it snowed on at least three days.
- iv. on each of Day 2 and Day 5, Jatin went to the mall but did not go to a movie, while on each of Day 1 and Day 7 he went to the gym but did not go to the mall.
- v. he went to both a movie and the gym on exactly four days.

**Q32. DIRECTIONS** for question 32: Type your answer in the text box provided below the question.

On how many days did he go to the gym?

**You did not answer this question**

[Show Correct Answer](#)

**Time spent / Accuracy Analysis**

Time taken by you to answer this question	<b>0</b>
Avg. time spent on this question by all students	<b>77</b>
Difficulty Level	<b>M</b>
Avg. time spent on this question by students who got this question right	<b>52</b>
% of students who attempted this question	<b>22.55</b>
% of students who got the question right of those who attempted	<b>10.61</b>

[Video Solution](#)

[Text Solution](#)

From the given conditions, if it rained, he went to a movie and if he went to a movie, he went to a mall.

If it snowed, he went to a mall. If he went to a mall but not a movie, he went to the gym.

If it was windy, he went to the gym.

From (ii), Jatin did not go to the mall on Day 8 and Day 10. Hence, it could not have snowed on Day 8 and Day 10. Also, since he did not go to the mall on these days, he could not have gone to the movies. Hence, it could not have rained on these two days. Hence, it must have been windy. Hence, on Day 8 and Day 10, he went to the gym. Further, on these two days, he must have gone only to the gym.

From (iv), on day 2 and day 5, he went to a mall but not to a movie. From the given conditions, he must have gone to the gym. Hence, it could have snowed on these two days or it could have been windy.

From (iv), on Day 1 and Day 7 he went to the gym but not to the mall. Since he did not go to the mall, he could not have gone to a movie. Hence, it could not have been rainy or snowy. Hence, it must have been windy on Day 1 and Day 7.

Since four days were windy, among the other six days, from (iii), three days must be rainy and three, snowy.

Hence, on Day 2 and Day 5, it must have snowed. From (i), it did not snow on two consecutive days. Hence, the other day on which it must have snowed was Day 9. He must have visited the mall on Day 9. He could have visited the Movies or the gym or both or neither on this day.

On Day 3, Day 4 and Day 6, it must have rained. He must have gone to a movie and a mall on these three days. He could also have gone to the gym on these days.

From (v), he must have gone to movies and the gym on Day 9, Day 3, Day 6 and Day 4.

The following table provides the weather on each day and the places that he visited on each day:

Day	1	2	3	4	5	6	7	8	9	10
Weather	Wind	Snow	Rain	Rain	Snow	Rain	Wind	Wind	Snow	Wind
Places	Gym	Mall Gym	Movie Mall Gym	Movie Mall Gym	Mall Gym	Movie Mall Gym	Gym	Gym	Movie Mall Gym	Gym

On all the 10 days, Jatin went to the gym.

Ans: (10)

undefined

**Q1. DIRECTIONS** for questions 1 to 4: Type in your answer in the input box provided below the question.

Fresh dates contain 80% water by weight while dry dates contain 20% water by weight. What is the weight (in kg) of dry dates available from 300 kg of fresh dates?

**Your Answer:**75 **Your answer is correct**

**Time spent / Accuracy Analysis**

Time taken by you to answer this question	<b>98</b>
Avg. time spent on this question by all students	<b>126</b>
Difficulty Level	<b>E</b>
Avg. time spent on this question by students who got this question right	<b>110</b>
% of students who attempted this question	<b>54.52</b>
% of students who got the question right of those who attempted	<b>62.28</b>

[Video Solution](#)

[Text Solution](#)

300 kg of fresh dates contain 240 kg water

⇒ 60 kg is non-water.

⇒ 60 kg is 80% of dried grape.

Weight of dried grapes

$$= \frac{60}{80\%} = \frac{60 \times 5}{4} = 75 \text{ kg}$$

Ans: (75)

undefined

**Q2. DIRECTIONS** for questions 1 to 4: Type in your answer in the input box provided below the question.

In an obtuse triangle, the difference between the obtuse angle and one of the acute angles of a triangle is  $20^\circ$ , while the difference between the two acute angles is  $56^\circ$ . Find the measure (in degrees) of the smallest angle of the triangle.

**You did not answer this question**

[Show Correct Answer](#)

**Time spent / Accuracy Analysis**

Time taken by you to answer this question	<b>165</b>
Avg. time spent on this question by all students	<b>184</b>
Difficulty Level	<b>E</b>
Avg. time spent on this question by students who got this question right	<b>177</b>
% of students who attempted this question	<b>45.84</b>
% of students who got the question right of those who attempted	<b>79.33</b>

[Video Solution](#)

[Text Solution](#)

Let the obtuse angle be  $a$ , and the acute angles be  $b$  and  $c$ .

Now, given that

$$a - b = 20 \Rightarrow a = 20 + b \text{ and}$$

$$b - c = 56 \Rightarrow c = b - 56$$

$$\text{Also, } a + b + c = 180 \Rightarrow (20 + b) + b + (b - 56) = 180$$

$$\Rightarrow 3b = 216 \text{ or } b = 72 \Rightarrow a = 20 + 72 = 92$$

$$\text{and } c = 72 - 56 = 16$$

Ans: (16)

undefined

**Q3. DIRECTIONS** for questions 1 to 4: Type in your answer in the input box provided below the question.

If  $x$  is an integer and  $x^3 - 2(x + 2)^2 = 993$ , find the value of  $x$ .

You did not answer this question

Show Correct Answer

Time spent / Accuracy Analysis

Time taken by you to answer this question	331
Avg. time spent on this question by all students	162
Difficulty Level	M
Avg. time spent on this question by students who got this question right	155
% of students who attempted this question	36.86
% of students who got the question right of those who attempted	86.69

[Video Solution](#)

[Text Solution](#)

$$\begin{aligned}x^3 - 2(x + 2)^2 &= 993 \\ \Rightarrow x^3 + 2^3 - 2(x + 2)^2 &= 1001 \\ \Rightarrow (x + 2)[x^2 - 2x + 4 - 2x - 4] &= 1001 \\ \Rightarrow (x + 2)(x)(x - 4) &= 13 \times 11 \times 7 = 1001 \\ \therefore x &= 11\end{aligned}$$

Ans: (11)

undefined

**Q4. DIRECTIONS** for questions 1 to 4: Type in your answer in the input box provided below the question.

In a school, there are three houses, A, B and C. If 170 students leave house B and join house C, the ratio of the number of students in house A and house C would be reversed. Instead, if 40 students leave house A and join house C, then the number of students in house A and house C will be equal. Find the number of students in house A and house C together.

Your Answer: 1360 Your answer is correct

Time spent / Accuracy Analysis

Time taken by you to answer this question	183
Avg. time spent on this question by all students	204
Difficulty Level	M
Avg. time spent on this question by students who got this question right	195
% of students who attempted this question	32.58

**Time spent / Accuracy Analysis**

% of students who got the question right of those who attempted      **72.76**

[Video Solution](#)

[Text Solution](#)

Let the number of students in house A be  $x$ .  
 $\Rightarrow$  the initial number of students in house C be  $x - 80$ .  
 $\Rightarrow \frac{x}{x-80} = \frac{(x-80)+170}{x}$   
 $\Rightarrow x^2 = (x - 80)^2 + 170(x - 80)$   
 $\Rightarrow x^2 = x^2 - 160x + 6400 + 170x - 13600$   
 $\Rightarrow 10x = 7200$   
 $\therefore x = 720$   
 $\therefore$  The number of students in house A and house C is  
 $x + x - 80 = 2(720) - 80 = 1360.$

Ans: (1360)

undefined

undefined

**Q5. DIRECTIONS** for question 5 and 6: Select the correct alternative from the given choices.

The cost of one helmet, two pairs of gloves, three pairs of pads, four bats and five balls increased by 11%, 22%, 33%, 44% and 55% respectively, over that of the previous year. Last year, if I had spent equal amounts purchasing each of the given varieties of items (i.e., helmets, gloves, pads, bats and balls), by what percentage would the total cost of all the items I purchased increase this year, over that in the previous year?

a)

40  $\frac{1}{3}$  %

b)

33%

Your answer is correct

c)

22%

d)

27.5%

**Time spent / Accuracy Analysis**

Time taken by you to answer this question      **285**

Avg. time spent on this question by all students      **180**

Difficulty Level      **M**

Avg. time spent on this question by students who got this question right **169**

**Time spent / Accuracy Analysis**

% of students who attempted this question	<b>32.57</b>
% of students who got the question right of those who attempted	<b>76.11</b>

[Video Solution](#)**Text Solution**

Let the amount that spent on each variety of items by  $x$ .

Hence, total amount I spent last year =  $5x$ .

This year I would have spent

$$x(1.11) + x(1.22) + x(1.33) + x(1.44) + x(1.55)$$

Hence the total cost increased by

$$x \times 0.11[1 + 2 + 3 + 4 + 5] = x \times 0.11 \times 15$$

∴ Percentage increase in cost

$$= \frac{x \times 0.11 \times 15}{5x} \times 100 = 33\%$$

Choice (B)

**Q5. DIRECTIONS for question 5 and 6:** Select the correct alternative from the given choices.

The cost of one helmet, two pairs of gloves, three pairs of pads, four bats and five balls increased by 11%, 22%, 33%, 44% and 55% respectively, over that of the previous year. Last year, if I had spent equal amounts purchasing each of the given varieties of items (i.e., helmets, gloves, pads, bats and balls), by what percentage would the total cost of all the items I purchased increase this year, over that in the previous year?

a)

$40\frac{1}{3}\%$

b)

33%

Your answer is correct

c)

22%

d)

27.5%

**Time spent / Accuracy Analysis**

Time taken by you to answer this question **285**

Avg. time spent on this question by all students **180**

Difficulty Level **M**

Avg. time spent on this question by students who got this question right **169**

% of students who attempted this question **32.57**

% of students who got the question right of those who attempted **76.11**

[Video Solution](#)

### Text Solution

Let the amount that spent on each variety of items by  $x$ .

Hence, total amount I spent last year =  $5x$ .

This year I would have spent

$$x(1.11) + x(1.22) + x(1.33) + x(1.44) + x(1.55)$$

Hence the total cost increased by

$$x \times 0.11[1 + 2 + 3 + 4 + 5] = x \times 0.11 \times 15$$

$\therefore$  Percentage increase in cost

$$= \frac{x \times 0.11 \times 15}{5x} \times 100 = 33\%$$

Choice (B)

undefined

undefined

**Q6. DIRECTIONS** for question 5 and 6: Select the correct alternative from the given choices.

A real number  $x$  satisfies the following inequation  $2 - \frac{1}{y} < x \leq 5 + \frac{1}{y}$ , for each positive integer  $y$ . Which of the following represents the best description of  $x$ ?

- a)  $2 < x < 6$
- b)  $2 < x \leq 5$
- c)  $1 \leq x \leq 6$
- d)  $2 \leq x \leq 5$  Your answer is correct

### Time spent / Accuracy Analysis

Time taken by you to answer this question	<b>231</b>
Avg. time spent on this question by all students	<b>130</b>
Difficulty Level	<b>E</b>
Avg. time spent on this question by students who got this question right	<b>144</b>
% of students who attempted this question	<b>38.39</b>
% of students who got the question right of those who attempted	<b>16.22</b>

### Video Solution

### Text Solution

We are looking for these values of  $x$  for which

$$2 - \frac{1}{y} < x \leq 5 + \frac{1}{y}, \text{ for all positive integral values of } y.$$

Clearly all the numbers between 2 and 5 satisfy the condition. 5 itself satisfies the condition and 2 also satisfies the condition.

But any number greater than 5 or less than 2 doesn't satisfy the condition for all integral values of  $y$ .

Therefore, the best description is  $[2, 5]$  or  $2 \leq x \leq 5$ .

Choice (D)

**Q6. DIRECTIONS** for question 5 and 6: Select the correct alternative from the given choices.

A real number  $x$  satisfies the following inequation  $2 - \frac{1}{y} < x \leq 5 + \frac{1}{y}$ , for each positive integer  $y$ . Which of the following represents the best description of  $x$ ?

- a)  $2 < x < 6$
- b)  $2 < x \leq 5$
- c)  $1 \leq x \leq 6$
- d)  $2 \leq x \leq 5$  Your answer is correct

**Time spent / Accuracy Analysis**

Time taken by you to answer this question	<b>231</b>
Avg. time spent on this question by all students	<b>130</b>
Difficulty Level	<b>E</b>
Avg. time spent on this question by students who got this question right	<b>144</b>
% of students who attempted this question	<b>38.39</b>
% of students who got the question right of those who attempted	<b>16.22</b>

[Video Solution](#)

[Text Solution](#)

We are looking for these values of  $x$  for which

$$2 - \frac{1}{y} < x \leq 5 + \frac{1}{y}, \text{ for all positive integral values of } y.$$

Clearly all the numbers between 2 and 5 satisfy the condition. 5 itself satisfies the condition and 2 also satisfies the condition.

But any number greater than 5 or less than 2 doesn't satisfy the condition for all integral values of  $y$ .

Therefore, the best description is  $[2, 5]$  or  $2 \leq x \leq 5$ .

Choice (D)

undefined

undefined

**Q7. DIRECTIONS** for questions 7 to 10: Type in your answer in the input box provided below the question.

The product of three numbers is 1620. If the HCF of any two out of the three numbers is 3, find the LCM of the three numbers.

Your Answer:540 Your answer is incorrect

Show Correct Answer

**Time spent / Accuracy Analysis**

Time taken by you to answer this question	<b>133</b>
Avg. time spent on this question by all students	<b>129</b>
Difficulty Level	<b>E</b>
Avg. time spent on this question by students who got this question right	<b>138</b>
% of students who attempted this question	<b>43.81</b>
% of students who got the question right of those who attempted	<b>41.58</b>

[Video Solution](#)

[Text Solution](#)

Let the three numbers be  $3a$ ,  $3b$  and  $3c$ . As HCF ( $3a, 3b$ )

$$= \text{HCF} (3b, 3c) = \text{HCF}(3a, 3c) = 3$$

$\Rightarrow$  The LCM of the three numbers =  $3abc$

The product of the numbers =  $27abc = 9(3abc) = 1620$

$$\therefore 3abc = \frac{1620}{9} = 180$$

$\therefore$  The LCM of the three numbers is 180.

Ans: (180)

**Q7. DIRECTIONS** for questions 7 to 10: Type in your answer in the input box provided below the question.

The product of three numbers is 1620. If the HCF of any two out of the three numbers is 3, find the LCM of the three numbers.

Your Answer:540 □ Your answer is incorrect

Show Correct Answer

Time spent / Accuracy Analysis

Time taken by you to answer this question	133
Avg. time spent on this question by all students	129
Difficulty Level	E
Avg. time spent on this question by students who got this question right	138
% of students who attempted this question	43.81
% of students who got the question right of those who attempted	41.58

[Video Solution](#)

[Text Solution](#)

Let the three numbers be  $3a$ ,  $3b$  and  $3c$ . As HCF ( $3a, 3b$ )

$$= \text{HCF} (3b, 3c) = \text{HCF}(3a, 3c) = 3$$

$\Rightarrow$  The LCM of the three numbers =  $3abc$

The product of the numbers =  $27abc = 9(3abc) = 1620$

$$\therefore 3abc = \frac{1620}{9} = 180$$

$\therefore$  The LCM of the three numbers is 180.

Ans: (180)

undefined

**Q8. DIRECTIONS** for questions 7 to 10: Type in your answer in the input box provided below the question.

P, Q and R are assigned a piece of work, which they can complete by working together in 14 days. Their efficiencies are in the ratio 1 : 3 : 4 respectively. After half of the work is completed, any one of them must be withdrawn due to a budget constraint. If their wages per day are in the ratio 2 : 4 : 5 respectively and the work is done at optimal cost, the number of days in which the remaining two persons can complete the remaining work is

Your Answer:8 Your answer is correct

Time spent / Accuracy Analysis

#### Time spent / Accuracy Analysis

Time taken by you to answer this question	<b>112</b>
Avg. time spent on this question by all students	<b>200</b>
Difficulty Level	<b>M</b>
Avg. time spent on this question by students who got this question right	<b>204</b>
% of students who attempted this question	<b>22.61</b>
% of students who got the question right of those who attempted	<b>46.65</b>

[Video Solution](#)

#### Text Solution

Let P, Q and R do 1 unit, 3 units and 4 units of work per day and take wages of ₹2x, ₹4x and ₹5x per day respectively.

Since they together complete the work, total work  
=  $14(1 + 3 + 4) = 112$  units.

Since one of them has to be withdrawn to reduce the costs, it should be the person who is paid the highest per unit of work.

P, Q, R are paid ₹2x, ₹ $\frac{4x}{3}$  and ₹ $\frac{5x}{4}$  per unit of work. ⇒ P is paid the highest per unit

of work and hence he should be withdrawn P, Q, R.

Before P is withdrawn, together complete half the work.

So, the remaining work is  $\frac{112}{2}$  units i.e., 56 units.

This work can be done by the remaining two (i.e., Q and R) in  $\frac{56}{3+4} = 8$  days.

Ans:

(8)

undefined

**Q9. DIRECTIONS for questions 7 to 10:** Type in your answer in the input box provided below the question.

The ages of Ram and Raj are in the ratio 4 : 5. If fifteen years ago their ages were in the ratio 3 : 5, what will be the sum of their ages five years from now?

Your Answer:6 □ Your answer is incorrect

Show Correct Answer

#### Time spent / Accuracy Analysis

Time taken by you to answer this question	<b>89</b>
Avg. time spent on this question by all students	<b>111</b>
Difficulty Level	<b>E</b>
Avg. time spent on this question by students who got this question right	<b>105</b>
% of students who attempted this question	<b>57.09</b>
% of students who got the question right of those who attempted	<b>85.63</b>

[Video Solution](#)

#### Text Solution

Let the ages of Ram and Raj be  $4x$  and  $5x$ .  
 Fifteen years ago, their ages would have been  $4x-15$  and  $5x-15$ .

$$\therefore \frac{4x - 15}{5x - 15} = \frac{3}{5}$$

$$\Rightarrow 20x - 75 = 15x - 45$$

$$\Rightarrow x = 6$$

Hence, the ages of Ram and Raj are 24 and 30. Five years from now, the sum of their ages would be  $24 + 30 + 10 = 64$  years

Ans: (64)

undefined

**Q10. DIRECTIONS** for questions 7 to 10: Type in your answer in the input box provided below the question.

If the simple interest on a certain sum for 8 months at 4% p.a. is Rs.129 less than the simple interest on the same sum for 15 months at 5% p.a., the sum (in Rs.) is

**Your Answer:3600 Your answer is correct**

**Time spent / Accuracy Analysis**

Time taken by you to answer this question	<b>91</b>
Avg. time spent on this question by all students	<b>159</b>
Difficulty Level	<b>M</b>
Avg. time spent on this question by students who got this question right	<b>146</b>
% of students who attempted this question	<b>51.61</b>
% of students who got the question right of those who attempted	<b>73.07</b>

[Video Solution](#)

[Text Solution](#)

$$\frac{P(15/12)5}{100} - \frac{P(8/12)4}{100} = 129$$

$$\frac{P}{1200} (75 - 32) = 129$$

$$P = \frac{129(1,200)}{43} = 3,600$$

Ans: (3600)

undefined

**Q11. DIRECTIONS** for questions 11 to 15: Select the correct alternative from the given choices.

If  $(101110101101110)_2 = (X)_{16}$ , then find the number of digits in X each of which is less than 9.

a) 1

b) 2

c) 3

d) 4

You did not answer this question

[Show Correct Answer](#)

**Time spent / Accuracy Analysis**

Time taken by you to answer this question	5
Avg. time spent on this question by all students	156
Difficulty Level	E
Avg. time spent on this question by students who got this question right	148
% of students who attempted this question	24.27
% of students who got the question right of those who attempted	68.18

[Video Solution](#)

**Text Solution**

Since  $16 = 2^4$ , in order to convert a number from base 2 to base 16, every set of four digits, starting from the left, can be directly replaced with their base 16 equivalent.

$$\begin{aligned}\therefore (101110101101110)_2 &= [(101)(1101)(0110)(1110)]_2 \\ &= [5D6E]_{16}.\end{aligned}$$

Hence, there are two digits which are less than 9.

Choice (B)

undefined

undefined

**Q12. DIRECTIONS** for questions 11 to 15: Select the correct alternative from the given choices.

Ajay has a certain number of Rs.1, Rs.2 and Rs.10 notes in his wallet. The number of Rs.1 notes and Rs.2 notes are in the ratio 4 : 3. If the number of Rs.10 notes exceeds the total number of Rs.1 and Rs.2 notes, which of the following is a possible value of the total amount in his wallet?

a) **Rs.160**

b) **Rs.80**

c) **Rs.175** □ **Your answer is incorrect**

d) **Rs.70**

[Show Correct Answer](#)

**Time spent / Accuracy Analysis**

Time taken by you to answer this question	387
Avg. time spent on this question by all students	171
Difficulty Level	M
Avg. time spent on this question by students who got this question right	168
% of students who attempted this question	44.07
% of students who got the question right of those who attempted	72.79

[Video Solution](#)

### Text Solution

Let the number of ₹1 notes and ₹2 notes be  $4x$  and  $3x$  respectively. Let the number of ₹10 notes be  $y$ .

$y >$  total number of Re.1 and ₹2 notes  $\Rightarrow y > 7x$ .

Total value of notes =  $1(4x) + 2(3x) + 10y = 10(x + y)$ .

As  $x$  and  $y$  are integers this is divisible by 10.

As  $y > 7x$ ,  $10(x + y) > 80x$  i.e., it is greater than ₹80. Going by the choices, both these conditions are satisfied by only Choice (A).      Choice (A)

### **Q12. DIRECTIONS** for questions 11 to 15: Select the correct alternative from the given choices.

Ajay has a certain number of Rs.1, Rs.2 and Rs.10 notes in his wallet. The number of Rs.1 notes and Rs.2 notes are in the ratio 4 : 3. If the number of Rs.10 notes exceeds the total number of Rs.1 and Rs.2 notes, which of the following is a possible value of the total amount in his wallet?

- a) **Rs.160**
- b) **Rs.80**
- c) **Rs.175**    Your answer is incorrect
- d) **Rs.70**

**Show Correct Answer**

#### Time spent / Accuracy Analysis

Time taken by you to answer this question	<b>387</b>
Avg. time spent on this question by all students	<b>171</b>
Difficulty Level	<b>M</b>
Avg. time spent on this question by students who got this question right	<b>168</b>
% of students who attempted this question	<b>44.07</b>
% of students who got the question right of those who attempted	<b>72.79</b>

[Video Solution](#)

### Text Solution

Let the number of ₹1 notes and ₹2 notes be  $4x$  and  $3x$  respectively. Let the number of ₹10 notes be  $y$ .

$y >$  total number of Re.1 and ₹2 notes  $\Rightarrow y > 7x$ .

Total value of notes =  $1(4x) + 2(3x) + 10y = 10(x + y)$ .

As  $x$  and  $y$  are integers this is divisible by 10.

As  $y > 7x$ ,  $10(x + y) > 80x$  i.e., it is greater than ₹80. Going by the choices, both these conditions are satisfied by only Choice (A).      Choice (A)

undefined

undefined

undefined

### **Q13. DIRECTIONS** for questions 11 to 15: Select the correct alternative from the given choices.

If the volume of a cylinder decreased by half and its radius decreased by 25%, what is the percentage reduction in its height?

- a)  $16\frac{1}{6}\%$
- b)  $11\frac{1}{9}\%$
- c)  $12\frac{2}{3}\%$
- d)  $9\frac{1}{11}\%$

You did not answer this question

Show Correct Answer

**Time spent / Accuracy Analysis**

Time taken by you to answer this question	<b>225</b>
Avg. time spent on this question by all students	<b>152</b>
Difficulty Level	<b>E</b>
Avg. time spent on this question by students who got this question right	<b>148</b>
% of students who attempted this question	<b>39.68</b>
% of students who got the question right of those who attempted	<b>84.68</b>

[Video Solution](#)

[Text Solution](#)

Let  $r$  and  $h_1$  be the initial radius and height of the cylinder.

$$\text{Initial volume} = \pi \times r^2 \times h_1$$

$$\text{After reduction, radius} = \frac{3}{4}r$$

$$\text{Final volume} = (\pi \times r^2 \times h_1)/2$$

$$(\pi \times r^2 \times h_1)/2 = (\pi \times \frac{9}{16} \times r^2 \times h_2)$$

$$\Rightarrow h_1/h_2 = \frac{9}{16} \times 2 = \frac{9}{8}$$

$$\text{Percentage decrease in height} = \frac{1}{9} = 11\frac{1}{9}\%$$

Choice (B)

**Q13. DIRECTIONS** for questions 11 to 15: Select the correct alternative from the given choices.

If the volume of a cylinder decreased by half and its radius decreased by 25%, what is the percentage reduction in its height?

- a)  $16\frac{1}{6}\%$
- b)  $11\frac{1}{9}\%$
- c)  $12\frac{2}{3}\%$
- d)  $9\frac{1}{11}\%$

You did not answer this question

Show Correct Answer

**Time spent / Accuracy Analysis**

#### Time spent / Accuracy Analysis

Time taken by you to answer this question	<b>225</b>
Avg. time spent on this question by all students	<b>152</b>
Difficulty Level	<b>E</b>
Avg. time spent on this question by students who got this question right	<b>148</b>
% of students who attempted this question	<b>39.68</b>
% of students who got the question right of those who attempted	<b>84.68</b>

[Video Solution](#)

#### Text Solution

Let  $r$  and  $h_1$  be the initial radius and height of the cylinder.

$$\text{Initial volume} = \pi \times r^2 \times h_1$$

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$$(\pi \times r^2 \times h_1)/2 = (\pi \times \frac{9}{16} \times r^2 \times h_2)$$

$$\Rightarrow h_1/h_2 = \frac{9}{16} \times 2 = \frac{9}{8}$$

$$\text{Percentage decrease in height} = \frac{1}{9} = 11\frac{1}{9}\%$$

Choice (B)

**Q13. DIRECTIONS** for questions 11 to 15: Select the correct alternative from the given choices.

If the volume of a cylinder decreased by half and its radius decreased by 25%, what is the percentage reduction in its height?

- a)  $16\frac{1}{6}\%$
- b)  $11\frac{1}{9}\%$
- c)  $12\frac{2}{3}\%$
- d)  $9\frac{1}{11}\%$

You did not answer this question

[Show Correct Answer](#)

#### Time spent / Accuracy Analysis

Time taken by you to answer this question	<b>225</b>
Avg. time spent on this question by all students	<b>152</b>
Difficulty Level	<b>E</b>
Avg. time spent on this question by students who got this question right	<b>148</b>
% of students who attempted this question	<b>39.68</b>
% of students who got the question right of those who attempted	<b>84.68</b>

[Video Solution](#)

#### Text Solution

Let  $r$  and  $h_1$  be the initial radius and height of the cylinder.

Initial volume =  $\pi \times r^2 \times h_1$

After reduction, radius =  $\frac{3}{4}r$

Final volume =  $(\pi \times r^2 \times h_1)/2$

$(\pi \times r^2 \times h_1)/2 = (\pi \times \frac{9}{16} \times r^2 \times h_2)$

$$\Rightarrow h_1/h_2 = \frac{9}{16} \times 2 = \frac{9}{8}$$

$$\text{Percentage decrease in height} = \frac{1}{9} = 11\frac{1}{9}\%$$

Choice (B)

undefined

undefined

**Q14. DIRECTIONS** for questions 11 to 15: Select the correct alternative from the given choices.

The sides of a rightangled triangle are in geometric progression. Find the common ratio, if it is greater than 1.

a)  $\sqrt{\frac{1+\sqrt{5}}{2}}$

b)  $\sqrt{\frac{\sqrt{6}+1}{2}}$

c)  $\frac{\sqrt{5}+1}{2}$

d)  $\frac{2}{\sqrt{6}+1}$

You did not answer this question

Show Correct Answer

**Time spent / Accuracy Analysis**

Time taken by you to answer this question **10**

Avg. time spent on this question by all students **110**

Difficulty Level **M**

Avg. time spent on this question by students who got this question right **109**

% of students who attempted this question **23.94**

% of students who got the question right of those who attempted **86.43**

[Video Solution](#)

[Text Solution](#)

Let the sides of the triangle be  $a$ ,  $ar$  and  $ar^2$ .  
 The largest side of a right angled triangle is the hypotenuse.  
 Hence it must be  $ar^2$   
 By hypotenuse theorem,  
 $a^2 + (ar)^2 = (ar^2)^2$   
 $a^2 + a^2r^2 = a^2r^4$   
 $\Rightarrow a^2(1 + r^2) = a^2r^4$   
 $\Rightarrow r^4 - r^2 - 1 = 0$ .

$$\text{Let } r^2 = k, k^2 - k - 1 = 0. \quad k = \frac{1 \pm \sqrt{1 - 4(1)(-1)}}{2} = \frac{1 \pm \sqrt{5}}{2}$$

$$\text{As } k > 0, k = \frac{1 + \sqrt{5}}{2} \quad r = \sqrt{\frac{1 + \sqrt{5}}{2}}$$

Choice (A)

**Q14. DIRECTIONS** for questions 11 to 15: Select the correct alternative from the given choices.

The sides of a rightangled triangle are in geometric progression. Find the common ratio, if it is greater than 1.

a)  $\sqrt{\frac{1+\sqrt{5}}{2}}$

b)  $\sqrt{\frac{\sqrt{6}+1}{2}}$

c)  $\frac{\sqrt{5}+1}{2}$

d)  $\frac{2}{\sqrt{6}+1}$

You did not answer this question

[Show Correct Answer](#)

**Time spent / Accuracy Analysis**

Time taken by you to answer this question	10
Avg. time spent on this question by all students	110
Difficulty Level	M
Avg. time spent on this question by students who got this question right	109
% of students who attempted this question	23.94
% of students who got the question right of those who attempted	86.43

[Video Solution](#)

[Text Solution](#)

Let the sides of the triangle be  $a$ ,  $ar$  and  $ar^2$ .  
 The largest side of a right angled triangle is the hypotenuse.  
 Hence it must be  $ar^2$   
 By hypotenuse theorem,  
 $a^2 + (ar)^2 = (ar^2)^2$   
 $a^2 + a^2r^2 = a^2r^4$   
 $\Rightarrow a^2(1 + r^2) = a^2r^4$   
 $\Rightarrow r^4 - r^2 - 1 = 0$ .

$$\text{Let } r^2 = k, k^2 - k - 1 = 0. \quad k = \frac{1 \pm \sqrt{1 - 4(1)(-1)}}{2} = \frac{1 \pm \sqrt{5}}{2}$$

$$\text{As } k > 0, k = \frac{1 + \sqrt{5}}{2} \quad r = \sqrt{\frac{1 + \sqrt{5}}{2}}$$

Choice (A)

undefined

**Q15. DIRECTIONS** for questions 11 to 15: Select the correct alternative from the given choices.

A party was attended by twenty five persons. There were a lot of handshakes. Which of the following statements can never be true?

- a) A person at the party may have made an odd number of handshakes.
- b) A person at the party has shaken hand with all the others.
- c) Each person at the party must have made a different number of handshakes.
- d) There is no set of three persons, in which each person has shaken hands with each of the other two.

You did not answer this question

[Show Correct Answer](#)

**Time spent / Accuracy Analysis**

Time taken by you to answer this question	0
Avg. time spent on this question by all students	89
Difficulty Level	M
Avg. time spent on this question by students who got this question right	88
% of students who attempted this question	40.68
% of students who got the question right of those who attempted	54.81

[Video Solution](#)

**Text Solution**

We consider the choices one by one:

- (A) A person, say A may have shook hands with 1, 3, 5 etc people. This is possible.
- (B) A person may have shook hands with all the others. This is possible.
- (C) If each person has shaken hands with a different number of people, the number of handshakes for the 25 people has to be 0, 1, 2, ..., 24. But if one person has 0 handshakes, no person can have made 24 handshakes. At the most a person can have made 23 handshakes. This statement can never be true.

Choice (C)

undefined

**Q16. DIRECTIONS** for questions 16 and 17: Type in your answer in the input box provided below the question.

If the roots of the equation  $x^2 - ax + b = 0$  are 2 and 3, and the roots of the equation  $x^2 + \alpha x + \beta = 0$  are  $a$  and  $b$ , then what is the value of  $\alpha + \beta$ ?

You did not answer this question

Show Correct Answer

Time spent / Accuracy Analysis

Time taken by you to answer this question	0
Avg. time spent on this question by all students	102
Difficulty Level	E
Avg. time spent on this question by students who got this question right	95
% of students who attempted this question	50.42
% of students who got the question right of those who attempted	65.27

[Video Solution](#)

[Text Solution](#)

Given that the roots of the equation  $x^2 - ax + b = 0$  are 2 and 3.

Equation whose roots are 2 and 3 are  $x^2 - 5x + 6 = 0$

$\therefore a = 5$  and  $b = 6$

Equation whose roots are 5 and 6 is  $x^2 - 11x + 30 = 0$ .

$\therefore \alpha = -11$  and  $\beta = 30 \Rightarrow \alpha + \beta = 19$

Ans: (19)

undefined

undefined

**Q17. DIRECTIONS** for questions 16 and 17: Type in your answer in the input box provided below the question.

Raju travels from his home to office on the metro every day for 15 km, at an average speed of 47 kmph, and for 20 km on his bike, at an average speed of 30 kmph. If Raju wants to reduce his total travel time from home to office by 20 minutes, find the speed at which he must travel on his bike (assume that the average speed of the metro remains the same).

You did not answer this question

Show Correct Answer

Time spent / Accuracy Analysis

Time taken by you to answer this question	3
Avg. time spent on this question by all students	164
Difficulty Level	E
Avg. time spent on this question by students who got this question right	151
% of students who attempted this question	36.64
% of students who got the question right of those who attempted	80.3

[Video Solution](#)

[Text Solution](#)

Since the speed of the metro is constant, the 20 minutes that Raju needs to save must all come from an increase in the speed at which he travels on his bike.

Since he takes  $20/30 \times 60$  minutes = 40 minutes, he has to now travel the same distance in just 20 minutes, i.e., he has to halve his travel time on his bike, for which he would need to double his speed and travel at 60 kmph. Ans: (60)

**Q17. DIRECTIONS** for questions 16 and 17: Type in your answer in the input box provided below the question.

Raju travels from his home to office on the metro every day for 15 km, at an average speed of 47 kmph, and for 20 km on his bike, at an average speed of 30 kmph. If Raju wants to reduce his total travel time from home to office by 20 minutes, find the speed at which he must travel on his bike (assume that the average speed of the metro remains the same).

You did not answer this question

Show Correct Answer

**Time spent / Accuracy Analysis**

Time taken by you to answer this question	3
Avg. time spent on this question by all students	164
Difficulty Level	E
Avg. time spent on this question by students who got this question right	151
% of students who attempted this question	36.64
% of students who got the question right of those who attempted	80.3

[Video Solution](#)

[Text Solution](#)

Since the speed of the metro is constant, the 20 minutes that Raju needs to save must all come from an increase in the speed at which he travels on his bike.

Since he takes  $20/30 \times 60$  minutes = 40 minutes, he has to now travel the same distance in just 20 minutes, i.e., he has to halve his travel time on his bike, for which he would need to double his speed and travel at 60 kmph. Ans: (60)

undefined

undefined

**Q18. DIRECTIONS** for questions 18 to 21: Select the correct alternative from the given choices.

A square sheet of paper has a side of 30 cm. Four squares, each of side  $x$  cm, are cut away from each of its corners and the remaining sheet is folded into an open cuboid (i.e., without the top face). What is the maximum possible volume (in cc.) of the cuboid formed?

- a) 2592
- b) 2000
- c) 2048
- d) 1936

You did not answer this question

Show Correct Answer

**Time spent / Accuracy Analysis**

Time taken by you to answer this question	<b>5</b>
Avg. time spent on this question by all students	<b>197</b>
Difficulty Level	<b>D</b>
Avg. time spent on this question by students who got this question right	<b>204</b>
% of students who attempted this question	<b>19.43</b>
% of students who got the question right of those who attempted	<b>75.4</b>

[Video Solution](#)

[Text Solution](#)

If the side of each square cut out from the four corners of the square sheet is  $x$  cm then the open cuboid formed by folding the rest of the square sheet will be of the dimensions.

Height =  $x$  cm and length = breadth =  $30 - 2x$  cm

Now to maximise this volume  $x(30 - 2x)(30 - 2x)$  must be the maximum.

If  $x(30 - 2x)^2$  is maximum, then  $2x(30 - 2x)^2$  must also be maximum.

Now for any expression of the form  $x(K - x)^n$  to be the maximum,  $x$  and  $(K - x)$  must be in the ratio  $1 : n$ .

$$\text{Hence for } 2x(30 - 2x)^2 \text{ to be maximum } \frac{30-2x}{2x} = \frac{2}{1}$$

$$\Rightarrow x = 5 \Rightarrow 5(30 - 2 \times 5)^2 = 2000$$

Choice (B)

**Q18. DIRECTIONS** for questions 18 to 21: Select the correct alternative from the given choices.

A square sheet of paper has a side of 30 cm. Four squares, each of side  $x$  cm, are cut away from each of its corners and the remaining sheet is folded into an open cuboid (i.e., without the top face). What is the maximum possible volume (in cc.) of the cuboid formed?

- a) **2592**
- b) **2000**
- c) **2048**
- d) **1936**

You did not answer this question

Show Correct Answer

**Time spent / Accuracy Analysis**

Time taken by you to answer this question	<b>5</b>
Avg. time spent on this question by all students	<b>197</b>
Difficulty Level	<b>D</b>
Avg. time spent on this question by students who got this question right	<b>204</b>
% of students who attempted this question	<b>19.43</b>
% of students who got the question right of those who attempted	<b>75.4</b>

[Video Solution](#)

[Text Solution](#)

If the side of each square cut out from the four corners of the square sheet is  $x$  cm then the open cuboid formed by folding the rest of the square sheet will be of the dimensions.

Height =  $x$  cm and length = breadth =  $30 - 2x$  cm

Now to maximise this volume  $x(30 - 2x)(30 - 2x)$  must be the maximum.

If  $x(30 - 2x)^2$  is maximum, then  $2x(30 - 2x)^2$  must also be maximum.

Now for any expression of the form  $x(K - x)^n$  to be the maximum,  $x$  and  $(K - x)$  must be in the ratio  $1 : n$ .

$$\text{Hence for } 2x(30 - 2x)^2 \text{ to be maximum } \frac{30-2x}{2x} = \frac{2}{1}$$

$$\Rightarrow x = 5 \Rightarrow 5(30 - 2 \times 5)^2 = 2000$$

Choice (B)

undefined

undefined

**Q19. DIRECTIONS** for questions 18 to 21: Select the correct alternative from the given choices.

Fourteen children are playing a game on a beach. Initially they begin the game by making one huge pile of sand and then take turns to divide the pile into smaller piles. If each child, in his or her turn, can divide an existing pile into only  $m$  or  $n$  smaller piles, for what value of  $(m, n)$  is it not possible to get 14 piles of sand at any stage in the game?

- a) (2, 5)
- b) (3, 6)
- c) (3, 9)
- d) (5, 6)

You did not answer this question

Show Correct Answer

**Time spent / Accuracy Analysis**

Time taken by you to answer this question	4
Avg. time spent on this question by all students	133
Difficulty Level	D
Avg. time spent on this question by students who got this question right	149
% of students who attempted this question	8.29
% of students who got the question right of those who attempted	41.67

[Video Solution](#)

[Text Solution](#)

We can proceed from the options:

(1)  $(m, n) = (2, 5)$

As one pile can be divided into 2, the number of piles can increase by steps of 1. It'll be possible to get 1, 2, 3, 4, 5, ..... piles.

(2)  $(m, n) = (3, 6)$

In any turn, the number of piles can increase by 2 or 5.

∴ It can increase by four 2's and one 5, i.e., by 13. Hence, from 1 to 14.  
Hence it is possible in this case also.

(3)  $(m, n) = (3, 9)$

In any turn, the number of piles can increase only by 2 or 8. Hence, starting from 1 pile, we can only get an odd number (any odd number) of piles, but not 14 piles at any stage. Hence, it is not possible in this case.

(4)  $(m, n) = (5, 6)$

In any turn, the number of piles can increase by 4 or 5.

∴ It can increase by two 4's and one 5, i.e. by 13 (say from 1 to 14)  
Hence, it is possible in this case.

Choice (C)

**Q19. DIRECTIONS** for questions 18 to 21: Select the correct alternative from the given choices.

Fourteen children are playing a game on a beach. Initially they begin the game by making one huge pile of sand and then take turns to divide the pile into smaller piles. If each child, in his or her turn, can divide an existing pile into only  $m$  or  $n$  smaller piles, for what value of  $(m, n)$  is it not possible to get 14 piles of sand at any stage in the game?

- a) (2, 5)
- b) (3, 6)
- c) (3, 9)
- d) (5, 6)

You did not answer this question

Show Correct Answer

Time spent / Accuracy Analysis

Time taken by you to answer this question	4
Avg. time spent on this question by all students	133
Difficulty Level	D
Avg. time spent on this question by students who got this question right	149
% of students who attempted this question	8.29
% of students who got the question right of those who attempted	41.67

[Video Solution](#)

### Text Solution

We can proceed from the options:

(1)  $(m, n) = (2, 5)$

As one pile can be divided into 2, the number of piles can increase by steps of 1. It'll be possible to get 1, 2, 3, 4, 5, ..... piles.

(2)  $(m, n) = (3, 6)$

In any turn, the number of piles can increase by 2 or 5.

$\therefore$  It can increase by four 2's and one 5, i.e., by 13. Hence, from 1 to 14. Hence it is possible in this case also.

(3)  $(m, n) = (3, 9)$

In any turn, the number of piles can increase only by 2 or 8. Hence, starting from 1 pile, we can only get an odd number (any odd number) of piles, but not 14 piles at any stage. Hence, it is not possible in this case.

(4)  $(m, n) = (5, 6)$

In any turn, the number of piles can increase by 4 or 5.

$\therefore$  It can increase by two 4's and one 5, i.e. by 13 (say from 1 to 14)  
Hence, it is possible in this case.

Choice (C)

undefined

undefined

undefined

**Q20. DIRECTIONS** for questions 18 to 21: Select the correct alternative from the given choices.

If  $\log_{10} a^2 b = 5$  and  $\log_{10} \left( \frac{a}{b^2} \right) = 8$ , then find the value of  $a$ .

a)  $\frac{5}{10^{18}}$

b)  $\frac{2}{10^9}$

c)  $\frac{9}{10^2}$

d)  $\frac{18}{10^5}$

You did not answer this question

Show Correct Answer

#### Time spent / Accuracy Analysis

Time taken by you to answer this question	<b>96</b>
Avg. time spent on this question by all students	<b>121</b>
Difficulty Level	<b>E</b>
Avg. time spent on this question by students who got this question right	<b>118</b>
% of students who attempted this question	<b>37.69</b>
% of students who got the question right of those who attempted	<b>91.2</b>

[Video Solution](#)

### Text Solution

Given  $\log_{10} a^2 b = 5 \Rightarrow 2\log_{10} a + \log_{10} b = 5$   
 Also,  $\log_{10} a/b^2 = 8 \Rightarrow \log_{10} a - 2\log_{10} b = 8$   
 Solving for  $\log a$ , we get  $\log_{10} a = 18/5$

$$\Rightarrow a = 10^{\frac{18}{5}}$$

Choice (D)

**Q20. DIRECTIONS** for questions 18 to 21: Select the correct alternative from the given choices.

If  $\log_{10} a^2 b = 5$  and  $\log_{10} \left( \frac{a}{b^2} \right) = 8$ , then find the value of  $a$ .

- a)  $10^{\frac{5}{18}}$
- b)  $10^{\frac{2}{9}}$
- c)  $10^{\frac{9}{2}}$
- d)  $10^{\frac{18}{5}}$

You did not answer this question

[Show Correct Answer](#)

#### Time spent / Accuracy Analysis

Time taken by you to answer this question	<b>96</b>
Avg. time spent on this question by all students	<b>121</b>
Difficulty Level	<b>E</b>
Avg. time spent on this question by students who got this question right	<b>118</b>
% of students who attempted this question	<b>37.69</b>
% of students who got the question right of those who attempted	<b>91.2</b>

[Video Solution](#)

#### Text Solution

Given  $\log_{10} a^2 b = 5 \Rightarrow 2\log_{10} a + \log_{10} b = 5$   
 Also,  $\log_{10} a/b^2 = 8 \Rightarrow \log_{10} a - 2\log_{10} b = 8$   
 Solving for  $\log a$ , we get  $\log_{10} a = 18/5$

$$\Rightarrow a = 10^{\frac{18}{5}}$$

Choice (D)

**Q20. DIRECTIONS** for questions 18 to 21: Select the correct alternative from the given choices.

If  $\log_{10} a^2 b = 5$  and  $\log_{10} \left( \frac{a}{b^2} \right) = 8$ , then find the value of  $a$ .

- a)  $10^{\frac{5}{18}}$

- b)  $\frac{2}{10^9}$
- c)  $\frac{9}{10^2}$
- d)  $\frac{18}{10^5}$

You did not answer this question

[Show Correct Answer](#)

**Time spent / Accuracy Analysis**

Time taken by you to answer this question	<b>96</b>
Avg. time spent on this question by all students	<b>121</b>
Difficulty Level	<b>E</b>
Avg. time spent on this question by students who got this question right	<b>118</b>
% of students who attempted this question	<b>37.69</b>
% of students who got the question right of those who attempted	<b>91.2</b>

[Video Solution](#)

[Text Solution](#)

Given  $\log_{10} a^2b = 5 \Rightarrow 2\log_{10} a + \log_{10} b = 5$   
 Also,  $\log_{10} a/b^2 = 8 \Rightarrow \log_{10} a - 2\log_{10} b = 8$   
 Solving for  $\log a$ , we get  $\log_{10} a = 18/5$   
 $\Rightarrow a = 10^{\frac{18}{5}}$

Choice (D)

undefined

**Q21. DIRECTIONS** for questions 18 to 21: Select the correct alternative from the given choices.

Two vessels, A and B, contain milk and water respectively. The volume of milk in A and the volume of water in B are in the ratio 4 : 5. Now, x litres of milk from A is poured into B and then y litres of the solution from B is poured into A. If as a result, the concentration of milk in A and that of water in B, both dropped from 100% to  $66\frac{2}{3}\%$ , find x : y.

- a) **7 : 4**
- b) **5 : 3**
- c) **3 : 2**
- d) **Cannot be determined**

You did not answer this question

[Show Correct Answer](#)

**Time spent / Accuracy Analysis**

Time taken by you to answer this question	<b>34</b>
Avg. time spent on this question by all students	<b>160</b>
Difficulty Level	<b>M</b>
Avg. time spent on this question by students who got this question right	<b>187</b>
% of students who attempted this question	<b>7.85</b>
% of students who got the question right of those who attempted	<b>31.16</b>

[Video Solution](#)

### Text Solution

Let the initial volume of milk in A be  $4a$ .

$\Rightarrow$  Volume of water in B is  $5a$ .

After the transfer of contents from A to B, the concentration of water in B becomes  $66\frac{2}{3}\%$ , i.e.,  $2/3$ . Hence, the total volume, must have become  $3/2$  times the initial (i.e.,

$$5a)$$
. Hence, the volume of milk transferred to B =  $\frac{3}{2}(5a) - 5a = \frac{5}{2}a = 2.5a$ .

$$\therefore \text{Milk remaining in A} = 4a - 2.5a = 1.5a$$

Now, the concentration of milk in A and B = 100% and  $33\frac{1}{3}\%$ .

If after transferring some quantity of the contents of B to A, the concentration becomes  $66\frac{2}{3}$ , (i.e., mid-way between 100 and  $33\frac{1}{3}\%$ ), that means that the volume of contents from B and the volume of milk in A were mixed in equal quantities, i.e.,  $1.5a$  of milk and water solution was transferred from B to A.

$$\therefore \text{Required ratio} = \frac{2.5a}{1.5a} = 5 : 3$$

Choice (B)

undefined

### **Q22. DIRECTIONS** for question 22: Type in your answer in the input box provided below the question.

In a restaurant, the cost of an idly is half that of a dosa and the cost of a dosa is one-third that of a poori. If the cost of an idly, a dosa and a poori combined is Rs.108, what is the cost (in Rs.) of a poori?

**Your Answer:72 Your answer is correct**

#### Time spent / Accuracy Analysis

Time taken by you to answer this question	<b>40</b>
Avg. time spent on this question by all students	<b>97</b>
Difficulty Level	<b>VE</b>
Avg. time spent on this question by students who got this question right	<b>93</b>
% of students who attempted this question	<b>55.3</b>
% of students who got the question right of those who attempted	<b>89.03</b>

### Video Solution

### Text Solution

Given that  $2i = d$  and  $3d = p$

$$\text{Also, } \frac{p}{6} + \frac{p}{3} + p = 108$$

$$\text{Hence, } p = 72.$$

Ans: (72)

undefined

### **Q23. DIRECTIONS** for questions 23 to 25: Select the correct alternative from the given choices.

The  $i^{\text{th}}$  term,  $a_i$ , of a sequence is given by the product of the first  $i$  prime numbers starting from 7. The sum of the first  $j$  terms of this sequence is denoted by  $s_j$ . Which of the following is true?

a) If  $i$  is even,  $s_i$  is odd.

b) If  $a_i$  is odd,  $s_i$  is odd

c) If  $s_i$  is even,  $a_i$  is odd

d) If  $s_i$  is odd, exactly one of  $i$  and  $a_i$  is odd

You did not answer this question

Show Correct Answer

Time spent / Accuracy Analysis

Time taken by you to answer this question	5
Avg. time spent on this question by all students	140
Difficulty Level	M
Avg. time spent on this question by students who got this question right	152
% of students who attempted this question	16.89
% of students who got the question right of those who attempted	48.17

[Video Solution](#)

[Text Solution](#)

$a_i = (7)(11) \dots$  (the product of  $i$  primes,) starting from 7.

$\therefore$  All the  $a$ 's are odd.

$s_i = a_1 + a_2 + \dots + a_i$

If  $i$  is even,  $s_i$  is even and

If  $i$  is odd,  $s_i$  is odd

The converses are also true i.e.

If  $s_i$  is even,  $i$  is even and if  $s_i$  is odd,  $i$  is odd.

$\therefore$  (A) is false.

(B) is false. If  $a_i$  is odd (all as are odd),  $i$  could be odd or even.

(C) is true

(D) is false, as if  $s_i$  is odd,  $i$  is odd and  $a_i$  is always odd.

Choice (C)

undefined

**Q24. DIRECTIONS** for questions 23 to 25: Select the correct alternative from the given choices.

ABCD is a square, of side 7 units, in the co-ordinate plane, such that the origin lies within the square. If AB is parallel to the y-axis and A is at  $(-4, 2)$ , what are the coordinates of C?

a)  $(3, -5)$

b)  $(-4, -5)$

c)  $(3, 9)$  Your answer is incorrect

d)  $(-4, 3)$

Show Correct Answer

Time spent / Accuracy Analysis

Time taken by you to answer this question	83
Avg. time spent on this question by all students	118
Difficulty Level	E
Avg. time spent on this question by students who got this question right	117
% of students who attempted this question	42.76
% of students who got the question right of those who attempted	77.81

[Video Solution](#)

### Text Solution

Since A is in the second quadrant, B must be in the third quadrant (if the origin is to be contained within the square).

Therefore, the coordinates of B must be  $(-4, -5)$ , since AB is parallel to y-axis and  $AB = 7$ .

Also, since AB is parallel to Y axis, BC must be parallel to X axis.

Now, since B is  $(-4, -5)$  and  $BC = 7$ , the coordinates of C must be  $(3, -5)$ .

Choice (A)

undefined

**Q25. DIRECTIONS** for questions 23 to 25: Select the correct alternative from the given choices.

There are two groups of workers,  $G_1$  and  $G_2$ . There are 30 workers in  $G_1$  and 60 in  $G_2$ . Each worker in  $G_1$  works three times as fast as any worker in  $G_2$ . If all the workers in  $G_1$  together ploughed a certain field in half a day, then find the time taken by all the workers in  $G_1$  and  $G_2$  together to plough a field whose area is 50% more than that of the first field.

a)  $\frac{9}{20}$  days

b)  $\frac{9}{25}$  days

c)  $\frac{1}{2}$  days

d)  $\frac{27}{50}$  days

You did not answer this question

Show Correct Answer

#### Time spent / Accuracy Analysis

Time taken by you to answer this question **256**

Avg. time spent on this question by all students **165**

Difficulty Level **E**

Avg. time spent on this question by students who got this question right **162**

% of students who attempted this question **23.61**

% of students who got the question right of those who attempted **81.08**

[Video Solution](#)

### Text Solution

Let the rate at which each worker in  $G_2$  works be  $x$  units/day

Rate at which each worker in  $G_1$  works =  $3x$  units/day

Let the area of the first field be  $w$

$$\therefore w = 30(3x)(0.5) = 45x$$

$$\text{Area of second field} = 1.5w = 67.5x$$

Let the required time be  $t$  days

$$\therefore t[30(3x)+60(x)] = 67.5x$$

$$\Rightarrow t = \frac{67.5}{150} = \frac{9}{20}$$

Choice (A)

undefined

**Q26. DIRECTIONS** for question 26: Type in your answer in the input box provided below the question.

How many isosceles triangles with integral sides can be formed such that the perimeter is 22?

**Your Answer:5 Your answer is correct**

**Time spent / Accuracy Analysis**

Time taken by you to answer this question	<b>146</b>
Avg. time spent on this question by all students	<b>102</b>
Difficulty Level	<b>D</b>
Avg. time spent on this question by students who got this question right	<b>108</b>
% of students who attempted this question	<b>38.65</b>
% of students who got the question right of those who attempted	<b>55.34</b>

[Video Solution](#)

[Text Solution](#)

Let the sides of an isosceles triangle be  $a, a, b$ .

$$\therefore \text{perimeter} = a + a + b = 22 \Rightarrow 2a + b = 22$$

$(a, b)$  can be any one of the following pairs.

$(1, 20), (2, 18), (3, 16), (4, 14), (5, 12), (6, 10), (7, 8), (8, 6), (9, 4), (10, 2)$ . But the first 5 pairs don't form triangles.

$\therefore 5$  isosceles triangles can be formed.

Ans: (5)

undefined

**Q27. DIRECTIONS** for questions 27 and 28: Select the correct alternative from the given choices.

Consider two cubes of equal volume. In one of the cubes, the biggest possible sphere is inscribed. The other cube is cut into exactly 64 identical small cubes. In each of them, the biggest possible sphere is placed. The volume of the sphere in the first cube is denoted by  $V_1$ . The total volume of the spheres in the small cubes is denoted by  $V_2$ . Find  $V_1 : V_2$ .

- a) 4 : 3
- b) 1 : 1
- c) 3 : 4
- d) None of these

You did not answer this question

[Show Correct Answer](#)

**Time spent / Accuracy Analysis**

Time taken by you to answer this question	<b>6</b>
Avg. time spent on this question by all students	<b>120</b>
Difficulty Level	<b>E</b>
Avg. time spent on this question by students who got this question right	<b>115</b>
% of students who attempted this question	<b>21.9</b>
% of students who got the question right of those who attempted	<b>69.82</b>

[Video Solution](#)

### Text Solution

For any cube, the ratio of the volume of the largest possible sphere that can be placed in it to its volume is constant.

As the sum of the volumes of all the small cubes is equal to the volume of the first cube, the sum of the volumes of the spheres in these cubes is equal to the volume of the sphere is the first cube.

$\therefore$  The required ratio is 1 : 1.

Choice (B)

undefined

### **Q28. DIRECTIONS** for questions 27 and 28: Select the correct alternative from the given choices.

Mrs. Ahluwalia spent less than Rs.10,000 to buy some cotton sarees and some silk sarees. If Mrs. Ahluwalia had spent the amount of money she actually spent on cotton sarees to buy silk sarees and vice versa, she could have purchased two more sarees. Find the maximum number of sarees that Mrs. Ahluwalia could have originally purchased, if each cotton saree and silk saree costs Rs.300 and Rs.400 respectively.

- a) 25
- b) 26
- c) 27
- d) 28

You did not answer this question

Show Correct Answer

#### Time spent / Accuracy Analysis

Time taken by you to answer this question	5
Avg. time spent on this question by all students	224
Difficulty Level	D
Avg. time spent on this question by students who got this question right	236
% of students who attempted this question	9.28
% of students who got the question right of those who attempted	42.63

[Video Solution](#)

### Text Solution

Let the number of cotton sarees and silk sarees originally bought be  $x$  and  $y$  respectively.

$\therefore 300x + 400y < 10,000$ .

Now, if  $300x$  rupees are spent to buy silk sarees, the number of silk sarees that could be purchased is  $\frac{300x}{400}$  or  $\frac{3}{4}x$ . Similarly if  $400y$  rupees are spent to buy cotton sarees,

the number of cotton sarees that could be purchased is  $\frac{400y}{300}$  or  $\frac{4}{3}y$

$$\text{Given : } x + y + 2 = \frac{4}{3}y + \frac{3}{4}x$$

$\Rightarrow 4y - 3x = 24$ . Tabulating the possible values of  $x$  and  $y$ , we have

x	4	8	12
y	9	12	15

The higher values of  $x$  and  $y$  are ignored as  $300x + 400y < 10000$ . Hence Mrs. Ahluwalia could have bought a maximum of 27 sarees.

Choice (C)

undefined

**Q29. DIRECTIONS** for question 29: Type in your answer in the input box provided below the question.

In how many ways can five boys and three girls be seated in eight equally spaced chairs around a circular table, such that no two girls sit opposite each other?

You did not answer this question Show Correct Answer

**Time spent / Accuracy Analysis**

Time taken by you to answer this question	<b>132</b>
Avg. time spent on this question by all students	<b>120</b>
Difficulty Level	<b>D</b>
Avg. time spent on this question by students who got this question right	<b>126</b>
% of students who attempted this question	<b>25.23</b>
% of students who got the question right of those who attempted	<b>9.04</b>

[Video Solution](#)

[Text Solution](#)

We need to select three boys from five boys who will be sitting opposite to the girls.

The no. of ways of selecting three boys is  ${}^5C_3 = 10$ .

The no. of ways the three boys can be sitting opposite to three girls is  $3! = 6$ .

Now, let us fix the seats of the two other boys opposite to each other.

$\therefore$  The total no. of ways =  $10 \times 6 \times 6 \times 8 = 2880$ .

**Alternative Solution:**

Let the girls be  $G_1, G_2, G_3$

First, let us fix the seat of  $G_1$ .

Then,  $G_2$  can sit in any of the remaining 7 seats, except opposite  $G_1$ .

Hence, 6 ways.

Similarly,  $G_3$  can sit in 4 ways.

Now, the five boys can be seated in the five empty seats in  $5!$  ways.

Hence,  $6 \times 4 \times 5! = 2880$

Ans: (2880)

undefined

**Q30. DIRECTIONS** for questions 30 to 32: Select the correct alternative from the given choices.

How many distinct rectangles of area 900 sq.cm are possible with both their length and breadth being integers, when expressed in cm?

- a) 27
- b) 12
- c) 13 Your answer is incorrect
- d) 14

Show Correct Answer

**Time spent / Accuracy Analysis**

#### Time spent / Accuracy Analysis

Time taken by you to answer this question	<b>75</b>
Avg. time spent on this question by all students	<b>107</b>
Difficulty Level	<b>E</b>
Avg. time spent on this question by students who got this question right	<b>110</b>
% of students who attempted this question	<b>35.85</b>
% of students who got the question right of those who attempted	<b>29.59</b>

[Video Solution](#)

#### Text Solution

Area = 900 sq.cm =  $2^2 \times 3^2 \times 5^2$ . Now the required number of rectangles is nothing but the number of distinct ways in which 900 be written as a product of two numbers i.e.,

$$\frac{1}{2} [(2+1)(2+1)(2+1)+1] = 14 \quad \text{Choice (D)}$$

undefined

**Q31. DIRECTIONS** for questions 30 to 32: Select the correct alternative from the given choices.

If  $S_1$  is a set comprising ten integers and  $S_2$  is a subset of  $S_1$  comprising nine elements, which of the following statements are true?

- I. The range of  $S_2$  can be more than that of  $S_1$
- II. The median of  $S_2$  can be less than that of  $S_1$
- III. The mean of  $S_2$  can be more than that of  $S_1$

a) Only I and II

b) Only II and III **Your answer is correct**

c) Only I and III

d) Only II

#### Time spent / Accuracy Analysis

Time taken by you to answer this question	<b>66</b>
Avg. time spent on this question by all students	<b>80</b>
Difficulty Level	<b>M</b>
Avg. time spent on this question by students who got this question right	<b>79</b>
% of students who attempted this question	<b>22.57</b>
% of students who got the question right of those who attempted	<b>74.88</b>

[Video Solution](#)

#### Text Solution

Statement I

$S_2$  is a subset of  $S_1$  and it has one element less than  $S_1$ .

If this element was the greatest or the least element of  $S_1$ , range of  $S_2 <$  range of  $S_1$

(Range = Max element - Min element)

If this element was neither the greatest element nor the least element of  $S_1$ , range of  $S_2 =$  range of  $S_1$ .

In any case, range of  $S_2$  cannot be  $>$  range of  $S_1$

Statement I is false.

Statement II

Let  $S_1 = \{1, 2, 3, 4, 5, 6, 7, 8, 9, 10\}$  and

$S_2 = \{1, 2, 3, 4, 5, 6, 7, 8, 9\}$

$$\text{Median of } S_1 = \frac{\text{5th element} + \text{6th element}}{2} = \frac{5+6}{2} = 5.5$$

Median of  $S_2$  = 5th element = 5

Statement II is true.

Statement III

Let  $S_1 = \{1, 2, 3, 4, 5, 6, 7, 8, 9, 10\}$  and

$S_2 = \{2, 3, 4, 5, 6, 7, 8, 9, 10\}$

$$\text{Mean of } S_1 = \frac{55}{10} = 5.5 \text{ and mean of } S_2 = \frac{54}{9} = 6$$

Statement III is true.

Only statements II and III are true.

Choice (B)

undefined

**Q32. DIRECTIONS** for questions 30 to 32: Select the correct alternative from the given choices.

Sam and Ram together started a business with initial investments in the ratio of 3 : 4 but Ram left the business after months. If at the end of the year, Sam and Ram shared the profit in the ratio 3 : 2, what is the value of x?

- a) 6 Your answer is correct
- b) 3
- c) 9
- d) 10

**Time spent / Accuracy Analysis**

Time taken by you to answer this question	61
Avg. time spent on this question by all students	91
Difficulty Level	VE
Avg. time spent on this question by students who got this question right	88
% of students who attempted this question	38.49
% of students who got the question right of those who attempted	91.83

[Video Solution](#)

[Text Solution](#)

Since Ram left the business after  $x$  months, the profits will be split in the ratio,  
 $\frac{3 \times 12}{4x} = \frac{3}{2} \Rightarrow x = 6.$  Choice (A)

undefined

**Q33. DIRECTIONS** for question 33: Type in your answer in the input box provided below the question.

If  $\sqrt{28 + \sqrt{720}} = \sqrt{a} + \sqrt{b}$  and  $a < b$  find the value of  $a^2 + 2b.$

**You did not answer this question** Show Correct Answer

**Time spent / Accuracy Analysis**

Time taken by you to answer this question	<b>147</b>
Avg. time spent on this question by all students	<b>136</b>
Difficulty Level	<b>E</b>
Avg. time spent on this question by students who got this question right	<b>130</b>
% of students who attempted this question	<b>20.82</b>
% of students who got the question right of those who attempted	<b>69.95</b>

[Video Solution](#)

[Text Solution](#)

Given  $\sqrt{28 + \sqrt{720}} = \sqrt{a} + \sqrt{b}$

Squaring on both sides,

$$28 + \sqrt{720} = a + b + \sqrt{4ab}$$

$$a + b = 28 \text{ and } ab = 180$$

Solving for  $a$  and  $b$ ,  $a = 10$  and  $b = 18$  (since  $a < b$ )

$$\therefore a^2 + 2b = 136.$$

Ans: (136)

undefined

**Q34. DIRECTIONS** for question 34: Select the correct alternative from the given choices.

If  $a \psi b = ab - (a + b) + 1$

$$a \pi b = \frac{LCM(a, b)}{a}$$

$$a \Lambda b = \frac{ab}{a + b},$$

what is the value of  $(6 \psi 13) \pi (12 \Lambda 3)?$

a) 1

b) 12 Your answer is incorrect

c) 60

C d) **12/5**

Show Correct Answer

**Time spent / Accuracy Analysis**

Time taken by you to answer this question	<b>139</b>
Avg. time spent on this question by all students	<b>139</b>
Difficulty Level	<b>VE</b>
Avg. time spent on this question by students who got this question right	<b>128</b>
% of students who attempted this question	<b>29.77</b>
% of students who got the question right of those who attempted	<b>70.82</b>

[Video Solution](#)

**Text Solution**

$$(6 \Psi 13) = 78 - 19 + 1 = 60$$
$$(12 \Delta 3) = \frac{36}{15} = \frac{12}{5}$$
$$60 \pi \frac{12}{5} = \left[ \frac{\text{LCM}(60, 12)}{\text{HCF}(1, 5)} \right] = 1$$

Choice (A)