

**DIRECTIONS** for questions 1 to 5: The passage given below is accompanied by a set of five questions. Choose the best answer to each question.

In a new book, the journalist John Markoff points out how polarizing the subject of automation and its effect on employment tends to be. “You can go from the International Federation of Robotics on one side, which argues that we are on the cusp of the biggest job renaissance in history, to Moshe Vardi, a RICE computer scientist, who argues that all human jobs will be obsolete by 2045,” Markoff observed. “Which group is right?”

If Peter Drucker were around, I don’t think he’d hesitate to serve up an answer: Neither. Drucker, who had watched this struggle play out many times over many years, believed that the inexorable march of machines was neither a panacea nor a complete catastrophe. Drucker viewed automation as a decidedly mixed bag - a lift for those with the knowledge and skills to take advantage of the shifting landscape of work and a huge challenge for many others invariably left behind.

One of Drucker’s first looks at this double-edged dynamic came when he witnessed the mechanical cotton picker replacing laborers in the field - for better as well as for worse.

“It is easy to see only one aspect of the technological revolution through which the Cotton Belt is passing: the removal of the dead hand of the cotton economy and plantation society, the establishment of a sound agriculture and of a better balance between industry and farming, higher incomes, better living standards, the end of sharecropping - in short the final emancipation of both the white and the coloured from slavery,” Drucker reported in Harper’s magazine. “It is also easy to see only the other aspect: dislocation, the suffering, the uprooting of millions of people who will lose their homes and their livelihood.

“However,” Drucker added, “The full picture, as in all technological revolutions, emerges only if both - the better life for those who can adjust themselves and the suffering of those who are pushed out - are seen together and at the same time.”

Drucker worried about those who were being “pushed out” and would lose not only their income, but also the basic sense of dignity and fulfillment that comes from putting in a solid day’s work.

From his earliest writings to his last, Drucker offered the same prescription to deal with such hardship: the creation of meaningful opportunities for lifelong learning.

Of particular note now - in an age where artificial intelligence threatens to upend the careers of even the most well-educated white-collar workers - is that Drucker didn’t preach the importance of lifelong learning for any one type of occupation. Everyone, he thought, must continually be prepared to take in and master new ways to approach their job.

The public sector has its part - to make sure that “schools and employing institutions work together in the advanced education of adults.”

“School,” Drucker wrote, “has traditionally been where you learn; job has been where you work. The line will become increasingly blurred.”

Employers also have their role, including “active attempts at retraining for specific new job opportunities,” as Drucker put it. Each employee must be ready to embrace what’s being taught - over and over and over again.

**Q1.** An apt title for this passage would be

- a) Peter Drucker’s thoughts on automation
- b) **Automation - Bane or Boon?** Your answer is incorrect
- c) Why Peter Drucker was worried about automation
- d) How to make automation useful?

**Show Correct Answer**

**Time spent / Accuracy Analysis**

Time taken by you to answer this question	<b>354</b>
Avg. time spent on this question by all students	<b>262</b>
Difficulty Level	<b>D</b>
Avg. time spent on this question by students who got this question right	<b>261</b>
% of students who attempted this question	<b>55.66</b>
% of students who got the question right of those who attempted	<b>44.75</b>

[Video Solution](#)

## Text Solution

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

Number of words: 520

The passage predominantly revolves around the subject of automation and what Peter Drucker had to say about automation.

Option A: Since the passage doesn't take a stand, for or against automation, as sufficiently clarified by the second para, and largely revolves around Drucker's thoughts, this would be a suitable title. Option A is the answer.

Option B: The passage discusses Drucker's thoughts on automation but doesn't really analyse deeply about the pros and cons of automation. A big chunk of the passage is also about discussing the consequences of automation and how it can be used to our advantage. Hence, Option B is not the answer.

Option C: From the sentence: 'Drucker, who had watched this struggle play out many times over many years, believed that the inexorable march of machines was neither a panacea nor a complete catastrophe', we can understand that Drucker didn't take a stand for or against. So, his opinion is not necessarily negative. Hence, Option C is not the answer.

Option D: The passage does not discuss the usefulness of technology. It assumes that technology is useful and does not further discuss this aspect. In fact, the passage doesn't go deep into the processes of automation, their advantages and disadvantages. Hence, Option D is not the answer.

Choice (A)

undefined

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"However," Drucker added, "The full picture, as in all technological revolutions, emerges only if both - the better life for those who can adjust themselves and the suffering of those who are pushed out - are seen together and at the same time."

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increasingly blurred."

Employers also have their role, including "active attempts at retraining for specific new job opportunities," as Drucker put it. Each employee must be ready to embrace what's being taught - over and over and over again.

**Q2.** Which of the following best summarises the flow of the passage?

- a) The author introduces a premise which he subsequently argues against with facts and evidence.
- b) **The author introduces a question and subsequently, answers the question using an argument which has pros and cons.**
- c) The author addresses an issue using a philosophy that discusses ways of remediating the issue.
- d) **The author addresses a question using a philosophy that discusses how to deal with consequences of the subject of the question.** **Your answer is correct**

#### Time spent / Accuracy Analysis

Time taken by you to answer this question	<b>194</b>
Avg. time spent on this question by all students	<b>90</b>
Difficulty Level	<b>M</b>
Avg. time spent on this question by students who got this question right	<b>92</b>
% of students who attempted this question	<b>49.14</b>
% of students who got the question right of those who attempted	<b>45.92</b>

[Video Solution](#)

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

Number of words: 520

Option A: The first isn't a premise. It is an open-ended question: 'Which group is right?' of the two contrasting/polarized opinions. So, Option A is not the answer.

Option B: The author introduces a question and subsequently, answers the question using an argument 'which has pros and cons'. Until the underlined portion the option seems fine. However, there are pros and cons to automation. **There are no pros and cons to the argument** (made by Peter Drucker), as the option seems to suggest. The author completely agrees with Peter Drucker. This is just a misrepresentation. Hence, Option B is not the answer.

Option C: Drucker's answer/philosophy doesn't discuss ways of remediating the issue (incorrect in the first place, because it is a question, not an issue – about whether automation is good or bad). Also, Drucker doesn't discuss ways of remediating automation/or ways of remediating job-loss because of automation. Drucker discusses how to prepare people for a world where automation exists. Hence, Option C is close but not the answer.

Option D: The author addresses the question of automation being good or bad with a philosophy (that it is a mixed bag) and goes on to discuss ways to deal with the consequences of the subject of the question (automation and its effect on employment mentioned in the first para) – Better training. Hence, Option D is the answer.

Choice (D)

undefined

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One of Drucker's first looks at this double-edged dynamic came when he witnessed the mechanical cotton picker replacing laborers in the field - for better as well as for worse.

"It is easy to see only one aspect of the technological revolution through which the Cotton Belt is passing: the removal of the dead hand of the cotton economy and plantation society, the establishment of a sound agriculture and of a better balance between industry and farming, higher incomes, better living standards, the end of sharecropping - in short the final emancipation of both the white and the coloured from slavery," Drucker reported in Harper's magazine. "It is also easy to see only the other aspect: dislocation, the suffering, the uprooting of millions of people who will lose their homes and their livelihood.

"However," Drucker added, "The full picture, as in all technological revolutions, emerges only if both - the better life for those who can adjust themselves and the suffering of those who are pushed out - are seen together and at the same time."

Drucker worried about those who were being "pushed out" and would lose not only their income, but also the basic sense of dignity and fulfillment that comes from putting in a solid day's work.

From his earliest writings to his last, Drucker offered the same prescription to deal with such hardship: the creation of meaningful opportunities for lifelong learning.

Of particular note now - in an age where artificial intelligence threatens to upend the careers of even the most well-educated white-collar workers - is that Drucker didn't preach the importance of lifelong learning for any one type of occupation. Everyone, he thought, must continually be prepared to take in and master new ways to approach their job.

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"School," Drucker wrote, "has traditionally been where you learn; job has been where you work. The line will become increasingly blurred."

Employers also have their role, including "active attempts at retraining for specific new job opportunities," as Drucker put it. Each employee must be ready to embrace what's being taught - over and over and over again.

**Q3.** The author quotes Drucker's views on 'the mechanical cotton picker replacing laborers in the field' to show

- a) the dislocation, suffering, and uprooting of millions of people caused by the mechanical cotton picker.
- b) **the difference between the better life for those who can adjust themselves and the suffering of those who are pushed out.** Your answer is incorrect
- c) how it is easy to see only one aspect of the technological revolution thereby missing the full picture.
- d) **how a better balance between industry and farming leads to better living standards.**

**Show Correct Answer**

**Time spent / Accuracy Analysis**

Time taken by you to answer this question	<b>183</b>
Avg. time spent on this question by all students	<b>97</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>57.81</b>
% of students who got the question right of those who attempted	<b>54.24</b>

[Video Solution](#)

[Text Solution](#)

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

Number of words: 520

*It is easy to see only one aspect* of the technological revolution through which the Cotton Belt is passing. *It is also easy to see only the other aspect*: dislocation, the suffering, the uprooting of millions of people who will lose their homes and their livelihood. "However," Drucker added, "*The full picture*, as in all technological revolutions, *emerges only if both*—the better life for those who can adjust themselves and the suffering of those who are pushed out—*are seen together and at the same time*." From these sentences, it can be understood that the example was given to talk about how Drucker thought one could see one aspect and miss the other and vice-versa. But, only when both aspects are seen can one get the full picture.

Option A: The example was not given just to discuss the negative aspects of the technological revolutions. Hence, Option A is not the answer.

Option B: The difference between the good life and the suffering was not shown in the passage – they were merely mentioned as the two aspects of the automation. Hence, Option B is close but not the answer.

Option C: The para mentions Drucker remarking how it is easy to see *only one aspect* (good) and equally easy to see *only* the other aspect, thereby missing the full picture which emerges only when both aspects are seen together and at the same time. Hence, Option C is the answer.

Option D: This line focuses only on the positive aspects of the technological revolution, which like Option A is not the purpose of the example. Hence, Option D is not the answer.

Choice (C)

undefined

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"However," Drucker added, "The full picture, as in all technological revolutions, emerges only if both - the better life for those who can adjust themselves and the suffering of those who are pushed out - are seen together and at the same time."

Drucker worried about those who were being "pushed out" and would lose not only their income, but also the basic sense of dignity and fulfilment that comes from putting in a solid day's work.

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Of particular note now - in an age where artificial intelligence threatens to upend the careers of even the most well-educated white-collar workers - is that Drucker didn't preach the importance of lifelong learning for any one type of occupation.

Everyone, he thought, must continually be prepared to take in and master new ways to approach their job.

The public sector has its part - to make sure that "schools and employing institutions work together in the advanced education of adults."

"School," Drucker wrote, "has traditionally been where you learn; job has been where you work. The line will become increasingly blurred."

Employers also have their role, including "active attempts at retraining for specific new job opportunities," as Drucker put it. Each employee must be ready to embrace what's being taught - over and over and over again.

**Q4.** What was Drucker's prescription to deal with the hardships caused by being 'pushed out'?

- a) Schools and employers should collaborate with each other
- b) **One should participate in the process of consistent learning at various stages of one's life.** Your answer is correct
- c) Employers should make active attempts to retrain employees for job opportunities.
- d) **One should be open to learning the same skills during employment over and over again.**

#### Time spent / Accuracy Analysis

Time taken by you to answer this question	<b>215</b>
Avg. time spent on this question by all students	<b>87</b>
Difficulty Level	<b>M</b>
Avg. time spent on this question by students who got this question right	<b>83</b>
% of students who attempted this question	<b>57.73</b>
% of students who got the question right of those who attempted	<b>81.3</b>

[Video Solution](#)

[Text Solution](#)

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

Number of words: 520

Consider the sentences: "...Drucker offered the same prescription to deal with such hardship: the creation of meaningful opportunities for lifelong learning. Of particular note now...is that Drucker didn't preach the importance of lifelong learning for any one type of occupation. Everyone, he thought, must continually be prepared to take in and master new ways to approach their job." From this, it can be clearly understood what Drucker's advice/prescription to deal with such hardships was (Drucker worried about those who were being "pushed out" and would lose not only their income, but also the basic sense of dignity and fulfilment that comes from putting in a solid day's work) – everyone must be prepared to learn and there should be opportunities for learning.

Option A: While Drucker emphasized on how learning takes place in schools and at jobs, he didn't literally recommend that schools and employers collaborate with each other. While the sentence 'The public sector has its part—to make sure that "schools and employing institutions work together in the advanced education of adults"' may indicate the same, it only means the public sector must ensure that both schools and employers should contribute to the education of adults, not necessarily by collaborating but rather by doing their bit as part of a lifelong process. Hence, Option A is not the answer.

Option B: This is synonymous to 'the creation of meaningful opportunities for lifelong learning' mentioned in the passage. Hence, this summarises Drucker's solution/prescription. Option B is the answer.

Option C: While the line - 'Employers should make active attempts to retrain employees for job opportunities' is indeed true, it is not the bigger advice/idea. It is one of the things that need to be implemented in order to train the employees, which in turn, along with the training provided by schools will help prevent hardships of people caught on the wrong side of automation. This is further shown in 'Employers also have their role' – saying it is part of the process. Hence, Option C is not the answer.

Option D: Like Option C, this option discusses the implementation methodology for better training of employees. It is not the direct advice Drucker has offered to resolve the hardships. Hence, Option D is not the answer.

Choice (B)

undefined

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**Q5.** Drucker is most likely to agree with all of the following statements, EXCEPT:

- a) Putting in a solid day's work is more about a basic sense of dignity and fulfilment than about earning livelihood. Your answer is correct
- b) Training is one way to deal with the untoward consequences of automation.
- c) Technological revolution offers great advantages for those with appropriate knowledge and skills.
- d) The inexorable march of machines doesn't necessarily have catastrophic consequences.

#### Time spent / Accuracy Analysis

Time taken by you to answer this question	<b>168</b>
Avg. time spent on this question by all students	<b>94</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>50.97</b>
% of students who got the question right of those who attempted	<b>50.52</b>

[Video Solution](#)

[Text Solution](#)

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

Number of words: 520

Option A: From the sentence 'Drucker worried about those who were being "pushed out" and would lose not only their income, but also the basic sense of dignity and fulfilment that comes from putting in a solid day's work', we can understand that losing a job equates to losing the basic sense of dignity and fulfilment. However, the para doesn't say that work is more about dignity than about livelihood. The comparison doesn't come into the picture anywhere. Hence, Drucker may not agree with it. Option A is the answer.

Option B: From 'Drucker offered the same prescription to deal with such hardship: the creation of meaningful opportunities for lifelong learning', we can say that Drucker agrees with the opinion that training is a solution to the negative consequences of automation – loss of jobs (being 'pushed out').

Option C: From the sentence: 'Drucker viewed automation as a decidedly mixed bag—a lift for those with the knowledge and skills to take advantage of the shifting landscape of work and a huge challenge for many others invariably left behind', we can understand that those with appropriate knowledge and skills will benefit from technological revolution. Hence, Drucker will agree with this sentence. Option C is not the answer.

Option D: From the sentence 'the inexorable march of machines was neither a panacea nor a complete catastrophe' we can understand that 'the march of machines' (technological revolution/automation) is not entirely good or bad. Hence, Drucker would likely agree with this statement that this revolution is not entirely bad. Hence, Option D is not the answer.

Hence, the answer is option A.

Choice (A)

**DIRECTIONS** for questions 6 to 10: The passage given below is accompanied by a set of five questions. Choose the best answer to each question.

On 2 December Yuri Milner, the Russian billionaire and founder of Breakthrough Listen, a \$100m alien-hunting venture, invited Avi Loeb, an astronomy professor at Harvard and adviser on the project, to his Palo Alto home to discuss the bizarre features of the interstellar object, ‘Oumuamua’. The first known visitor from another solar system, the monolithic lump appeared long and slender, a curious shape for a space rock. The two agreed there was the slimmest chance Oumuamua was not what it seemed. Eleven days later, Breakthrough Listen swung the world’s largest steerable telescope, at Green Bank in West Virginia, into position and scanned the 400-metre-long body for signs that it was a passing spacecraft.

It was a long shot. After 10 hours of observations the telescope, found no evidence that Oumuamua was the work of an alien civilisation. It is a skyscraper-sized lump that simply tumbled into our solar system from somewhere beyond. But even as the search came up empty, it proved a point: the riskier, more audacious hunts for life elsewhere are driven by private money, not governments and national space agencies.

It is not the only example. Earlier this week, the US Department of Defense confirmed that from 2007 it ran a programme to investigate unidentified flying object (UFO) sightings, but dropped funding five years later in favour of more pressing concerns.

Of all the methods brought to bear on the question of life elsewhere, UFO sightings are at the farthest end of the credibility scale. When Monica Grady oversaw Britain’s meteorite collection at the Natural History Museum in London, she received plenty of letters about alien spacecraft over Britain. One exemplified the problem many scientists have with such reports. It came from a man who had photographed what he described as an alien vessel at the bottom of his garden. “For me, it’s the difference between astrology and astronomy,” said Grady, now professor of planetary science at the Open University. “We don’t have any credible sightings that are more likely to be an alien spacecraft than not.”

While ufology struggles for credibility, the search for alien transmissions is serious science. Much of the sky has been swept for alien signals in the form of optical, infrared and radio waves. But the searches are far from extensive. Future scans could tune into directed energy beams used to propel craft, x-ray and gamma-ray broadcasts, or even gravitational radiation. When the massive radio telescope known as the Square Kilometre Array comes online in 2020, it will be the first facility that is sensitive enough to detect the equivalent of TV broadcasts on planets around Alpha Centauri, the closest star system to Earth. It is searches like these that will finally answer the question “are we alone?”

Discoveries from land and space telescopes, and robotic planetary missions, strongly suggest that life should exist elsewhere. Water and organic molecules needed for life as we know it are ubiquitous in space. “The reason people are so incredibly interested and excited is that it’s such a profound human question. We have a basic desire to know what is beyond, what is out there,” said Siemion. “What we have done so far is very minimal. We have far more work to do.”

**Q6.** Which of the following is an ideal follow-up question to the author of the passage?

- a) Have we searched for alien signals?
- b) What are the likely consequences of discovering alien life? Your answer is correct
- c) Why is search for alien transmissions garnering so much interest?
- d) Is there enough evidence to prove that there is life elsewhere?

#### Time spent / Accuracy Analysis

Time taken by you to answer this question	310
Avg. time spent on this question by all students	262
Difficulty Level	D
Avg. time spent on this question by students who got this question right	253
% of students who attempted this question	49.69
% of students who got the question right of those who attempted	65.96

[Video Solution](#)

[Text Solution](#)

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

Number of words: 537

Option A: From the sentence 'Much of the sky has been swept for alien signals in the form of optical, infrared and radio waves', we can understand that the author has already answered this question. We have searched for alien signals and advanced technology can help us further. Hence, this is not a question that needs to be asked again as a follow-up. Option A is not the answer.

Option B: It has not been discussed in the passage what next if alien life is discovered, since the author is optimistic about it. Hence, that could be a follow-up question to this particular passage, since surely there must be some thought to understand what we intend to do once we find out that we are alone. Hence, Option B is the answer.

Option C: From the sentence, "The reason people are so incredibly interested and excited is that it's such a profound human question. We have a basic desire to know what is beyond, what is out there," said Siemion', we can understand that the author quotes Siemion to explain why there is so much excitement about alien life. Hence, Option C cannot be a follow-up question.

Option D: From this sentence, 'Discoveries from land and space telescopes, and robotic planetary missions, strongly suggest that life should exist elsewhere' we understand that the author suggests that there is not enough evidence to prove that there is life elsewhere (however, there is enough evidence to 'suggest that life **should exist** elsewhere'). This need not be asked as a follow-up question. Option D is not the answer.

Choice (B)

undefined

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Discoveries from land and space telescopes, and robotic planetary missions, strongly suggest that life should exist elsewhere. Water and organic molecules needed for life as we know it are ubiquitous in space. "The reason people are so incredibly interested and excited is that it's such a profound human question. We have a basic desire to know what is beyond, what is out there," said Siemion. "What we have done so far is very minimal. We have far more work to do."

**Q7.** Which of the following is the main idea of the passage?

- a) To undermine the inquisitiveness that drives our search for aliens in the universe. Your answer is incorrect
- b) To explore the false starts in our hunt for alien presence in the universe.
- c) To demonstrate the profound human desire to know what is out there.
- d) To discuss the various developments in our hunt for alien signals.

**Show Correct Answer**

**Time spent / Accuracy Analysis**

Time taken by you to answer this question	<b>319</b>
Avg. time spent on this question by all students	<b>73</b>
Difficulty Level	<b>M</b>
Avg. time spent on this question by students who got this question right	<b>71</b>
% of students who attempted this question	<b>48.65</b>
% of students who got the question right of those who attempted	<b>30.62</b>

[Video Solution](#)

**Text Solution**

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

Number of words: 537

A few lines from across the passage, help us answer this question. 'We have a basic desire to know what is beyond, what is out there', 'Discoveries from land and space telescopes, and robotic planetary missions, strongly suggest that life should exist elsewhere', and 'Of all the methods brought to bear on the question of life elsewhere, UFO sightings are at the farthest end of the credibility scale' – These lines suggest the passage is discussing various forms in which we are looking for aliens and signs of alien intelligence.

Option A: All through the passage we have indicators as to how various people, including private organisations are searching for signs of alien intelligence. So, the main idea of the passage is to highlight this inquisitiveness to find out who else exists in this universe. The word 'undermine' cannot be justified and is in fact counter-intuitive to the theme of the passage. Hence, Option A is not the answer.

Option B: The entire passage is not just about 'false starts'. Yes, there is mention of a few failed projects but the passage also talks about positive discoveries (Second line mentioned above). Hence, the main idea of the passage cannot be inferred to be something negative. The author isn't critical of the failed projects either, confirming further that the main idea of the passage is not to delve on the failures. Hence, Option B is not the answer.

Option C: This option is close and does highlight one of the subsidiary ideas of the passage. But, the human desire is not the main theme of the passage. If it were, then the government reluctance to carry on expensive projects hunting for aliens wouldn't have been an important part of the discussion. Hence, Option C is not the answer.

Option D: The passage discusses private projects, government projects, discoveries, ongoing projects and questions suggesting that the main idea is to give the reader the entire gamut of options which are being pursued or have been pursued. Hence, Option D is the main idea of the passage.

Choice (D)

undefined

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While ufology struggles for credibility, the search for alien transmissions is serious science. Much of the sky has been swept for alien signals in the form of optical, infrared and radio waves. But the searches are far from extensive. Future scans could tune into directed energy beams used to propel craft, x-ray and gamma-ray broadcasts, or even gravitational radiation. When the massive radio telescope known as the Square Kilometre Array comes online in 2020, it will be the first facility that is sensitive enough to detect the equivalent of TV broadcasts on planets around Alpha Centauri, the closest star system to Earth. It is searches like these that will finally answer the question "are we alone?"

Discoveries from land and space telescopes, and robotic planetary missions, strongly suggest that life should exist elsewhere. Water and organic molecules needed for life as we know it are ubiquitous in space. "The reason people are so incredibly interested and excited is that it's such a profound human question. We have a basic desire to know what is beyond, what is out there," said Siemion. "What we have done so far is very minimal. We have far more work to do."

**Q8.** Breakthrough Listen and Oumuamua were mentioned in the passage to show that

- a) discoveries from land and space telescopes strongly suggest that life should exist elsewhere.
- b) UFO sightings are at the farthest end of the credibility scale. Your answer is incorrect
- c) the more expensive adventurous explorations for life elsewhere are driven by private money
- d) the search for alien transmissions is serious science.

Show Correct Answer

**Time spent / Accuracy Analysis**

Time taken by you to answer this question	<b>188</b>
Avg. time spent on this question by all students	<b>70</b>
Difficulty Level	<b>M</b>
Avg. time spent on this question by students who got this question right	<b>64</b>
% of students who attempted this question	<b>53.43</b>
% of students who got the question right of those who attempted	<b>82.43</b>

[Video Solution](#)

[Text Solution](#)

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

Number of words: 537

The biggest clue for this passage is given by the first line of the fourth para: 'It is not the only example. Earlier this week...' which clearly suggests that Oumuamua is an example to demonstrate how the government is not driving projects to hunt for life elsewhere. It is the private affluent enthusiasts who are funding these projects.

Option A: Since no discovery of evidence was made to link Oumuamua to any alien civilisation, this option (which is positive in tone) definitely doesn't explain the significance of this example in the passage. There is no connection between Oumuamua and 'life should exist elsewhere', a line that is mentioned much later in the passage. Hence, Option A is incorrect.

Option B: Since, there is no evidence to connect Oumuamua and UFO sightings, this line in fifth para can be understood as having no link with the former. No inferences from the Breakthrough Listen projects give us any indicators about the credibility of UFO sightings. Therefore, Option B is not the answer.

Option C: The last of the third para clearly summarises the example of Oumuamua: 'But even as the search came up empty, *it proved a point.*' That point is that the hunt for life elsewhere is funded privately and not undertaken by the government. Hence, Option C is the answer.

Option D: This option talks about alien transmissions and their importance but from the passage, the talk of alien transmissions in the sixth para doesn't in any way connect with the example of Oumuamua in the first para. Also, no relationship has been derived between private money and alien transmission research. Hence, Option D is not the answer.

Choice (C)

undefined

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**Q9.** The assumption in the argument: 'It is searches like these that will finally answer the question "are we alone?"' is that

- a) **there is life elsewhere and we are not alone.**
- b) **aliens send signals which can be detected.**
- c) the technology we have is capable of detecting signs of alien life.
- d) **future searches will have the capability to detect alien life, if it exists.** ☑**Your answer is correct**

#### Time spent / Accuracy Analysis

Time taken by you to answer this question	<b>218</b>
Avg. time spent on this question by all students	<b>79</b>
Difficulty Level	<b>M</b>
Avg. time spent on this question by students who got this question right	<b>76</b>
% of students who attempted this question	<b>53.4</b>
% of students who got the question right of those who attempted	<b>60.2</b>

[Video Solution](#)

[Text Solution](#)

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

Number of words: 537

The author seems to suggest that these searches will eventually bear fruit and either a. detect alien life b. disprove alien life once for all, thereby answering the question 'Are we alone?'.

Option A: If the author is talking about answering the question, 'Are we alone?', it means that the author doesn't assume that life does exist. If that were the case, there is no scope for asking that question. The question signifies we are still unsure, whether there is life or not. Hence, Option A is not the answer.

Option B: Had the author assumed that aliens send signals, the author wouldn't ask whether we are alone. Also, the para discusses discovery of signs of alien life, which may not be necessarily through aliens sending signals. Hence, Option B is not the assumption.

Option C: C is close but the tense is important. There is no evidence to suggest we already have the technology considering that the author says, we will find the answer eventually. Hence, Option C is not the answer.

Option D: Since, the author says, searches like these will finally answer the question whether we are alone, the underlying assumption is that the technology can finally pick the signs, wherever they exist. If it didn't, we will never be able to answer the question as to whether we are alone. Hence, Option D is the answer. ☑**Choice (D)**

undefined

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**Q10.** Which problem faced by scientists is demonstrated in the statement 'It came from a man ... his garden' (fourth para)?

- a) **The credibility of most reports of UFO sightings is seriously questionable**
- b) **People often confuse astronomy with astrology.** Your answer is incorrect
- c) UFO sightings don't deserve the time and resources spent discussing them.
- d) **Most people do not know how an alien spacecraft looks like.**

Show Correct Answer

**Time spent / Accuracy Analysis**

Time taken by you to answer this question	<b>201</b>
Avg. time spent on this question by all students	<b>93</b>
Difficulty Level	<b>E</b>
Avg. time spent on this question by students who got this question right	<b>87</b>
% of students who attempted this question	<b>51.43</b>
% of students who got the question right of those who attempted	<b>70.85</b>

[Video Solution](#)

[Text Solution](#)

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

Number of words: 537

Option A: This addresses the real problem – the credibility of the sightings. Have people really seen something or are their claims as outlandish as the example mentioned of a man who described an alien vessel at the bottom of his garden. Hence, Option A is the answer.

Option B: This is an analogy given by Monica Grady to 'explain' the problem, *inferring* that astronomy is a serious science, whereas astrology (read fortune-telling) is not necessarily exact science but rather make-believe. Hence, it is definitely not the problem alluded to in the given line. Option B is not the answer.

Option C: 'UFO sightings are at the farthest end of the credibility scale.' This line may lead one to this option if misunderstood. It should be appreciated that while UFO sighting reports haven't been credible, the given line is more about the credibility of the reports rather than about resources and time needed to hunt the sightings. Option B highlights the time and resources and whether UFO sightings deserve that. However, the real problem is that the UFO sighting reports are not even reliable, leave alone thinking about allocating resources. We are not discussing the credibility of UFO sightings, rather the credibility of the reports about UFO sightings.' Hence, Option C is not the answer.

Option D: How a spacecraft looks like and whether people know about it is not the problem discussed. We are discussing credibility of 'any sighting', leave alone something that looks like an 'alien spacecraft'. So, how that spacecraft looks like is irrelevant.

Choice (A)

undefined

**DIRECTIONS** for questions 11 to 15: The passage given below is accompanied by a set of five questions. Choose the best answer to each question.

"What is the utility of literature?" is a deceptively innocent question that casually hurls anyone foolish enough to try answering it into at least two abysses at once: those opened up by the sub-questions "What do you mean by 'literature'?" and "What do you mean by 'utility'?" It invites an oblique, deflective or tautological response: a laugh or a shrug or the recitation of an Emily Dickinson poem memorized, providentially, long ago.

The very notion of measuring literature's efficacy as a tool on the order of the wheel or the loom - a technology that, considering the human propensity for storytelling, enables the progress of humankind - points, in its absurdity, to the uniquely slippery relationship between "literature" and "life." It's impossible to imagine human civilization without stories, whether recorded in writing or passed down orally in the form of ballad, epic, legend or myth. Indeed, it seems fair to say that it wasn't until Homo sapiens became Homo fabulans, a creature capable of verbally transmitting an account of lived experience to its fellow creatures, that human life as we know it began. Surely by the time the first caves were painted with those astonishingly sophisticated renderings of horses, mammoths and bulls, some equally highly codified and now forever-lost body of cultural knowledge was being passed down through the generations around the crackling fire.

Literature is life's long-lost twin, its hidden velvet lining, its mournful ghost. The relationship between the two can be expressed only as a metaphor, permanently equivocal and impossible to pin down. But whatever genetic mutation (or angelic blessing, or demonic curse) gave rise to this human drive to recreate our lived experience in language and share that creation with our fellow hairless primates, we're stuck with it now. Literature may not be in a strict sense useful - may even, by its nature, mock "usefulness" as a category, allying itself first with pleasure, idleness and play - but its necessity seems self-evident from the mere fact of its continued existence, so inextricably bound up with our species' own.

"Poetry makes nothing happen," wrote W. H. Auden in a poem on the occasion of William Butler Yeats's death in 1939. It's a line that's often quoted out of context as a critique of the inward-looking hermeticism of literary culture - and, to be sure, Auden was in part mourning the incapacity of even the most politically engaged art to stave off the awful fate looming over Europe at the time. But the rest of the stanza makes clear just how important this "nothing" that poetry enables is to the survival of human culture.

Literature is the record we have of the conversation between those of us now alive on earth and everyone who's come before and will come after, the cumulative repository of humanity's knowledge, wonder, curiosity, passion, rage, grief and delight. It's as useless as a spun-sugar snowflake and as practical as a Swiss Army knife (or, in Kafka's stunning description of what a book should be, "an ice-axe to break the sea frozen inside us"). I couldn't tell you exactly what shelf in the utility closet that equipment for living occupies, but I suspect none of us storytelling apes would survive for long without it.

**Q11.** All the following can be inferred from the third para of the passage EXCEPT:

- a) **The origin of the human drive to use language for creating and sharing is not known.**
- b) **Pleasure, idleness and play may not be aligned with usefulness.**
- c) The relationship between life and literature is ambiguous.
- d) **The necessity of literature is not a cause for its continued existence.**

You did not answer this question

**Show Correct Answer**

**Time spent / Accuracy Analysis**

Time taken by you to answer this question	<b>9</b>
Avg. time spent on this question by all students	<b>289</b>
Difficulty Level	<b>D</b>
Avg. time spent on this question by students who got this question right	<b>287</b>
% of students who attempted this question	<b>38.77</b>
% of students who got the question right of those who attempted	<b>65.55</b>

[Video Solution](#)

[Text Solution](#)

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

Number of words: 535

Option A: 'But whatever genetic mutation (or angelic blessing, or demonic curse) gave rise to this human drive' – from this piece, we can understand that we do not know how that human drive came about. The author says, whatever may be the reason behind this human drive, we are stuck with it. Option A is an inference, and hence, not the answer.

Option B: From 'may even, by its nature, mock "usefulness" as a category, allying itself first with pleasure, idleness and play', the author is trying to suggest that literature may actually mock, or make fun of 'usefulness' because it allies with pleasure, idleness and play. Hence, we can understand that play/idleness/pleasure and usefulness may not go hand in hand. Option B is an inference and hence, not the answer.

Option C: 'The relationship between the two can be expressed only as a metaphor, permanently equivocal and impossible to pin down.' Equivocal/impossible to pin down – from these two expressions we can infer that the relationship is not well-defined/ambiguous. Option C is an inference, and hence, not the answer.

Option D: From this sentence, 'but its necessity seems self-evident from the mere fact of its continued existence, so inextricably bound up with our species' own', we can understand that the author connects necessity to prolonged existence. The author in fact feels necessity is self-evident because it has continued to exist. In other words, 'necessity' maybe a reason behind the existence of something. Hence, this option is not an inference, the reverse of it. Option D is the answer.

Choice (D)

undefined

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**Q12.** The tone of the passage is

- a) **Laudatory**
- b) **Polemical**
- c) Introspective
- d) **Grandiose**

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>59</b>
Difficulty Level	<b>D</b>
Avg. time spent on this question by students who got this question right	<b>65</b>
% of students who attempted this question	<b>18.16</b>
% of students who got the question right of those who attempted	<b>24.31</b>

[Video Solution](#)

[Text Solution](#)

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

Number of words: 535

The passage talks about how literature is a necessity: 'its necessity seems self-evident from the mere fact of its continued existence, so inextricably bound up with our species' own.' And it ends with, 'I suspect none of us storytelling apes would survive for long without it.' From these two lines, we can understand that while the author is not sure about what the utility of literature is, the author is quite certain about how important literature is to life.

Option A: Laudatory means praising, extolling or applauding. We have enough evidence in the passage to prove that the author's opinion about literature is extremely positive. Hence, Option A is the answer.

Option B: Polemical is a strong negative tone and it means disputing/warring/contentious/controversial – none of these are justified in the passage. Hence, Option B is not the answer.

Option C: Introspective tone is associated with consideration of one's own internal thoughts and feelings. The author here is describing her views on literature to other readers, rather than questioning herself about the validity of her viewpoints. Hence, Option C is close, but not the answer.

Option D: The language of this passage is grand and rhetorical at times with a lot of figures of speech being used. Nevertheless, 'grandiose' has a negative connotation associated with it, a pompous style where too many unnecessary, tautological expressions are used without conveying much information. That blame cannot be placed on the author of this passage. Hence, Option D is not the answer.

Choice (A)

undefined

**DIRECTIONS** for questions 11 to 15: The passage given below is accompanied by a set of five questions. Choose the best answer to each question.

"What is the utility of literature?" is a deceptively innocent question that casually hurls anyone foolish enough to try answering it into at least two abysses at once: those opened up by the sub-questions "What do you mean by 'literature'?" and "What do you mean by 'utility'?" It invites an oblique, deflective or tautological response: a laugh or a shrug or the recitation of an Emily Dickinson poem memorized, providentially, long ago.

The very notion of measuring literature's efficacy as a tool on the order of the wheel or the loom - a technology that, considering the human propensity for storytelling, enables the progress of humankind - points, in its absurdity, to the uniquely slippery relationship between "literature" and "life." It's impossible to imagine human civilization without stories, whether recorded in writing or passed down orally in the form of ballad, epic, legend or myth. Indeed, it seems fair to say that it wasn't until Homo sapiens became Homo fabulans, a creature capable of verbally transmitting an account of lived experience to its fellow creatures, that human life as we know it began. Surely by the time the first caves were painted with those astonishingly sophisticated renderings of horses, mammoths and bulls, some equally highly codified and now forever-lost body of cultural knowledge was being passed down through the generations around the crackling fire.

Literature is life's long-lost twin, its hidden velvet lining, its mournful ghost. The relationship between the two can be expressed only as a metaphor, permanently equivocal and impossible to pin down. But whatever genetic mutation (or angelic blessing, or demonic curse) gave rise to this human drive to recreate our lived experience in language and share that creation with our fellow hairless primates, we're stuck with it now. Literature may not be in a strict sense useful - may even, by its nature, mock "usefulness" as a category, allying itself first with pleasure, idleness and play - but its necessity seems self-evident from the mere fact of its continued existence, so inextricably bound up with our species' own.

"Poetry makes nothing happen," wrote W. H. Auden in a poem on the occasion of William Butler Yeats's death in 1939. It's a line that's often quoted out of context as a critique of the inward-looking hermeticism of literary culture - and, to be sure,

Auden was in part mourning the incapacity of even the most politically engaged art to stave off the awful fate looming over Europe at the time. But the rest of the stanza makes clear just how important this "nothing" that poetry enables is to the survival of human culture.

Literature is the record we have of the conversation between those of us now alive on earth and everyone who's come before and will come after, the cumulative repository of humanity's knowledge, wonder, curiosity, passion, rage, grief and delight. It's as useless as a spun-sugar snowflake and as practical as a Swiss Army knife (or, in Kafka's stunning description of what a book should be, "an ice-axe to break the sea frozen inside us"). I couldn't tell you exactly what shelf in the utility closet that equipment for living occupies, but I suspect none of us storytelling apes would survive for long without it.

**Q13.** Which of the following is the most probable source of this passage?

- a) **Textbook**
- b) **Magazine**
- c) Dissertation
- d) **Novella**

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>51</b>
Difficulty Level	<b>M</b>
Avg. time spent on this question by students who got this question right	<b>48</b>
% of students who attempted this question	<b>26.55</b>
% of students who got the question right of those who attempted	<b>34.88</b>

[Video Solution](#)

[Text Solution](#)

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

Number of words: 535

Option A: A school textbook is more likely to have stories/essays/entire novel rather than a piece on the utility of 'literature' itself, which is more in the nature of why we need this in our lives. In other words, the content doesn't seem academic or written for academic purposes as that would not allow such rhetoric/flourish of free writing. Hence, Option A is not a likely answer.

Option B: A Magazine is a print periodical containing miscellaneous pieces, such as articles, stories and poems. Since, this is an essay/opinion on Literature, this is most likely to have come from a literary magazine. Hence, Option B is the answer.

Option C: A dissertation or a thesis concerns itself more with examples and hypothesis derived from examples. The language of a dissertation is usually not rhetorical and is more point-of-fact. Hence, Option C is not the answer.

Option D: A novella is a short novel, a work of fiction. The above essay is not a work of fiction; it is non-fiction, an essay. Hence, Option D is easy to eliminate.

Choice (B)

undefined

**DIRECTIONS** for questions 11 to 15: The passage given below is accompanied by a set of five questions. Choose the best answer to each question.

"What is the utility of literature?" is a deceptively innocent question that casually hurls anyone foolish enough to try answering it into at least two abysses at once: those opened up by the sub-questions "What do you mean by 'literature'?" and "What do you mean by 'utility'?" It invites an oblique, deflective or tautological response: a laugh or a shrug or the recitation of an Emily Dickinson poem memorized, providentially, long ago.

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"Poetry makes nothing happen," wrote W. H. Auden in a poem on the occasion of William Butler Yeats's death in 1939. It's a line that's often quoted out of context as a critique of the inward-looking hermeticism of literary culture - and, to be sure, Auden was in part mourning the incapacity of even the most politically engaged art to stave off the awful fate looming over Europe at the time. But the rest of the stanza makes clear just how important this "nothing" that poetry enables is to the survival of human culture.

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**Q14.** In the last line of the second para: 'Surely by the time ... the crackling fire', the author is trying to assert that

- a) **storytelling started with the first cave-paintings.**
- b) **before cave paintings, knowledge was passed through indecipherable codes.**
- c) paintings helped transform Homo Sapiens to Homo Fabulans.
- d) **cave-paintings were possibly preceded by an equally sophisticated way of transferring cultural knowledge.**

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>D</b>
Avg. time spent on this question by students who got this question right	<b>101</b>
% of students who attempted this question	<b>40.23</b>
% of students who got the question right of those who attempted	<b>70.74</b>

[Video Solution](#)

[Text Solution](#)

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

Number of words: 535

If we break the sentence down into parts: Surely, 1. [by the time the first caves were painted] 2. [with those astonishingly sophisticated renderings of horses, mammoths and bulls], 3. [some equally highly codified and now forever-lost body of cultural knowledge] 4. [was being passed down through the generations around the crackling fire]. The structure of the sentence is – By the time first caves were painted <with something>, <something else> was being passed down through generations.

Option A: Since, something else (equally highly codified) was being passed by the time first caves were painted, we can understand that storytelling didn't start with the paintings themselves. Hence, Option A is not the answer.

Option B: Knowledge was being passed even before cave paintings. But, the passage doesn't say they were 'indecipherable'. In fact, the line suggests they were 'equally highly codified' like the paintings. Hence, Option B is not the answer.

Option C: From this sentence: 'Indeed, it seems fair to say that it wasn't until Homo sapiens became Homo fabulans, a creature capable of verbally transmitting an account of lived experience to its fellow creatures, that human life as we know it began' – we can understand that human life as we know really started, according to the author, when Homo Sapiens became Home Fabulans. However, it has not been mentioned that this transformation is because of the ability to paint caves specifically. Hence, Option C is not the answer.

Option D: This option mentions both the objectives of this line: that there was another way the cultural knowledge was being transferred before cave paintings and that this way was equally sophisticated (equally highly codified). Hence, Option D is the answer.

Choice (D)

undefined

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"Poetry makes nothing happen," wrote W. H. Auden in a poem on the occasion of William Butler Yeats's death in 1939. It's a line that's often quoted out of context as a critique of the inward-looking hermeticism of literary culture - and, to be sure, Auden was in part mourning the incapacity of even the most politically engaged art to stave off the awful fate looming over Europe at the time. But the rest of the stanza makes clear just how important this "nothing" that poetry enables is to the survival of human culture.

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**Q15.** The author mentioned W.H. Auden's line "Poetry makes nothing happen" to:

- a) point that poetry is useless
- b) show that poetry doesn't have a utility during the time of war
- c) allude to the significance of poetry to human culture
- d) mourn the incapacity of politically engaged art to stave off the awful fate looming over Europe

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>D</b>
Avg. time spent on this question by students who got this question right	<b>84</b>
% of students who attempted this question	<b>37.01</b>
% of students who got the question right of those who attempted	<b>61.2</b>

[Video Solution](#)

[Text Solution](#)

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

Number of words: 535

Option A: From this line, 'But the rest of the stanza makes clear just how important this "nothing" that poetry enables is to the survival of human culture', it can be understood that the author doesn't agree with the literal meaning of the given sentence. In fact, from the para, it can be clearly understood that even Auden didn't stop at saying poetry makes nothing happen, and didn't intend to say poetry is useless, even though the line has been quoted 'out of context' according to the author of the passage. Poetry being useless, is a negative sentence that was definitely not the intention of the author of the passage, who thinks poetry/literature is essential to human culture and life. Hence, Option A is not the answer.

Option B: While Auden made this speech during the time of a war, the author didn't use this line or the example to talk just about war. The author used the example to talk about the importance of poetry. Hence, Option B can be eliminated.

Option C: 'But the rest of the stanza makes clear - just how important this "nothing" (that poetry enables) - is - to the survival of human culture.' From this sentence, we can understand that the author used the example to talk about how (while it may seem that poetry sometimes is useless), it is very important to human culture. Hence, Option C is the answer. (Note: Allude – indirectly refer to)

Option D: It was Auden who used the line, according to the passage, to 'mourn the incapacity of politically engaged art'. The author didn't quote Auden to mourn the same incapacity. The author is not concerned about the said incapacity or war. The author in fact gave the 'nothing' a twist, a different connotation. Hence, Option D is not the answer.

Choice (C)

**DIRECTIONS** for questions 16 to 20: The passage given below is accompanied by a set of five questions. Choose the best answer to each question.

THE most ancient of all societies, and the only one that is natural, is the family: and even so the children remain attached to the father only so long as they need him for their preservation. As soon as this need ceases, the natural bond is dissolved. The children, released from the obedience they owed to the father, and the father, released from the care he owed his children, return equally to independence. If they remain united, they continue so no longer naturally, but voluntarily; and the family itself is then maintained only by convention.

This common liberty results from the nature of man. His first law is to provide for his own preservation, his first cares are those which he owes to himself; and, as soon as he reaches years of discretion, he is the sole judge of the proper means of preserving himself, and consequently becomes his own master.

The family then may be called the first model of political societies: the ruler corresponds to the father, and the people to the children; and all, being born free and equal, alienate their liberty only for their own advantage. The whole difference is that, in the family, the love of the father for his children repays him for the care he takes of them, while, in the State, the pleasure of commanding takes the place of the love which the chief cannot have for the peoples under him.

Grotius denies that all human power is established in favour of the governed, and quotes slavery as an example. His usual method of reasoning is constantly to establish right by fact. It would be possible to employ a more logical method, but none could be more favourable to tyrants.

It is then, according to Grotius, doubtful whether the human race belongs to a hundred men, or that hundred men to the human race: and, throughout his book, he seems to incline to the former alternative, which is also the view of Hobbes. On this showing, the human species is divided into so many herds of cattle, each with its ruler, who keeps guard over them for the purpose of devouring them.

As a shepherd is of a nature superior to that of his flock, the shepherds of men, i. e. their rulers, are of a nature superior to that of the peoples under them. Thus, Philo tells us, the Emperor Caligula reasoned, concluding equally well either that kings were gods, or that men were beasts.

The reasoning of Caligula agrees with that of Hobbes and Grotius. Aristotle, before any of them, had said that men are by no means equal naturally, but that some are born for slavery, and others for dominion.

Aristotle was right; but he took the effect for the cause. Nothing can be more certain than that every man born in slavery is born for slavery. Slaves lose everything in their chains, even the desire of escaping from them: they love their servitude, as the comrades of Ulysses loved their brutish condition. If then there are slaves by nature, it is because there have been slaves against nature. Force made the first slaves, and their cowardice perpetuated the condition.

**Q16.** The passage is most likely an extract from

- a) **the abstract of a thesis.**
- b) **a treatise on a topic.**
- c) an editorial in a periodical.
- d) **an essay on a topic.**

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	242
Difficulty Level	D
Avg. time spent on this question by students who got this question right	245
% of students who attempted this question	29.21
% of students who got the question right of those who attempted	24.25

[Video Solution](#)

## Text Solution

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

Number of words: 531

Option A: An abstract of a thesis (or research) is normally a very brief overview of the purpose, the research problems, methodology and findings of the research or study. Clearly, the passage does not have any such structure to it. Further, the Passage does not have the kind of *brevity* needed of an abstract – an average abstract is not expected to run into more than a few hundred words – ideally below 300 words or so. Therefore, the passage cannot be an *extract* from the abstract of a thesis.

Option B: A treatise is a work or exposition which takes up a specific topic and 'treats' the topic to a much wider and deeper analysis. It is characterized by a relatively formal and *systematic* approach to the topic and typically deals with arguments and counter arguments in a *relatively objective* manner and *neutral* tone. These characteristics can be observed in the passage to a reasonable extent. It is very likely that the passage is an extract from a treatise on a topic.

Option C: An editorial is, by definition, an article authored by the editor of a periodical (i.e., newspaper or magazine), expressing the *opinion* of the editor or the publisher. It is characterized by subjective opinions and often quite concise and does not set about to study or develop the fundamentals of any topic. It can be observed that the passage does not carry opinions and instead proceeds to lay out some fundamental principles and delve deeper into them in an objective manner. Hence, the passage cannot be an extract from the editorial of a periodical.

Option D: An essay is a short piece of writing, almost always written in order to present the author's own argument and is based on subjective assessments, experiences and opinions of the author on various aspects related to the topic. It usually is very purposeful and rarely delves much deeper into the topic. When the author of an essay mentions or evaluates various arguments on aspects related to the topic, they are usually subjective judgements, with very brief evaluation, if any. The passage, as already explained above, is not as subjective or opinionated and not as purposeful in its flow. It is also not as succinct and, in fact, delves much deeper into a few aspects than one would expect in an essay. It is very unlikely that the passage is an extract from an essay on a topic.

Choice (B)

undefined

**DIRECTIONS** for questions 16 to 20: The passage given below is accompanied by a set of five questions. Choose the best answer to each question.

THE most ancient of all societies, and the only one that is natural, is the family: and even so the children remain attached to the father only so long as they need him for their preservation. As soon as this need ceases, the natural bond is dissolved. The children, released from the obedience they owed to the father, and the father, released from the care he owed his children, return equally to independence. If they remain united, they continue so no longer naturally, but voluntarily; and the family itself is then maintained only by convention.

This common liberty results from the nature of man. His first law is to provide for his own preservation, his first cares are those which he owes to himself; and, as soon as he reaches years of discretion, he is the sole judge of the proper means of preserving himself, and consequently becomes his own master.

The family then may be called the first model of political societies: the ruler corresponds to the father, and the people to the children; and all, being born free and equal, alienate their liberty only for their own advantage. The whole difference is that, in the family, the love of the father for his children repays him for the care he takes of them, while, in the State, the pleasure of commanding takes the place of the love which the chief cannot have for the peoples under him.

Grotius denies that all human power is established in favour of the governed, and quotes slavery as an example. His usual method of reasoning is constantly to establish right by fact. It would be possible to employ a more logical method, but none could be more favourable to tyrants.

It is then, according to Grotius, doubtful whether the human race belongs to a hundred men, or that hundred men to the human race: and, throughout his book, he seems to incline to the former alternative, which is also the view of Hobbes. On this showing, the human species is divided into so many herds of cattle, each with its ruler, who keeps guard over them for the purpose of devouring them.

As a shepherd is of a nature superior to that of his flock, the shepherds of men, i. e. their rulers, are of a nature superior to that of the peoples under them. Thus, Philo tells us, the Emperor Caligula reasoned, concluding equally well either that kings were gods, or that men were beasts.

The reasoning of Caligula agrees with that of Hobbes and Grotius. Aristotle, before any of them, had said that men are by no means equal naturally, but that some are born for slavery, and others for dominion.

Aristotle was right; but he took the effect for the cause. Nothing can be more certain than that every man born in slavery is born for slavery. Slaves lose everything in their chains, even the desire of escaping from them: they love their servitude, as the comrades of Ulysses loved their brutish condition. If then there are slaves by nature, it is because there have been slaves against nature. Force made the first slaves, and their cowardice perpetuated the condition.

**Q17.** An apt title for the passage would be

- a) **Origins of Slavery**
- b) **Kings as Shepherds**
- c) Principles of Societies
- d) **Family: building block of Society**

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>68</b>
Difficulty Level	<b>M</b>
Avg. time spent on this question by students who got this question right	<b>65</b>
% of students who attempted this question	<b>45.72</b>
% of students who got the question right of those who attempted	<b>62.64</b>

[Video Solution](#)

[Text Solution](#)

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

Number of words: 531

Option A: The topic of slavery is mentioned by the author as an *example* cited by Grotius. Therefore, Slavery is peripheral to the topic and "Origins of Slavery" is not an appropriate title, or central idea, of the passage

Option B: While the passage talks about rulers and those in power, in a general sense, it does not specifically talk about Kings or Shepherds. In fact, the mention of shepherds is very specific to the discussion about the arguments of Hobbes. Hence, "Kings and Shepherds" cannot be an appropriate title to the passage.

Option C: The passage starts with the mention of the "*most ancient of societies*" and then later mentions families as "*the first model of political societies*" and later delves into discussing the roles of those in power vis a vis those subject to those in power. This makes it apparent that the passage is trying to discuss the fundamental concepts of societies, and the functions and roles therein. Therefore, "Principles of Societies" can be an appropriate title for the passage

Option D: While the family is mentioned as the first model of political societies, it is not highlighted as a building block of society – for example, there is no discussion as to how managing families better can lead to managing society better. Instead, the family is only mentioned to first establish the basic or natural principles based on which societies form and should function. Therefore "Family: Building blocks of Society" is not an appropriate title for the passage.

Choice (C)

undefined

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THE most ancient of all societies, and the only one that is natural, is the family: and even so the children remain attached to

the father only so long as they need him for their preservation. As soon as this need ceases, the natural bond is dissolved. The children, released from the obedience they owed to the father, and the father, released from the care he owed his children, return equally to independence. If they remain united, they continue so no longer naturally, but voluntarily; and the family itself is then maintained only by convention.

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Grotius denies that all human power is established in favour of the governed, and quotes slavery as an example. His usual method of reasoning is constantly to establish right by fact. It would be possible to employ a more logical method, but none could be more favourable to tyrants.

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As a shepherd is of a nature superior to that of his flock, the shepherds of men, i. e. their rulers, are of a nature superior to that of the peoples under them. Thus, Philo tells us, the Emperor Caligula reasoned, concluding equally well either that kings were gods, or that men were beasts.

The reasoning of Caligula agrees with that of Hobbes and Grotius. Aristotle, before any of them, had said that men are by no means equal naturally, but that some are born for slavery, and others for dominion.

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**Q18.** Which of the following is an accurate correspondence between the pair of persons (names given on the left) and what they would respectively compare those in power to (roles given on the right)?

- a) Hobbes and Grotius - devourers and gods
- b) Caligula and Aristotle - gods and fathers
- c) Author of the passage and Grotius - fathers and masters
- d) Aristotle and Caligula - kings and shepherds

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>153</b>
Difficulty Level	<b>D</b>
Avg. time spent on this question by students who got this question right	<b>156</b>
% of students who attempted this question	<b>34.17</b>
% of students who got the question right of those who attempted	<b>56.85</b>

[Video Solution](#)

[Text Solution](#)

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

Number of words: 531

Option A: In Para 5, Grotius is inclined to believe that "...the human race belongs to a hundred men...", thereby implying that a few men in power actually *own* the rest of the human race and are effectively their *owners* or *masters*. In the same para, we are told that this is also the view of Hobbes. Hence, Hobbes would not compare those in power to devourers. The term 'devourers' is, in fact, used by the author (not as his opinion) when he tries to point out an (unacceptable) conclusion – that those in power would guard their subjects only to later devour them – that would follow from Grotius' and Hobbes' inclinations. Also, Caligula is the one who reasons that either rulers (or kings) are gods (or men are beasts). Therefore, the term 'gods' cannot be ascribed to Grotius. Therefore, this is not the correct correspondence.

Option B: Caligula does refer to those in power as gods. However, in Para 7, Aristotle believes that "some men are born for slavery, and others for dominion", thereby implying that those in power are rulers or kings. Hence, he would not refer to those in power as fathers. Therefore, this is not the correct correspondence.

Option C: As already explained above, Grotius would refer to those in power as masters. Further, from the first three paragraphs, it is evident that the author indeed compares the role of those in power with that of a father in a family. Therefore, this is the correct correspondence.

Option D: As already explained, Aristotle would refer to those in power as kings. However, Caligula would refer to those in power as gods and not as shepherds. Therefore, this is not the correct correspondence.

Choice (C)

undefined

**DIRECTIONS** for questions 16 to 20: The passage given below is accompanied by a set of five questions. Choose the best answer to each question.

THE most ancient of all societies, and the only one that is natural, is the family: and even so the children remain attached to the father only so long as they need him for their preservation. As soon as this need ceases, the natural bond is dissolved. The children, released from the obedience they owed to the father, and the father, released from the care he owed his children, return equally to independence. If they remain united, they continue so no longer naturally, but voluntarily; and the family itself is then maintained only by convention.

This common liberty results from the nature of man. His first law is to provide for his own preservation, his first cares are those which he owes to himself; and, as soon as he reaches years of discretion, he is the sole judge of the proper means of preserving himself, and consequently becomes his own master.

The family then may be called the first model of political societies: the ruler corresponds to the father, and the people to the children; and all, being born free and equal, alienate their liberty only for their own advantage. The whole difference is that, in the family, the love of the father for his children repays him for the care he takes of them, while, in the State, the pleasure of commanding takes the place of the love which the chief cannot have for the peoples under him.

Grotius denies that all human power is established in favour of the governed, and quotes slavery as an example. His usual method of reasoning is constantly to establish right by fact. It would be possible to employ a more logical method, but none could be more favourable to tyrants.

It is then, according to Grotius, doubtful whether the human race belongs to a hundred men, or that hundred men to the human race: and, throughout his book, he seems to incline to the former alternative, which is also the view of Hobbes. On this showing, the human species is divided into so many herds of cattle, each with its ruler, who keeps guard over them for the purpose of devouring them.

As a shepherd is of a nature superior to that of his flock, the shepherds of men, i. e. their rulers, are of a nature superior to that of the peoples under them. Thus, Philo tells us, the Emperor Caligula reasoned, concluding equally well either that kings were gods, or that men were beasts.

The reasoning of Caligula agrees with that of Hobbes and Grotius. Aristotle, before any of them, had said that men are by no means equal naturally, but that some are born for slavery, and others for dominion.

Aristotle was right; but he took the effect for the cause. Nothing can be more certain than that every man born in slavery is born for slavery. Slaves lose everything in their chains, even the desire of escaping from them: they love their servitude, as the comrades of Ulysses loved their brutish condition. If then there are slaves by nature, it is because there have been slaves against nature. Force made the first slaves, and their cowardice perpetuated the condition.

**Q19.** Consider the flawed argument:

*The presence of a fire truck at every fire implies that fire trucks cause fires.*

Which para in the passage contains a statement that is subsequently shown to be premised on a similarly flawed logic?

- a) **Para 2**
- b) **Para 4**
- c) Para 5
- d) **Para 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>105</b>
Difficulty Level	<b>D</b>
Avg. time spent on this question by students who got this question right	<b>99</b>
% of students who attempted this question	<b>35.88</b>
% of students who got the question right of those who attempted	<b>42.22</b>

[Video Solution](#)

[Text Solution](#)

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

Number of words: 531

A simple analysis of the flawed argument given in the question would show that the flaw in the argument is mistaking the effect for the cause. That is, the fire trucks are present at the site of fire as an effect of the fire and are not themselves the cause of the fire.

So the objective is to find a paragraph which has an argument which is likewise flawed. However, the key pointer in the question (which should not be overlooked) is that this argument *must be subsequently shown to be similarly flawed*.

Option A: In para 2, there is no argument present.

Option B: In para 4, the author points out a flaw in an argument of Grotius – that slavery is an example from which one can conclude that all human power is not established in favour of the governed. However, the flaw that the author points out in such an argument is *not* that of mistaking the effect for the cause. The flaw is of using mere fact (without applying more logic) to establish what is 'right' (in a moral sense).

Option C: In para 5, there is no explicit argument made. There is a passing reference to Grotius' implicit conclusion/inclination that "the human race belongs to a hundred men". However, there are no details of the argument used by Grotius. Also, more importantly, there is no subsequent critique of any implicit argument that Grotius may have adopted.

Option D: In para 8, the author clearly explains that the statement made by Aristotle, mentioned in para 7, suffers from the error of mistaking the effect for the cause. Therefore, Para 7 contains a statement that is subsequently shown to be premised on similarly flawed logic as that of the given statement.

Choice (D)

**DIRECTIONS** for questions 16 to 20: The passage given below is accompanied by a set of five questions. Choose the best answer to each question.

THE most ancient of all societies, and the only one that is natural, is the family: and even so the children remain attached to the father only so long as they need him for their preservation. As soon as this need ceases, the natural bond is dissolved. The children, released from the obedience they owed to the father, and the father, released from the care he owed his children, return equally to independence. If they remain united, they continue so no longer naturally, but voluntarily; and the family itself is then maintained only by convention.

This common liberty results from the nature of man. His first law is to provide for his own preservation, his first cares are those which he owes to himself; and, as soon as he reaches years of discretion, he is the sole judge of the proper means of preserving himself, and consequently becomes his own master.

The family then may be called the first model of political societies: the ruler corresponds to the father, and the people to the children; and all, being born free and equal, alienate their liberty only for their own advantage. The whole difference is that, in the family, the love of the father for his children repays him for the care he takes of them, while, in the State, the pleasure of commanding takes the place of the love which the chief cannot have for the peoples under him.

Grotius denies that all human power is established in favour of the governed, and quotes slavery as an example. His usual method of reasoning is constantly to establish right by fact. It would be possible to employ a more logical method, but none could be more favourable to tyrants.

It is then, according to Grotius, doubtful whether the human race belongs to a hundred men, or that hundred men to the human race: and, throughout his book, he seems to incline to the former alternative, which is also the view of Hobbes. On this showing, the human species is divided into so many herds of cattle, each with its ruler, who keeps guard over them for the purpose of devouring them.

As a shepherd is of a nature superior to that of his flock, the shepherds of men, i. e. their rulers, are of a nature superior to that of the peoples under them. Thus, Philo tells us, the Emperor Caligula reasoned, concluding equally well either that kings were gods, or that men were beasts.

The reasoning of Caligula agrees with that of Hobbes and Grotius. Aristotle, before any of them, had said that men are by no means equal naturally, but that some are born for slavery, and others for dominion.

Aristotle was right; but he took the effect for the cause. Nothing can be more certain than that every man born in slavery is born for slavery. Slaves lose everything in their chains, even the desire of escaping from them: they love their servitude, as the comrades of Ulysses loved their brutish condition. If then there are slaves by nature, it is because there have been slaves against nature. Force made the first slaves, and their cowardice perpetuated the condition.

**Q20.** The author's criticism of Aristotle's argument would be applicable to all of the following, EXCEPT:

- a) The retail market for gold in India is higher than that in most other countries because Indians consider gold auspicious.
- b) A fall in the popularity of brick and mortar stores resulted in the rise of e-commerce companies.
- c) Tattoos with violent themes cause criminal behavior in those who sport them
- d) Chemotherapy, a treatment for cancer, is fatal because most people who undergo it do not survive.

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	109
Difficulty Level	D
Avg. time spent on this question by students who got this question right	106
% of students who attempted this question	26.59
% of students who got the question right of those who attempted	30.61

[Video Solution](#)

[Text Solution](#)

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

Number of words: 531

Aristotle's argument, as per the passage, reversed the cause and effect. That was the flaw. The cause was depicted as the effect and vice-versa. Similarly, three out of the four situations depicted here show the effect as the cause. The same criticism applicable to Aristotle's argument will be applicable to three out of the four examples here.

Option A: The retail market for gold is higher because gold is considered more auspicious. So, this option depicts the right cause and effect relationship and doesn't reverse it. Hence, Option A is the answer.

Option B: The fall in brick and mortar companies happened because of the rise of e-commerce. The fall did not cause the rise of e-commerce. Hence, Option B carries the same flaw. Option B is not the answer.

Option C: Those who have criminal behavior may sport violent tattoos. However, the violent tattoos are not the cause for criminal behavior. This analogy carries the same flaw. Hence, Option C is not the answer.

Option D: People who undergo chemotherapy to survive cancer, which may be fatal. Chemotherapy tries to treat cancer and is not fatal. Hence, this option also carries the same flaw. Choice D is not the answer.

Therefore, the correct answer is option A.

Choice (A)

undefined

**Q21. DIRECTIONS** for questions 21 to 24: The sentences given in each 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 correct sequence of five numbers as your answer, in the input box given below the question.

1. So even those who do not believe in it tacitly admit that design always remains a live option in biology.
2. Of course cells don't have this inscription on them, but that's not the point: the point is that we wouldn't know this unless we actually looked at cells under the microscope.
3. Consider what would happen if microscopic examination revealed that every cell was inscribed with the phrase "Made by Yahweh."
4. And once we admit that design cannot be excluded from science without argument, a weightier question remains: Why should we want to admit design into science?
5. And if they were so inscribed, one would have to entertain the thought, as a scientist, that they actually were made by Yahweh.

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>164</b>
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>38.98</b>
% of students who got the question right of those who attempted	<b>28.35</b>

## [Video Solution](#)

## [Text Solution](#)

Sentence 1: "even those who do not believe" is a connector to something else. It has the keyword "tacitly admit".

Sentence 2: Sentence 2 cannot begin the paragraph. It has the starter "of course" and the determiner "this inscription" which would need a precedent.

Sentence 3: Sentence 3 is a general (Consider what would happen ....) and independent sentence that can serve as a possible opening sentence.

Sentence 4: "And once we admit that" is again a continuation of a prior thought.

Sentence 5: Sentence 5 can be a follow-up sentence to another sentence (and if they were so inscribed). We observe that "Yahweh" has been mentioned in this sentence too.

So sentence 3 is a general sentence that begins the paragraph. Sentences 3 and 2 form a logical block. "every cell was inscribed with the phrase "Made by Yahweh." in sentence 3 links with "cells don't have this inscription on them". Also "microscopic examination revealed that" in sentence 3 links with " actually looked at cells under the microscope" in sentence 2.

Sentence 5 furthers the discussion "if they were so inscribed" in 5 links with "cells don't have this inscription on them, but that's not the point" in sentence 2 and "every cell was inscribed" in sentence 3. So, 325. "entertain the thought, as a scientist, that they actually were made by Yahweh" in sentence 5 links with "every cell was inscribed with the phrase "Made by Yahweh." in 3.

Sentences 5 and 1 form a logical block. "tacitly admit that design always remains a live option in biology" in sentence 1 links with "entertain the thought, as a scientist, that they actually were made by Yahweh" in sentence 5.

Sentences 1 and 4 form another logical block. "tacitly admit that design always remains a live option in biology" in sentence 1 links with "once we admit that design cannot be excluded from science without argument" in sentence 4. The second part of sentence 4 introduces a question which can be discussed in another para. So, 32514.

Ans: (32514)

undefined

**Q22. DIRECTIONS** for questions 21 to 24: The sentences given in each 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 correct sequence of five numbers as your answer, in the input box given below the question.

1. Now, intertextuality feeds into some of the big questions about literature - e.g., can a text be seen in isolation or do we need to look at how it relates to *other* texts?
2. Julia Kristeva coined the term "intertextuality" in 1966, explaining that there are two relationships going on whenever we read a text: there's the relationship between us and the author (the horizontal axis) and between the text and other texts (the vertical axis).
3. For postmodernists, it's clear that no text exists in isolation and that works of literature can only be created using stuff that already exists.
4. As the theorist Roland Barthes sums up, a text is "a multidimensional space in which a variety of writings, none of them original, blend and clash."
5. Looking at it from this perspective, then, intertextuality is unavoidable: postmodern authors may enjoy drawing attention to it but it's always there.

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>146</b>
Difficulty Level	<b>VD</b>
Avg. time spent on this question by students who got this question right	<b>145</b>
% of students who attempted this question	<b>29.1</b>
% of students who got the question right of those who attempted	<b>24.56</b>

[Video Solution](#)

[Text Solution](#)

Sentence 2: Sentence 2 sounds like a good introduction sentence. It talks about the origin and meaning of the term "*intertextuality*".

Sentence 1: Sentence 1 talks about intertextuality feeding into some big questions about literature. Note the starter "Now" which implies that this sentence follows another sentence.

Sentence 3: Sentence 3 is an independent sentence and talks about the view of postmodernists.

Sentence 5: Sentence 5 cannot be the opening sentence. "this perspective" needs a precedent. Sentence 5 again has a reference to "postmodern authors".

Sentence 4: Sentence 4 has a summary point of view and can serve as a conclusion sentence.

Sentence 2 is a general sentence that can begin the paragraph. It is followed by sentence 1.

Sentences 1 and 3 form a logical block. The question "Can a text be seen in isolation or do we need to look at how it relates to other texts?" in sentence 1 links with or is answered in sentence 3 "no text exists in isolation and that works of literature can only be created using stuff that already exists".

Sentences 3 and 5 form another logical block. "this perspective, then, intertextuality is unavoidable" in sentence 5 links with "no text exists in isolation and that works of literature can only be created using stuff that already exists" in sentence 3. Also "postmodern authors" in sentence 5 links with "for postmodernists" in sentence 3.

Sentence 4 concludes the paragraph because it is a summary point. "variety of writings, none of them original, blend and clash" in sentence 4 links with "works of literature can only be created using stuff that already exists"

So, 21354.

Ans: (21354)

undefined

**Q23. DIRECTIONS** for questions 21 to 24: The sentences given in each 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 correct sequence of five numbers as your answer, in the input box given below the question.

1. A sport's evolution, either naturally or through the onset of professionalism, also hinders a balanced evaluation of greatness as certain games can develop almost beyond all recognition.
2. Generational divides regularly render even the most informed debate pure conjecture as direct match-ups must take place within the realms of fantasy.
3. Technological advancement in sports equipment is yet another obstacle to ranking greatness.
4. The majority of high profile sports being team events further muddy the waters.

5.

Attempting to compare individual sportspeople can be a thankless task, fraught with various pitfalls and insurmountable difficulties.

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	141
Difficulty Level	VD
Avg. time spent on this question by students who got this question right	147
% of students who attempted this question	21.53
% of students who got the question right of those who attempted	3.77

[Video Solution](#)

[Text Solution](#)

Sentence 1 discusses how the evolution of a particular sport hinders evaluation. The key clue here being the word 'also', which means this sentence follows another that talks about hindrance to evaluation of greatness.

Sentence 2 discusses how generational divides turn most debates unrealistic. This sentence offers a reason why not all debates are good debates. This sentence therefore, has to follow a sentence that introduces the debate.

Sentence 3 discusses how technological advancement in equipment makes ranking greatness (note how this expression is synonymous to 'evaluation of greatness) difficult. The key clue here is 'yet another', which means this sentence should follow another obstacle.

Sentence 4: This sentence discusses another problem in some debate. The key clue is 'further muddy the waters'. That means this sentence comes after something that muddies the waters or make things vague.

Sentence 5: This is an independent sentence that introduces the debate – comparing individual sportspeople and says there are numerous pitfalls, which have been discussed in other sentences.

5 is the first sentence because it starts the debate, whereas other sentences add factors. The factors include – generational divide/evolution of a spot/technological advancement/team events.

Generational divide and team events are bigger ideas since they apply to all sports. Evolution of a sport is an equally big idea but it has 'also'. Team events 'further' muddy the waters. So, the 'generational divide' factor is upstream to 'evolution of sport' and 'team events'. So, 5 will be followed by 2.

4 ('further muddy the waters') has to follow 2 because 'even the most informed debate pure conjecture' alludes to things not being realistic (conjecture – guessing/not concrete). Similarly, 4 should follow 2 and precede 1 because 'also hinders' in 1 is more connected to 'yet another obstacle' than is 'further muddy waters', which connects better to 'pure conjecture' in 2.

Also, 3 talks about technological advancement, which is a 'specific idea' in line with 'evolution of sport', and 'yet another' in 3 helps connect it to 1. So, 13 is a logical block. Hence, the order is 52413.

Ans: (52413)

undefined

**Q24. DIRECTIONS** for questions 21 to 24: The sentences given in each 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 correct sequence of five numbers as your answer, in the input box given below the question.

1.

It adds an attentive aesthetic appreciation of the end result.

2. Simply gathering the ingredients required takes thought, since what we buy not only requires planning but affects the wellbeing of growers, producers, animals and the planet.
3. Eating, at its best, brings all these things together.
4. Eating is a complex act.
5. Cooking involves knowledge of ingredients, the application of skills, the balancing of different flavours and textures, considerations of nutrition, care for the ordering of courses or the place of the dish in the rhythm of the day.

**Your Answer:41523 □ Your answer is incorrect**

**Show Correct Answer**

#### Time spent / Accuracy Analysis

Time taken by you to answer this question	<b>157</b>
Avg. time spent on this question by all students	<b>136</b>
Difficulty Level	<b>VD</b>
Avg. time spent on this question by students who got this question right	<b>136</b>
% of students who attempted this question	<b>32.42</b>
% of students who got the question right of those who attempted	<b>11.76</b>

[Video Solution](#)

[Text Solution](#)

Sentence 1 discusses 'it' adding an aesthetic appreciation of 'the end result'. We need to find what the 'it' is and the 'end result' indicates this sentence will turn up in the latter half of the para.

Sentence 2 is almost an independent sentence, except for the looming question – which ingredients?

Sentence 3 is an independent sentence that raises the question 'which things?'

Sentence 4 is an independent sentence that defines 'eating'.

Sentence 5 is an independent sentence that defines 'cooking'.

The first step would be to find the blocks. 'These things' in 3 can only point to attributes defined in 5 (not the ones in 2 because we cannot connect eating with wellbeing of growers. It is easier to connect eating with flavors, nutrition, etc.). So, 53 is a mandatory block.

1 has to be about 'eating' since 'cooking' can't add an aesthetic appreciation. That is because cooking gives us the end result. So, 1 has to come after a sentence that has 'eating'. So, 41 and 31 are the two possibilities. 31 is the mandatory block because in 3 the author alludes to the end result by using the expression, 'eating at its best' 'brings all ...together'. Also, 53 is a logical block. [If we go for 41 (and since 53 is a block), we will be forced either to place 1 in front of 5 (end result before cooking – not correct) or 3 in front of 4.]

2 has to come before 5 because 'gathering the ingredients' has to come before 'cooking'. 2 also cannot follow 5 because 'knowledge of ingredients along with the application of skills, the balancing of different flavours and textures' can only follow 'gather the ingredients'. It is easy to be confused believing knowledge should be there before gathering them. However, one must note that the knowledge here is not about how they look/taste/smell but rather how to use skill to bring the best of them in terms of nutrition. But, 2 needs a previous sentence, otherwise there will be a hanging question 'what ingredients'. Therefore, 2 has to follow 4.

[Note: It is important to understand that 'eating' in the first sentence, the complex act, is not the physical act of consuming, but the entire process, according to the author (buying ingredients + cooking + consuming). Also, in line 1, 'It adds an attentive aesthetic appreciation of the end result', the aesthetic appreciation is the final step after something is cooked. Line 3 – 'eating, at its best...' is the link between cooking and (5) and the final aesthetic appreciation (1).]

Hence, the order is 42531.

Ans: (42531)

undefined

**Q25. DIRECTIONS** for questions 25 to 28: Each of the following questions has a paragraph which is followed by four alternative summaries. Choose the alternative that best captures the essence of the paragraph.

If you believe that you have a single, consistent, unchanging, core ‘self’ that uniquely defines you, this belief, according to Buddhist philosophy, is the foundation of human suffering. Here, suffering is not merely physical discomfort, like having the flu or shutting a door on your hand. Suffering is personal: you’ll toil to avoid feeling flawed in some way. You’ll constantly worry about your reputation or that you’re failing to live up to standards created by others. In this sense, believing that you have one true self is worse than a passing physical illness; it is an enduring affliction.

- a) Buddhism attributes enduring human suffering to the consistency and permanence of the idea of ‘self’.
- b) Buddhism places an individual’s belief in an unchanging ‘self’ at the core of all human suffering at a personal level.
- c) Buddhist philosophy ascribes an individual’s suffering, personal and physical, to the single, unchanging idea of core ‘self’. Your answer is incorrect
- d) Those who don’t believe in a single, unchanging, core ‘self’ can avoid the enduring affliction of personal suffering.

[Show Correct Answer](#)

**Time spent / Accuracy Analysis**

Time taken by you to answer this question	143
Avg. time spent on this question by all students	135
Difficulty Level	D
Avg. time spent on this question by students who got this question right	132
% of students who attempted this question	47.16
% of students who got the question right of those who attempted	46.34

[Video Solution](#)

[Text Solution](#)

The unity/introduction of the idea – If [you believe in the idea of one true self – unchanging, single, consistent], [you'll suffer at a personal level.]

Elaboration - Here, the author goes on to explain that 'suffering' may not just be physical. That there is personal suffering too, where one feels anxiety and worry about reputation/flaws/standards.

Conclusion – Believing in one true self is a long-lasting disease (affliction)

Option A: Buddhism attributes enduring human suffering to the consistency and permanence of the idea of 'self'. The underlined portion is a misrepresentation. The suffering is caused by an individual believing in the idea that 'the self is unchanging and consistent'. This option doesn't call the 'self' permanent or consistent, as given in the para. It calls the individual's idea or belief permanent. Hence, Option A is not the answer.

Option B: Buddhism places an individual's belief in an unchanging self at the core (root/foundation) of all human suffering at a personal level (suffering that one feels personally as opposed to physically). Hence, Option B covers all the sub-ideas of the para – the essence. Hence, Option B is the answer.

Option C: C. Buddhist philosophy ascribes (an individual's suffering), personal and physical, to (the single, unchanging idea of core 'self'). According to Buddhism, the suffering is because of an individual believing in the idea of one true self. Here, the option calls the idea single and unchanging which is not true. Also, we are only discussing personal suffering, and not physical suffering in the passage. Hence, Option C is not the answer.

Option D: This option assumes that the reverse of the para is also true. If Buddhism blames/ascribes human suffering to the individual's idea of self, we cannot extrapolate it to say avoiding that thought could lead to avoiding human suffering. That is not the essence of the para, just a possible extension, which may or may not be true. Hence, Option D is not the answer.

Choice (B)

undefined

**Q26. DIRECTIONS** for questions 25 to 28: Each of the following questions has a paragraph which is followed by four alternative summaries. Choose the alternative that best captures the essence of the paragraph.

Believing that creativity is due to some underlying, uncontrollable factor reinforces the idea that few people are capable of true creativity, which prevents many from realising their own potential. It also undermines the skill and effort that creative endeavours require, if we can simply chalk it up to the consequence of a disorder. And the connection between mood disorders and creativity influences the very way we view the creative work of others: university students who were told the story of Van Gogh cutting off his ear before they examined his painting Sunflowers (1888) took a more favourable view of it than those who weren't told the story. Similarly, students priced a piece of artwork higher when a fictitious artist's biography briefly mentioned that he was 'often described as very eccentric'.

- a) **Associating creativity with an underlying disorder undermines the skill and effort in creative endeavours, while stymieing creativity and altering the perception towards creative work.**
- b) **Positive perception towards creativity is coloured by the false belief that it is the consequence of a disorder, and something only a few people are capable of.**
- c) **Attributing creativity to an underlying disorder makes it look like an unachievable goal, while undermining creative skill and effort and influencing our perception towards it.** Your answer is correct
- d) **Creativity is falsely associated with an underlying disorder, thereby slighting the effort and skill in a creative endeavour, whilst enhancing the general perception towards it.**

#### Time spent / Accuracy Analysis

Time taken by you to answer this question	184
Avg. time spent on this question by all students	161
Difficulty Level	D
Avg. time spent on this question by students who got this question right	161
% of students who attempted this question	24.55
% of students who got the question right of those who attempted	32.07

[Video Solution](#)

## Text Solution

### **Believing that (only if we believe that)**

[creativity is due to some underlying, uncontrollable factor] **reinforces the idea that** [few people (few people = no one, a few people = some) are capable of true creativity], **(and the consequence of this belief is that)** which [prevents many from realising their own potential.] - First issue with the belief.

It also **undermines the skill and effort that creative endeavours require**, if we can simply chalk it up to the consequence of a disorder. – Second issue with the belief.

### **(And the connection between mood disorders and creativity influences the very way we view the creative work of others)** – third issue with the belief.

Elaboration and examples of the third issue - university students who were told the story of Van Gogh cutting off his ear before they examined his painting Sunflowers (1888) took a more favourable view of it than those who weren't told the story. Similarly, students priced a piece of artwork higher when a fictitious artist's biography briefly mentioned that he was 'often described as very eccentric'.

Option A: Associating creativity with an underlying disorder (represents the belief/introduction of the idea correctly) undermines **the skill and effort in creative endeavours** (represents the second issue correctly), while **stymying** creativity and **altering the perception towards creative work** (represents the third issue incorrectly). Stymying creativity – this is an incorrect interpretation of 'prevents people from realising their full potential'. Potential and creativity are different. Hence, Option A is not the answer.

Option B: **Positive perception** towards creativity is coloured by the false belief that it is the consequence of a disorder (third issue), and something only a few people are capable of. The perception is coloured. Positive perception itself is a bias. Positive perception cannot be coloured. Also, 'only a few people (some people) are capable of is completely different from '**few people (few people = no one, a few people = some) are capable of true creativity**'. Hence, Option B is not the answer.

Option C: **Attributing creativity to an underlying disorder makes it look like an unachievable goal** (first issue), while **undermining creative skill and effort** (second issue) and **influencing our perception towards it** (third issue). The three issues discussed in the para have been covered. We say 'makes it look like' because the original para mentions 'many' are discouraged; not all. Hence, Option C is the answer.

Option D: **Creativity is falsely associated** with an underlying disorder, thereby **slighting the effort and skill in a creative endeavour, whilst enhancing the general perception towards it**. The para only tells us what the consequences of associating creativity with an underlying disorder are. It doesn't tell us that creativity **is indeed associated** with a disorder. Hence, Option D is not the answer.

Choice (C)

undefined

**Q27. DIRECTIONS** for questions 25 to 28: Each of the following questions has a paragraph which is followed by four alternative summaries. Choose the alternative that best captures the essence of the paragraph.

Experiments have shown that the fewer words students use to summarize an idea in their notes, the more likely they are to remember it afterwards. This is probably because creating summaries and paraphrasing force you to think deeply about the nub of the idea you are trying to express - and that additional effort cements it in your memory. These findings may also explain why it is better to take notes with a pen and paper, rather than using a laptop: writing by hand is slower than typing and forces you to be more concise in what you note down.

- a) You are more likely to remember ideas if you note them writing by hand rather than typing as people are more concise when writing by hand.
- b) You are more likely to remember ideas if you summarize them and you summarize better when you write by hand instead of type.
- c) Creating summaries and paraphrasing force you to think deeply about the nub of the idea you are trying to express.
- d) The shorter you summarize an idea, the better you will remember it and writing, instead of typing, helps you create shorter summaries. ☺Your answer is correct

### Time spent / Accuracy Analysis

Time taken by you to answer this question	116
Avg. time spent on this question by all students	106
Difficulty Level	M
Avg. time spent on this question by students who got this question right	101

### Time spent / Accuracy Analysis

% of students who attempted this question	<b>44.58</b>
% of students who got the question right of those who attempted	<b>50.49</b>

[Video Solution](#)

[Text Solution](#)

The para presents two distinct ideas:

- a. "The fewer words students use to summarize an idea in their notes, the more likely they are to remember it afterwards"
  - b. Taking notes by hand forces you to be more concise.
- Combining the two, we can also infer that taking notes by hand makes it more likely to remember.

Option A: This option mentions that one is more likely to remember if one notes things by hand. This part is true. However, it does not talk about the fact that **the fewer words** one uses for expressing an idea, **the more likely** they are to remember. This only talks about how being concise helps in remembering ideas. Hence, this is not a complete summary.

Option B: The second part of this option is correct – writing by hand helps us summarize better. However, the first part of the option omits the part where the fewer words one uses, the better one remembers. This is different from 'You are more likely to remember ideas if you summarize.' The difference is that the latter statement does not place any importance on the length of the summary.

Option C: This option is the reason that the author presented for why summarizing and paraphrasing help. However, this option does not talk about the link between summarizing and remembering. It also does not mention the comparison between taking notes by hand and typing.

Option D: The first part of this option 'The shorter you summarize an idea, the better you will remember it' is in line with the idea '**the fewer words** one uses for expressing an idea, **the more likely** they are to remember'. This statement captures the importance of summarizing and the impact of summarizing using fewer words. Hence, the first part of this option is apt. The second part of this option correctly captures the link between writing by hand and being concise. Hence, the two points that the author mentioned in the para are summarized in this option.

Therefore, comparing the four options, option D captures all the ideas mentioned in the para in the most appropriate manner.

Choice (D)

undefined

**Q28. DIRECTIONS for questions 25 to 28:** Each of the following questions has a paragraph which is followed by four alternative summaries. Choose the alternative that best captures the essence of the paragraph.

In scientific research, race remains a quandary. Some researchers assert that race, as a variable, captures meaningful plots of genetic ancestry - an opportunity to further big dreams like personalized medicine and ethno-pharmacogenomics. Others argue that biologic concepts of race are inextricably yoked to notions of eugenics, bigotry and burden, and decry their continued presence in medical journals. Somewhere in the middle, the inconsistencies of race in medicine perplex and gnaw at uncertain scientists, who are intimidated by the prospect of inescapable damnation. Yet despite the uncomfortable ambiguities that surround race and medicine, the variable remains present as a well-worn neighbour of scientific inquiry.

- a) Whether race provides meaningful information in scientific research is debatable; notwithstanding, race remains to be closely associated with scientific inquiry.
- b) Even though the inclusion of race in scientific research is disputed, race still plays a part in scientific research. Your answer is correct
- c) The ongoing debate on whether to include race in scientific research makes it difficult for researchers to choose whether or not to include race in their study.
- d) While some researchers include race as a variable in their study, some do not, and the rest are ambivalent about the inclusion of race in their study.

### Time spent / Accuracy Analysis

Time taken by you to answer this question	<b>180</b>
Avg. time spent on this question by all students	<b>129</b>
Difficulty Level	<b>D</b>
Avg. time spent on this question by students who got this question right	<b>125</b>
% of students who attempted this question	<b>14.15</b>
% of students who got the question right of those who attempted	<b>24.4</b>

[Video Solution](#)

### Text Solution

The para talks about race in scientific research. Researchers are divided into three groups based on their view towards race:

- a. First group – race captures meaningful information.
- b. Second group – race is linked to eugenics, bigotry etc and feel that it should not be in medical journals.
- c. Third group – researchers in the middle, who are uncertain.

The para concludes by saying that race is "a well-worn neighbour of scientific inquiry" ("the variable" in the last sentence refers to race as it links with "race, as a variable" in the second sentence).

Option A: The first group argue that race provides meaningful information. The second group does not argue that it does not provide meaningful information. It only argues that race is linked to eugenics, bigotry (which can be inferred to be negative). Hence, the first part of this option, that the debate is on "Whether race provides meaningful information in scientific research" is incorrect. Therefore, this is not an apt summary.

Option B: The debate mentioned in the para is about the inclusion of race in scientific research. The last sentence of the para talks about how race remains "a well-worn neighbour of scientific inquiry". Hence, this option aptly captures the debate mentioned in the para and the conclusion of the para.

Option C: While this statement is true of the third group of researchers, it is not true of all researchers. Further, this option does not talk about the conclusion of the para. Hence, this is an incomplete summary, at best.

Option D: This option equates researchers **arguing for race to be included** in scientific research with researchers **including race** in scientific research. Further, the purpose of the para is not just to talk about the three groups of researchers. It also provides information about the current state of race in scientific inquiry, which has not been addressed in this option.

Therefore, the correct answer is option B.

Choice (B)

undefined

**Q29. DIRECTIONS** for questions 29 to 31: In each of the following questions, the word in capitals is used in six different ways. Identify the option(s) in which the usage of the word is CORRECT or APPROPRIATE and enter the number corresponding to the sentence(s) (in which the usage is CORRECT or APPROPRIATE) in the input box provided below each question. [Note: Enter your answer in increasing order only. For example, if you think that sentences (1) and (3) are incorrect, then enter 13 (but not 31) in the input box].

### RETROSPECT

1. As he was comparatively well-off, he expected retrospect from all his colleagues.
2. The Leonardo da Vinci Science and Technology Museum features a retrospective collection featuring the early paintings of Leonardo da Vinci.
3. All planets in our solar system show a retrospective motion from time to time.

4. The monk who sold his Ferrari would always advocate that we should retrospect.
5. In the business world, to retrospect can help resolve contentious issues.
6. In retrospect, the historian believes that the battle could have been averted.

**Your Answer:**46 □ **Your answer is incorrect**

Show Correct Answer

#### Time spent / Accuracy Analysis

Time taken by you to answer this question	93
Avg. time spent on this question by all students	106
Difficulty Level	VD
Avg. time spent on this question by students who got this question right	103
% of students who attempted this question	29.64
% of students who got the question right of those who attempted	6.99

[Video Solution](#)

[Text Solution](#)

Statement 1: "retrospect" is incorrect in (1). The sentence conveys the idea of 'respect'. One cannot demand 'retrospect' from anyone else.

Statement 2: The adjective form of 'retrospect' is 'retrospective' and not 'retrospectative'. Hence, this is not correct.

Statement 3: In 3, we need to replace the word 'retrospective' with 'retrograde' which means directed or moving backwards. Motion of a planet can only be described as 'retrograde' and not 'retrospective'.

Statement 4: Retrospect can be used as a verb to mean 'look back upon'. This statement presents a correct usage of the word 'retrospect' as an intransitive verb (i.e., without a direct object) and is, therefore, correct.

Statement 5: Statement 5 is correct. The usage of the word 'retrospect' is correct in the sentence and the sentence also makes logical sense. *"Retrospect", which means a survey or review of a past course of events or period of time, can be helpful in resolving contentious issues.*

Statement 6: 6 presents a correct usage of the word 'retrospect' i.e. a review of or meditation on past events. Hence 6 is also correct.

Therefore, the answer is 456.

Ans: (456)

undefined

**Q30. DIRECTIONS** for questions 29 to 31: In each of the following questions, the word in capitals is used in six different ways. Identify the option(s) in which the usage of the word is CORRECT or APPROPRIATE and enter the number corresponding to the sentence(s) (in which the usage is CORRECT or APPROPRIATE) in the input box provided below each question. [Note: Enter your answer in increasing order only. For example, if you think that sentences (1) and (3) are incorrect, then enter 13 (but not 31) in the input box].

**FACE**

1. The team managed to face off the opposition with stoic courage.

2. If David could face down a formidable opponent like Goliath, so can I face down an experienced debater like Ronald.
3. His project proposal was accepted even though it flew off the face of all conventional wisdom.
4. We had the opportunity to sit down face-to-face with the CEO of Google and discuss our marketing strategy.
5. We were surprised when the boss did an about-face on the plan we had agreed upon.
6. He had the nerve to insult me in my face in the presence of my direct reports.

**Your Answer:**1346 □ **Your answer is incorrect**

Show Correct Answer

#### Time spent / Accuracy Analysis

Time taken by you to answer this question	<b>64</b>
Avg. time spent on this question by all students	<b>85</b>
Difficulty Level	<b>VD</b>
Avg. time spent on this question by students who got this question right	<b>91</b>
% of students who attempted this question	<b>31.88</b>
% of students who got the question right of those who attempted	<b>0.71</b>

[Video Solution](#)

#### Text Solution

Statement 1: In statement 1, "face off" is incorrect. We need to use the phrasal verb 'face up to'. This means to confront an unpleasant situation with resolution. 1 is not the answer.

Statement 2: The usage of the word 'face' is correct in statement 2. 'face down' means to attain mastery over or overcome by confronting resolutely. 2 is correct.

Statement 3: 3 is incorrect. "flew off the face" needs to be replaced with "flew in the face". This means to disregard or defy. 3 is not the answer.

Statement 4: "face-to-face" is correct and means "facing, in presence of" 4 is correct.

Statement 5: "did an about face" means "reverse one's opinion or course of action". 5 has correct usage of the word 'face'.

Statement 6: "insult me in my face" is incorrect. We need to say "insult me to my face" which means "in the view or hearing of". Statement 6 is not the answer.

So, the required answer is 245.

Ans: (245)

undefined

**Q31. DIRECTIONS for questions 29 to 31:** In each of the following questions, the word in capitals is used in six different ways. Identify the option(s) in which the usage of the word is CORRECT or APPROPRIATE and enter the number corresponding to the sentence(s) (in which the usage is CORRECT or APPROPRIATE) in the input box provided below each question. [Note: Enter your answer in increasing order only. For example, if you think that sentences (1) and (3) are incorrect, then enter 13 (but not 31) in the input box].

**BLUFF**

1. Rakesh is such a glib talker, he can bluff out his way out of anything.
2. When we called to the bluff of the kidnapper, he just panicked and ran away.
3. He tried to bluff his sister into giving him her chocolates.
4. His silly jokes were bluffing me out.
5. Being situated on the edge of a sheer bluff, the house had a splendid view of the rural countryside.
6. I like Bharat uncle, he is nice though a little bluff.

**Your Answer:**35 □ **Your answer is incorrect**

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>72</b>
Difficulty Level	<b>VD</b>
Avg. time spent on this question by students who got this question right	<b>87</b>
% of students who attempted this question	<b>29.35</b>
% of students who got the question right of those who attempted	<b>2.57</b>

[Video Solution](#)

[Text Solution](#)

Statement 1: We need to say 'bluff his way out of anything'. Or 'bluff his way through .....'. 'bluff his way' means to deceive someone or accomplish something by making a false display. So 1 is incorrect and is not the answer.

Statement 2: "call someone's bluff" is an idiom which means to challenge someone to give proof of his claims or to challenge someone to carry out a threat. 2 is incorrect and is not the answer.

Statement 3: 3 is correct. Bluff someone into something means that misleading someone into doing something.

Statement 4: 4 has the incorrect usage of the word 'bluff'. Here we need to say "wearing me out" which means "to exhaust someone" or "make one tired". 4 is not the answer.

Statement 5: In 5, the reference is to a cliff, headland, or hill with a broad, steep face i.e. a steep promontory, bank, or cliff, especially one formed by river erosion on the outside bend of a meander. So 5 is correct.

Statement 6: Statement 6 has the correct usage of the word 'bluff'. The word means "good-naturedly direct, blunt or frank or heartily outspoken". 6 is correct.

The required answer is 356.

Ans: (356)

**Q32. DIRECTIONS** for questions 32 to 34: Each of the following questions presents a sentence, part or all of which is underlined. Beneath the sentence, five different ways of phrasing the sentence, numbered 1 to 5, are given. Choose the answer choice that produces the most effective sentence in terms of word choice and sentence construction and enter the number corresponding to the answer choice as your answer in the input box provided. Your answer should make the sentence clear, exact and free of grammatical error. It should also minimize awkwardness, ambiguity and redundancy.

With the demise of Mr. I. K. Gujral, India lost a distinguished politician, a man of extraordinary abilities and humane, radically different on his outlook in the relationship between India and Pakistan.

1. extraordinary abilities and humane, radical on his outlook  
on
2. extraordinary abilities and distinctive humaneness, with a radically different outlook  
on
3. extraordinary abilities and exceptional humaneness, with a radical difference on his outlook  
in
4. extraordinary abilities and humaneness, who is radically different in his outlook  
on
5. extraordinary abilities and humaneness, with a radical difference upon his outlook  
regarding

**Your Answer:** 1 □ **Your answer is incorrect**

**Show Correct Answer**

#### Time spent / Accuracy Analysis

Time taken by you to answer this question	128
Avg. time spent on this question by all students	111
Difficulty Level	D
Avg. time spent on this question by students who got this question right	111
% of students who attempted this question	40.13
% of students who got the question right of those who attempted	42.91

[Video Solution](#)

[Text Solution](#)

The part underlined in the question contains multiple errors:-

- a. The usage of the word **humane**: When the phrase begins with 'a man of', the noun form of **humane** must follow and not an adjective. Hence, '**humaneness**' is a better word instead of '**humane**'.
- b. The preposition '**on**' when referring to his outlook: The correct usage must be '**in** his outlook'.
- c. The preposition '**in**' when referring to a topic (i.e., the relationship between India and Pakistan): Here **outlook on** a topic is appropriate.

Option 2 addresses all the above errors and is the correct answer.

Other choices have the following errors:

Option 1: "**on his outlook**" needs to be replaced with "**in his outlook**".

Option 3: The wrong preposition is used in the segment "**radical difference on his outlook**". One should say: "**radically different in his outlook**". Further, "**outlook in**" is incorrect. One needs to say: "**outlook on**".

Option 4: "**is radically different**" in this choice is incorrect. Using the present tense is a mistake as the context mentions the demise of the person.

Option 5: '**difference upon his outlook**' is incorrect. The correct usage is '**difference in his outlook**'.

Option 2 is grammatically correct and is the answer.

Ans: (2)

undefined

**Q33. DIRECTIONS** for questions 32 to 34: Each of the following questions presents a sentence, part or all of which is underlined. Beneath the sentence, five different ways of phrasing the sentence, numbered 1 to 5, are given. Choose the answer choice that produces the most effective sentence in terms of word choice and sentence construction and enter the number corresponding to the answer choice as your answer in the input box provided. Your answer should make the sentence clear, exact and free of grammatical error. It should also minimize awkwardness, ambiguity and redundancy.

With the Cymric race, it is easily discernible how less fitted were natures as strongly concentrated to furnish one of those brilliant developments as seen by the Anglo-Saxon race, which imposes the momentary ascendancy of a people on the world.

1. how less fitted were nature as strongly concentrated
2. how little fitted were nature so strongly concentrated
3. how less fitted were natures so strongly concentrated
4. how little fitted were natures so strongly concentrated
5. how little fitted was nature as strongly concentrated

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

**Show Correct Answer**

#### 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>89</b>
Difficulty Level	<b>VD</b>
Avg. time spent on this question by students who got this question right	<b>93</b>
% of students who attempted this question	<b>33.7</b>
% of students who got the question right of those who attempted	<b>16.32</b>

[Video Solution](#)

[Text Solution](#)

This question tests a student on the rules related to parts of speech, subject-verb agreement, sentence construction and punctuation

Option 1: "how less fitted" has a negative connotation. Instead of the 'as ..... as' construction which is used for positive comparison, we need to use the 'so ..... as' construction. So we need to say "**so** strongly concentrated to furnish one of those brilliant developments, **as** seen by the Anglo-Saxon race". Option 1 is also incorrect because "how less fitted" needs to be replaced with "how little fitted"

Option 2: In option 2, 'nature' must be plural. Option 2 is not the answer.

Option 3: In option 3, 'less fitted' is incorrect. Option 3 is not the answer.

Option 4: Option 4 is grammatically correct and is the answer.

Option 5: The 'as ..... as' construction which is used for positive comparison is a mistake. We need to use the 'so ..... as' construction.

Hence, the answer is option 4.

Ans: (4)

undefined

**Q34. DIRECTIONS** for questions 32 to 34: Each of the following questions presents a sentence, part or all of which is underlined. Beneath the sentence, five different ways of phrasing the sentence, numbered 1 to 5, are given. Choose the answer choice that produces the most effective sentence in terms of word choice and sentence construction and enter the number corresponding to the answer choice as your answer in the input box provided. Your answer should make the sentence clear, exact and free of grammatical error. It should also minimize awkwardness, ambiguity and redundancy.

When change becomes both more profound as well as rapid, bureaucracies are so cumbersome in their established ways to cope.

1. more profound as well as rapid, bureaucracies are so cumbersome
2. profound as well as rapid, bureaucracies are so cumbersome
3. more profound and more rapid, bureaucracies are too cumbersome
4. more profound as well as more rapid, bureaucracies are so cumbersome
5. more profound and rapid bureaucracies have been too cumbersome

**Your Answer:3 Your answer is correct**

Time spent / Accuracy Analysis

Time taken by you to answer this question

6

Avg. time spent on this question by all students

80

### Time spent / Accuracy Analysis

Difficulty Level	<b>M</b>
Avg. time spent on this question by students who got this question right	<b>83</b>
% of students who attempted this question	<b>38.45</b>
% of students who got the question right of those who attempted	<b>31.44</b>

[Video Solution](#)

[Text Solution](#)

Option 1: In this case, option 1 is same as the original question and has a number of errors in it.

Option 2: The sentence construction "both ..... as well as" is incorrect. It should be "both ..... and". The comparison "more rapid" should be used to make it parallel to "more profound". Also, the non-underlined portion has "..... to cope". In this case "..... bureaucracies are **so** cumbersome" in the underlined portion is incorrect. The sentence construction "too ..... to" should be followed. The part should read: bureaucracies are **too** cumbersome.....

Option 3: Option 3 is logically and grammatically correct. "both more profound and more rapid" is the correct comparison to be used. Also "bureaucracies are **too** cumbersome" has the correct sentence construction "too ..... to".

Option 4: Option 4 is wrong because it has "as well as" instead of "and" (both ..... and). "so cumbersome" in option 4 is incorrect. "So....." should be followed by "that.....", which is not given in the non-underlined portion.

Option 5: In this option, there must be a comma following the word 'rapid'. Further, "bureaucracies **have been** too cumbersome" is the wrong tense. It is a habitual action and so, simple present tense must be used.

Therefore, option 3 is correct.

Ans: (3)

undefined

**Q35. DIRECTIONS** for questions 35 to 37: There are two blanks in each of the following sentences. From the numbered pairs of words given below the sentence, identify the pair that fills the blanks most appropriately and enter its number as your answer in the input box.

Scientists have been forced to \_\_\_\_\_ a study on coral reef destruction due to global warming after finding mistakes that \_\_\_\_\_ the findings.

- (1) recant ..... supplanted
- (2) reprehend ..... exacerbated
- (3) withdraw ..... undermined
- (4) verify ..... corroborated
- (5) ratify ..... discredited

**Your Answer:3 Your answer is correct**

### Time spent / Accuracy Analysis

Time taken by you to answer this question	<b>9</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>76</b>
% of students who attempted this question	<b>46.78</b>
% of students who got the question right of those who attempted	<b>44.94</b>

[Video Solution](#)

### [Text Solution](#)

On a careful reading of the sentence, it can be understood that the second blank needs a negative word. Mistakes can only have a negative impact on the finding. So from the list of word choices given for the second blank, we can rule out 'corroborated' which means "confirm or give support to (a statement, theory, or finding)" So choice 4 is ruled out.

'recant' in choice 1 means deny or renounce or abandon and may seem to be an appropriate answer for the first blank. But 'supplanted' means "supersede and replace" and does not fit the blank appropriately. We cannot say that 'mistakes' superceded or supplanted the 'finding'. Hence choice 1 can be ruled out.

'reprehend' in choice 2 means reprimand or rebuke. We can reprimand a person and not a study. 'Exacerbate' means to increase the severity, violence, or bitterness of; aggravate. Again 'exacerbated' does not collocate with 'finding'. So choice 2 can be eliminated.

One can 'withdraw' a study after finding mistakes that weaken or 'undermine' the findings. So choice 3 works and is the answer.

In choice 5, 'ratify' has a positive tone and means to approve or sanction formally. 'ratify' will not be contextually correct if the mistakes 'discredited' the finding. 'discredited' means cause to seem false or unreliable. So 5 is not the answer.

The correct answer is 3. Ans: (3) withdraw

undefined

**Q36. DIRECTIONS** for questions 35 to 37: There are two blanks in each of the following sentences. From the numbered pairs of words given below the sentence, identify the pair that fills the blanks most appropriately and enter its number as your answer in the input box.

Businessmen in Indonesia who are now subjected to intense scrutiny by the courts for indulging in corrupt business practices are of the opinion that deals made with \_\_\_\_\_ intentions will not survive the \_\_\_\_\_ of the markets.

- (1) divergent ..... turbulence
- (2) benign ..... verisimilitude
- (3) honest ..... scrupulousness
- (4) virtuous ..... vicissitudes
- (5) oppugnant ..... vagaries

**Your Answer:**3 Your answer is incorrect

[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	78
Difficulty Level	D
Avg. time spent on this question by students who got this question right	83
% of students who attempted this question	43.11
% of students who got the question right of those who attempted	25.21

[Video Solution](#)

### [Text Solution](#)

The Indonesian businessmen have indulged in corrupt business practices and are now on trial or subjected to intense scrutiny by the courts. The second blank needs a noun to describe a feature of the markets. Among the words given as choices for the second blank, we can select 'vicissitudes', 'turbulence' and 'vagaries'. Vicissitudes means transformation or a change of circumstances or fortune, typically one that is unwelcome or unpleasant. Turbulence means a state of conflict or confusion. Vagaries again refers to unpredictability or fluctuation.

'Verisimilitude' means the quality of seeming true or of having the appearance of being real and does not fill the second blank. Also 'scrupulousness' means having moral integrity. However, if the word in the first blank is 'honest', the second blank must have a negative connotation. So we eliminate choices 2 and 3.

Now the first blank needs a positive word. The businessmen are offering a view so as to justify their actions. 'oppugnant' is a negative word and means 'opposing; antagonistic'. Choice 5 can be ruled out.

Between choices 1 and 4, choice 4 is a better answer as 'virtuous' is a positive word. Deals made with virtuous intentions will not survive the transformations of the market.

The correct answer is 4.

Ans: (4)

undefined

**Q37. DIRECTIONS** for questions 35 to 37: There are two blanks in each of the following sentences. From the numbered pairs of words given below the sentence, identify the pair that fills the blanks most appropriately and enter its number as your answer in the input box.

The crisis that we are in is that two fundamental pillars of our republic - governance and democracy, which should be \_\_\_\_\_ have become \_\_\_\_\_ to each other.

- (1) coordinated ..... disparate
- (2) complementary ..... antithetical
- (3) supportive ..... irreproachable
- (4) accountable ..... inimical
- (5) juxtaposed ..... discreet

**Your Answer:**3 □ **Your answer is incorrect**

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	76
Difficulty Level	M
Avg. time spent on this question by students who got this question right	72
% of students who attempted this question	44.9
% of students who got the question right of those who attempted	43.27

[Video Solution](#)

[Text Solution](#)

On a careful analysis of the sentence, we can understand that the two blanks need opposite words. The first blank referring to 'governance' and 'democracy' requires a positive word while the second blank needs a negative word.

'Inimical' in choice 4 means tending to obstruct or harm. This word is too strong for the given context and seems inapt. 'Irreproachable' (which means beyond criticism) in choice 3 is a misfit. Besides, 'coordinated' in choice 1 can be used to describe efforts but not processes. While 'juxtaposed' which means 'place or deal with close together for contrasting effect' can work for the first blank, 'discreet' is incorrect for the second blank. Discreet means intentionally unobtrusive. The word 'discrete' which means 'individually separate and distinct' would be more appropriate. So 5 is incorrect.

Choice 2 with the words 'complementary' (combining in such a way as to enhance or emphasize the qualities of each other or another) and 'antithetical' (mutually incompatible) is the best option to complete the sentence.

Ans: (2)

undefined

**Q38. DIRECTIONS** for questions 38 to 40: In each of the following questions, there are five sentences, with each sentence having a pair/ pairs of words or phrases, numbered 1 and 2, that are italicized and highlighted. In each sentence, from the pairs of italicized and highlighted words or phrases, select the appropriate word to form the correct sentence. Then enter, in the input box provided below the question, the correct sequence of numbers corresponding to the appropriate words in each of the sentences, in the same order that the sentences appear in the question.

(For example, if you think that the appropriate words for the sentences are 1, 2, 1, 2 and 2 respectively, then enter your answer as 12122.)

The BJP leader was **pilloried** (1) / **pillaged** (2) by the press for his careless remarks against the Dalits of a town.

Trepidation has its own **panacea** (1) / **panache** (2), its internal, stygian beauty.

One **factitious** (1) / **factual** (2) perspective that needs to be considered along with 'good quality' of this product is its price.

The singer's **plaintiff** (1) / **plaintive** (2) voice captured the sorrow experienced by the girl very well.

Even though you are delivering a speech for the very first time in the presence of a thousand delegates, do not worry and give it a **shot** (1) / **dry run** (2).

Your Answer:31 □ Your answer is incorrect

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	105
Difficulty Level	D
Avg. time spent on this question by students who got this question right	124
% of students who attempted this question	29.46
% of students who got the question right of those who attempted	17.68

[Video Solution](#)

[Text Solution](#)

'Pillory' means to attack or ridicule publicly somebody strongly in public. 'pillage' means to steal things from a place or region, especially in a war, using violence. The former is more appropriate. Hence 1.

'Panache' means flamboyance, style or manner, verve, flourish or zest. Panacea means a solution or remedy for all difficulties or diseases. 2 is more appropriate because of the clue "internal, stygian beauty" (referring to a characteristic or feature).

'Factitious' means 'artificially created or developed; contrived'. 'Factual' means concerned with what is actually the case, genuine, true, pertaining to facts. So 2 is correct here.

'plaintiff' is a person who brings a case against another in a court of law. 'Plaintive' means sounding sad and mournful. Again 2 is correct.

The last sentence speaks about delivering a speech; hence here the correct option would be to 'give it a shot' which means to give it a try. The phrase 'give it a dry run' means to have a rehearsal, which does not fit in this context.

So, the required answer is 12221.

Ans: (12221)

undefined

**Q39. DIRECTIONS** for questions 38 to 40: In each of the following questions, there are five sentences, with each sentence having a pair/ pairs of words or phrases, numbered 1 and 2, that are italicized and highlighted. In each sentence, from the pairs of italicized and highlighted words or phrases, select the appropriate word to form the correct sentence. Then enter, in the input box provided below the question, the correct sequence of numbers corresponding to the appropriate words in each of the sentences, in the same order that the sentences appear in the question.

(For example, if you think that the appropriate words for the sentences are 1, 2, 1, 2 and 2 respectively, then enter your answer as 12122.)

The **perquisites (1) / prerequisites (2)** of the job were too tempting to resist and he accepted the offer without giving a second thought.

He was **ambiguous (1) / ambivalent (2)** about artificial intelligence; always careful to highlight its limitations while praising its possible and tantalizing benefits.

Many historians have **predisposed (1) / assumed (2)** that there was no other way of averting the war.

He was a very close adviser of the king and as soon as the king died, he began **wielding (1) / yielding (2)** influence over the people of the land.

People who have got their phones serviced from this mobile service center can avail a 15% **waiver (1) / waver (2)** on any servicing requirement in the future.

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	94
Difficulty Level	M
Avg. time spent on this question by students who got this question right	101
% of students who attempted this question	33.73
% of students who got the question right of those who attempted	16.15

[Video Solution](#)

### [Text Solution](#)

*Perquisite* is a benefit which one enjoys or is entitled to on account of one's job or position. *Pre-requisite* means a thing that is required as a prior condition for something else to happen or exist. Hence, (1).

*Ambiguous* means open to more than one interpretation; not having one obvious meaning, not clear or decided, arguable. *Ambivalent* means having mixed feelings or contradictory ideas about something or someone. So, (2).

Grammatically and contextually, '*assumed*' fits into the third sentence. '*Predisposed*', means make someone liable or inclined to a specified attitude, action, or condition; to make susceptible. '*Predisposed*' does not fit in here. Hence (2).

'*wielding*' is the correct alternative, as one '*wields*' influence or power, which means to use authority. '*yielding*' (of a substance or object) means giving way under pressure; not hard or rigid. So, (1).

'*Waiver*' is an act or instance of waiving a right or claim; disavowal; rejection. '*waver*' means to sway to and fro. Since the given sentence is talking about waiving part of the service cost during the second instance, the word '*waiver*' should be used. So, (1).

So, the required answer is 12211.

Ans: (12211)

undefined

**Q40. DIRECTIONS** for questions 38 to 40: In each of the following questions, there are five sentences, with each sentence having a pair/ pairs of words or phrases, numbered 1 and 2, that are italicized and highlighted. In each sentence, from the pairs of italicized and highlighted words or phrases, select the appropriate word to form the correct sentence. Then enter, in the input box provided below the question, the correct sequence of numbers corresponding to the appropriate words in each of the sentences, in the same order that the sentences appear in the question.

(For example, if you think that the appropriate words for the sentences are 1, 2, 1, 2 and 2 respectively, then enter your answer as 1212.)

The Voyager observations did not ***gibe*** (1) / ***jibe*** (2) with commonly accepted beliefs about the size of Saturn's rings.

The manager's track record is ***unexceptional*** (1) / ***unexceptionable*** (2) making him the ideal candidate for the position of the CEO of the company.

The accountant used his ***perspicacity*** (1) / ***perspicuity*** (2) to uncover the financial fraud.

***Impassibility*** (1) / ***Impassability*** (2) describes the theological doctrine that God does not experience pain or pleasure from the actions of another being.

The security guard was a person of ***official*** (1) / ***officious*** (2) demeanor, always ready to ask obtrusive questions and offer unsolicited advice.

**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	120
Difficulty Level	D
Avg. time spent on this question by students who got this question right	166
% of students who attempted this question	24.93
% of students who got the question right of those who attempted	6.26

### [Video Solution](#)

### [Text Solution](#)

We would need to replace the highlighted word with 'gel with'. 'gibe' means an insulting or mocking remark; a taunt. 'jibe' means to be in harmony or agree with. In the context of the given sentence 'jibe' fits best. So, 2.

*Unexceptional* means ordinary; *unexceptionable*, which means without blemish or beyond criticism, is the correct word for the second sentence. So 2.

*Perspicuity* refers to the quality of being perspicuous; clearness and lucidity. *Perspicacity* means acuteness of perception, discernment, or understanding. 1 is appropriate.

The fourth sentence gives the definition of 'impassibility'. So 1 is correct. Impassibility means impossible to pass, cross, or overcome.

'officious', which means meddlesome - implied by 'ask obtrusive questions' - is a better fit than 'official', which means connected with the job of somebody in a position of authority. So, 2.

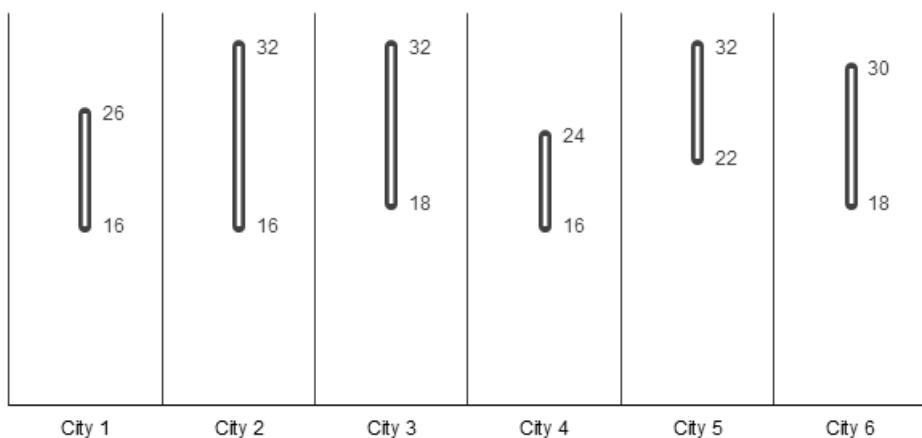
So, 22112 is the correct answer.

Ans: (22112)

undefined

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

Maximum and Minimum Temperatures ( $^{\circ}\text{C}$ )



A meteorological agency measured the temperatures (in  $^{\circ}\text{C}$ ) across six cities for ten consecutive days. Every day, the agency measured the temperature in each city exactly once and at a specified time of the day. The agency also observed that, during this ten day period, the temperature in any city across two consecutive days either remained constant or changed by exactly  $2^{\circ}\text{C}$ . The following chart provides the maximum and the minimum temperature recorded during the ten days for each city.

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

If it is known that the average temperature over the ten days in one of the six cities was  $28^{\circ}\text{C}$ , which of the following cities can it be?

- a) City 1
- b) City 2
- c) City 3 Your answer is correct
- d) More than one of the above

### Time spent / Accuracy Analysis

Time taken by you to answer this question	<b>745</b>
Avg. time spent on this question by all students	<b>278</b>
Difficulty Level	<b>D</b>
Avg. time spent on this question by students who got this question right	<b>279</b>
% of students who attempted this question	<b>44.95</b>
% of students who got the question right of those who attempted	<b>64.62</b>

[Video Solution](#)

[Text Solution](#)

For each city, the average will be the minimum possible if the minimum temperature is present for the maximum number of days, and the average will be the maximum possible if the maximum temperature is present for the maximum number of days.

For City 1, the minimum average will be the average of 16, 16, 16, 16, 16, 18, 20, 22, 24, 26 i.e., 19°C. The maximum average will be the average of 16, 18, 20, 22, 24, 26, 26, 26, 26 i.e., 23°C.

Similarly calculating the maximum and minimum average for the remaining cities,

	Min Average	Max Average
City 1	19	23
City 2	23.2	24.8
City 3	23.6	26.4

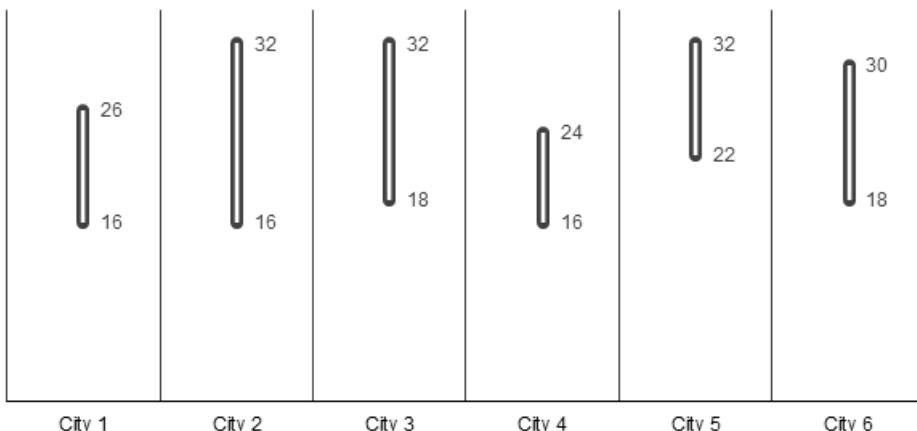
Hence, only City 3 can have an average temperature of 25°C.

Choice (C)

undefined

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

Maximum and Minimum Temperatures (°C)



A meteorological agency measured the temperatures (in °C) across six cities for ten consecutive days. Every day, the agency measured the temperature in each city exactly once and at a specified time of the day. The agency also observed that, during this ten day period, the temperature in any city across two consecutive days either remained constant or changed by exactly 2°C. The following chart provides the maximum and the minimum temperature recorded during the ten days for each city.

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

If any day on which all the six cities had the same temperature is called an 'isothermal' day, then what is the maximum possible number of 'isothermal' days during the given period?

Your Answer:2 □ Your answer is incorrect

Show Correct Answer

Time spent / Accuracy Analysis

Time taken by you to answer this question	202
Avg. time spent on this question by all students	158
Difficulty Level	VD
Avg. time spent on this question by students who got this question right	156
% of students who attempted this question	38.03
% of students who got the question right of those who attempted	33.21

[Video Solution](#)

[Text Solution](#)

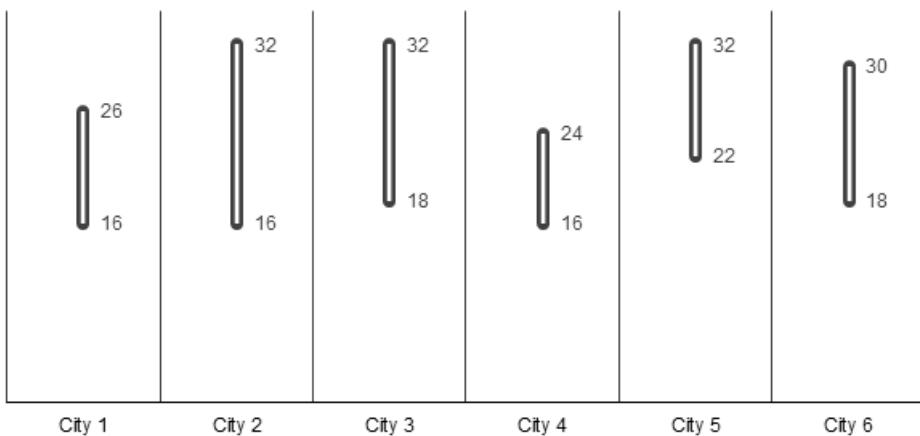
If all the cities are to have the same temperature, the temperature has to be either 22°C or 24°C because the maximum temperature of City 4 is 24°C and the minimum temperature of City 5 is 22°C. The maximum number of days that all the cities can have the same temperatures (22°C or 24°C) is determined by City 2 because the temperature of this city show the highest variation. In City 2, the temperature could have been 22°C or 24°C for a maximum of 3 days (2 days at 22°C and 1 day at 24°C or vice versa) as it will take 9 days for the temperature to reach from one extreme to the other. In all the other cities, the temperature can be 22°C or 24°C for more than 2 days. Therefore, across all the cities, the temperature can be 22°C for 2 days and 24°C for 1 day or vice versa.

In either case, the maximum number of days for which the temperature can be the same across all the cities is 3.  
Ans: (3)

undefined

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

Maximum and Minimum Temperatures (°C)



A meteorological agency measured the temperatures (in °C) across six cities for ten consecutive days. Every day, the agency measured the temperature in each city exactly once and at a specified time of the day. The agency also observed that, during this ten day period, the temperature in any city across two consecutive days either remained constant or changed by exactly 2°C. The following chart provides the maximum and the minimum temperature recorded during the ten days for each city.

**Q3. DIRECTIONS** for questions 3 and 4: Select the correct alternative from the given choices.

On which of the following days can all the six cities have a temperature of 22°C?

a) Day 7 Your answer is correct

b) Day 8

c) Day 3

d) Day 9

#### Time spent / Accuracy Analysis

Time taken by you to answer this question	<b>350</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>162</b>
% of students who attempted this question	<b>28.97</b>
% of students who got the question right of those who attempted	<b>56.04</b>

[Video Solution](#)

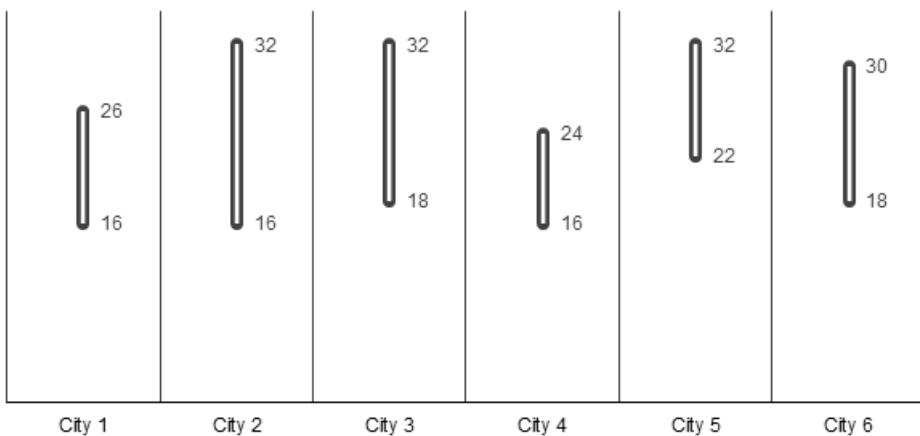
[Text Solution](#)

For City 2, the initial temperature can only be 16 or 18 or 30 or 32. In any other case, the minimum and the maximum temperatures for the city cannot be possible. In these cases, only days 4, 5, 6, and 7 can have a temperature of 22°C. From the given options, only Day 7 can have a temperature of 22°C. Choice (A)

undefined

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

Maximum and Minimum Temperatures (°C)



A meteorological agency measured the temperatures (in °C) across six cities for ten consecutive days. Every day, the agency measured the temperature in each city exactly once and at a specified time of the day. The agency also observed that, during this ten day period, the temperature in any city across two consecutive days either remained constant or changed by exactly 2°C. The following chart provides the maximum and the minimum temperature recorded during the ten days for each city.

**Q4. DIRECTIONS** for questions 3 and 4: Select the correct alternative from the given choices.

If the temperature of City 3 is 20°C on day 5, which of the following can be the average temperature for this city over the ten days?

a) 23.8°C

- b) **24.4°C**
- c) **26.3°C** Your answer is incorrect
- d) **26.8°C**

**Show Correct Answer**

**Time spent / Accuracy Analysis**

Time taken by you to answer this question	<b>166</b>
Avg. time spent on this question by all students	<b>219</b>
Difficulty Level	<b>VD</b>
Avg. time spent on this question by students who got this question right	<b>220</b>
% of students who attempted this question	<b>28.53</b>
% of students who got the question right of those who attempted	<b>46.54</b>

[Video Solution](#)

[Text Solution](#)

For City 3, the minimum temperature has to be 18°C and the maximum temperature has to be 32°C. The average temperature across the 10 days will be the minimum if the total temperature across the 10 days is least and vice versa. The following cases show the minimum and maximum possible averages:

Day	1	2	3	4	5	6	7	8	9	10	Average
Minimum	32	30	28	26	26	24	22	20	18	18	24.4
Maximum	18	20	22	24	26	28	30	32	32	32	26.4

From the options, only option B and option C fall within this range. However, the value given in option C cannot be the average temperature across ten days because then the sum of the temperatures across the ten days has to be 263. Since the sum of ten even numbers cannot be odd, this is not possible. Hence, option B is the right answer.  
Choice (B)

undefined

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

A twenty-two member panel was constituted to select the best tennis player in the world from five players - Federer, Nadal, Djokovic, Murray and Wawrinka. This selection was done in four rounds, such that in each round, the player that received the minimum number of votes was eliminated. The player that received the maximum number of votes in the final round was declared the best tennis player in the world. All the twenty-two members voted in all the four rounds and in each round, one member can vote for exactly one player. The following table gives the total number of votes received by each player across all the rounds:

Player	Votes
Djokovic	15
Federer	31
Murray	8
Nadal	31
Wawrinka	3

Further, it is also known that,

- i.  
Murray was the only player who received the same number of votes in two or more rounds.

- ii. all the members who voted for a specific player in a round voted for the same player in all the subsequent rounds unless he was eliminated.
- iii. there were exactly two rounds in which the number of votes received by all the players were distinct, and exactly two rounds in which exactly two players received the same number of votes, while the others received a distinct number of votes each.
- iv. in none of the rounds did more than one player receive the least number of votes.

**Q5. DIRECTIONS** for questions 5 to 7: Select the correct alternative from the given choices.

How many votes did Federer receive in the third round?

- a) 8  
 b) 7  
 c) 6  
 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>23</b>
Avg. time spent on this question by all students	<b>474</b>
Difficulty Level	<b>D</b>
Avg. time spent on this question by students who got this question right	<b>522</b>
% of students who attempted this question	<b>18.98</b>
% of students who got the question right of those who attempted	<b>53.9</b>

[Video Solution](#)

[Text Solution](#)

From the table we can see that Wawrinka must have been eliminated in the first round because he received only three votes. None of the other players could have received less than three votes. Hence, Wawrinka received three votes in the first round. In the second round, these 3 votes must be distributed across the remaining players.

From (iii), Murray must have received at least 4 votes in the first round. Hence, he must have received 4 votes in the first and second rounds (from (i)). (Since he could not have received the same number of votes in at least two rounds – two votes each in rounds 2 and 3 is not possible because of (ii)).

Since Murray is the only player to receive the same number of votes across at least two rounds, the remaining players must have had an increase in the number of votes that they received. Therefore, Djokovic, Federer and Nadal must each have received one additional vote in round 2.

Djokovic must have received at least 4 votes in Round 1. Hence, he must have received at least 5 votes in Round 2. Also, Federer and Nadal could not have been eliminated in the 2<sup>nd</sup> round. Hence, Murray must have been eliminated in the second round. His 4 votes must be distributed across the remaining three players.

Let  $a$  be the number of votes that Djokovic received in the first round. Hence, he must have received  $a+1$  votes in the second round. In the third round, he must have received  $a+2$  or  $a+3$  votes (since the number of votes of Federer and Nadal must also have increased by one each).

Since Djokovic received a total of 15 votes, either  $3a+3$  or  $3a+4$ . For  $a$  to be an integer, only  $3a+3$  is possible and  $a = 4$ . Hence, Djokovic received 4, 5, 6 votes in 1<sup>st</sup>, 2<sup>nd</sup> and 3<sup>rd</sup> rounds respectively.

Let  $b$  and  $c$  denote the number of votes that Federer and Nadal received during the first round. In the second round, they must have received  $b+1$  and  $c+1$ . Since  $b+c = 11$  (as there are 22 members i.e., 22 votes),  $b$  and  $c$  can only be 5 and 6 in any order. ( $b$  and  $c$  cannot be 4 since only two players received the same number of votes and  $b$  and  $c$  cannot be 3 from (iii)).

In the second round, they must have received 6 and 7 votes. Since they could not have received the same number of votes in the final round (from (iv)), they must have received the same number of votes in round 3. Hence, they must have got 8 votes each in the third round. In the final round, they must have got 12 and 10 votes for them to have a total of 31 votes.

The following table gives the votes received by each player in each round.

	Federer / Nadal	Nadal / Federer	Djokovic	Murray	Wawrinka
Round 1	5	6	4	4	3
Round 2	6	7	5	4	
Round 3	8	8	6		
Round 4	12	10			

Federer received 8 votes in Round 3.

Choice (A)

undefined

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

A twenty-two member panel was constituted to select the best tennis player in the world from five players - Federer, Nadal, Djokovic, Murray and Wawrinka. This selection was done in four rounds, such that in each round, the player that received

the minimum number of votes was eliminated. The player that received the maximum number of votes in the final round was declared the best tennis player in the world. All the twenty-two members voted in all the four rounds and in each round, one member can vote for exactly one player. The following table gives the total number of votes received by each player across all the rounds:

Player	Votes
Djokovic	15
Federer	31
Murray	8
Nadal	31
Wawrinka	3

Further, it is also known that,

- i. Murray was the only player who received the same number of votes in two or more rounds.
- ii. all the members who voted for a specific player in a round voted for the same player in all the subsequent rounds unless he was eliminated.
- iii. there were exactly two rounds in which the number of votes received by all the players were distinct, and exactly two rounds in which exactly two players received the same number of votes, while the others received a distinct number of votes each.
- iv. in none of the rounds did more than one player receive the least number of votes.

**Q6. DIRECTIONS** for questions 5 to 7: Select the correct alternative from the given choices.

In which of the following rounds did at least two players receive the same number of votes?

- a) Round 2
- b) Round 3
- c) Round 4
- 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>91</b>
Difficulty Level	<b>D</b>
Avg. time spent on this question by students who got this question right	<b>92</b>
% of students who attempted this question	<b>18.41</b>
% of students who got the question right of those who attempted	<b>63.11</b>

[Video Solution](#)

[Text Solution](#)

From the table we can see that Wawrinka must have been eliminated in the first round because he received only three votes. None of the other players could have received less than three votes. Hence, Wawrinka received three votes in the first round. In the second round, these 3 votes must be distributed across the remaining players.

From (iii), Murray must have received at least 4 votes in the first round. Hence, he must have received 4 votes in the first and second rounds (from (i)). (Since he could not have received the same number of votes in at least two rounds – two votes each in rounds 2 and 3 is not possible because of (ii)).

Since Murray is the only player to receive the same number of votes across at least two rounds, the remaining players must have had an increase in the number of votes that they received. Therefore, Djokovic, Federer and Nadal must each have received one additional vote in round 2.

Djokovic must have received at least 4 votes in Round 1. Hence, he must have received at least 5 votes in Round 2. Also, Federer and Nadal could not have been eliminated in the 2<sup>nd</sup> round. Hence, Murray must have been eliminated in the second round. His 4 votes must be distributed across the remaining three players.

Let  $a$  be the number of votes that Djokovic received in the first round. Hence, he must have received  $a+1$  votes in the second round. In the third round, he must have received  $a+2$  or  $a+3$  votes (since the number of votes of Federer and Nadal must also have increased by one each).

Since Djokovic received a total of 15 votes, either  $3a+3$  or  $3a+4$ . For  $a$  to be an integer, only  $3a+3$  is possible and  $a = 4$ . Hence, Djokovic received 4, 5, 6 votes in 1<sup>st</sup>, 2<sup>nd</sup> and 3<sup>rd</sup> rounds respectively.

Let  $b$  and  $c$  denote the number of votes that Federer and Nadal received during the first round. In the second round, they must have received  $b+1$  and  $c+1$ . Since  $b+c = 11$  (as there are 22 members i.e., 22 votes),  $b$  and  $c$  can only be 5 and 6 in any order. ( $b$  and  $c$  cannot be 4 since only two players received the same number of votes and  $b$  and  $c$  cannot be 3 from (iii)).

In the second round, they must have received 6 and 7 votes. Since they could not have received the same number of votes in the final round (from (iv)), they must have received the same number of votes in round 3. Hence, they must have got 8 votes each in the third round. In the final round, they must have got 12 and 10 votes for them to have a total of 31 votes.

The following table gives the votes received by each player in each round.

	Federer / Nadal	Nadal / Federer	Djokovic	Murray	Wawrinka
Round 1	5	6	4	4	3
Round 2	6	7	5	4	
Round 3	8	8	6		
Round 4	12	10			

In Round 3, two players received the same number of votes.

Choice (B)

undefined

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

A twenty-two member panel was constituted to select the best tennis player in the world from five players - Federer, Nadal, Djokovic, Murray and Wawrinka. This selection was done in four rounds, such that in each round, the player that received the minimum number of votes was eliminated. The player that received the maximum number of votes in the final round was declared the best tennis player in the world. All the twenty-two members voted in all the four rounds and in each round, one member can vote for exactly one player. The following table gives the total number of votes received by each player across all the rounds:

Player	Votes
Djokovic	15
Federer	31
Murray	8
Nadal	31
Wawrinka	3

Further, it is also known that,

- i. Murray was the only player who received the same number of votes in two or more rounds.

- ii. all the members who voted for a specific player in a round voted for the same player in all the subsequent rounds unless he was eliminated.
- iii. there were exactly two rounds in which the number of votes received by all the players were distinct, and exactly two rounds in which exactly two players received the same number of votes, while the others received a distinct number of votes each.
- iv. in none of the rounds did more than one player receive the least number of votes.

**Q7. DIRECTIONS** for questions 5 to 7: Select the correct alternative from the given choices.

If Federer received more votes than exactly three other players in the first round, which player was declared the best tennis player in the world?

- a) Djokovic
- b) Federer
- c) Nadal
- 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	0
Avg. time spent on this question by all students	85
Difficulty Level	D
Avg. time spent on this question by students who got this question right	87
% of students who attempted this question	18.37
% of students who got the question right of those who attempted	47.35

[Video Solution](#)

[Text Solution](#)

From the table we can see that Wawrinka must have been eliminated in the first round because he received only three votes. None of the other players could have received less than three votes. Hence, Wawrinka received three votes in the first round. In the second round, these 3 votes must be distributed across the remaining players.

From (iii), Murray must have received at least 4 votes in the first round. Hence, he must have received 4 votes in the first and second rounds (from (i)). (Since he could not have received the same number of votes in at least two rounds – two votes each in rounds 2 and 3 is not possible because of (ii)).

Since Murray is the only player to receive the same number of votes across at least two rounds, the remaining players must have had an increase in the number of votes that they received. Therefore, Djokovic, Federer and Nadal must each have received one additional vote in round 2.

Djokovic must have received at least 4 votes in Round 1. Hence, he must have received at least 5 votes in Round 2. Also, Federer and Nadal could not have been eliminated in the 2<sup>nd</sup> round. Hence, Murray must have been eliminated in the second round. His 4 votes must be distributed across the remaining three players.

Let  $a$  be the number of votes that Djokovic received in the first round. Hence, he must have received  $a+1$  votes in the second round. In the third round, he must have received  $a+2$  or  $a+3$  votes (since the number of votes of Federer and Nadal must also have increased by one each).

Since Djokovic received a total of 15 votes, either  $3a+3$  or  $3a+4$ . For  $a$  to be an integer, only  $3a+3$  is possible and  $a = 4$ . Hence, Djokovic received 4, 5, 6 votes in 1<sup>st</sup>, 2<sup>nd</sup> and 3<sup>rd</sup> rounds respectively.

Let  $b$  and  $c$  denote the number of votes that Federer and Nadal received during the first round. In the second round, they must have received  $b+1$  and  $c+1$ . Since  $b+c = 11$  (as there are 22 members i.e., 22 votes),  $b$  and  $c$  can only be 5 and 6 in any order. ( $b$  and  $c$  cannot be 4 since only two players received the same number of votes and  $b$  and  $c$  cannot be 3 from (iii)).

In the second round, they must have received 6 and 7 votes. Since they could not have received the same number of votes in the final round (from (iv)), they must have received the same number of votes in round 3. Hence, they must have got 8 votes each in the third round. In the final round, they must have got 12 and 10 votes for them to have a total of 31 votes.

The following table gives the votes received by each player in each round.

	Federer / Nadal	Nadal / Federer	Djokovic	Murray	Wawrinka
Round 1	5	6	4	4	3
Round 2	6	7	5	4	
Round 3	8	8	6		
Round 4	12	10			

If Federer received more votes than exactly 3 other players in the first round, Federer would have received 5 votes in the first round and 12 in the final round. Hence, Federer was declared the best tennis player in the world. Choice (B)

undefined

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

A twenty-two member panel was constituted to select the best tennis player in the world from five players - Federer, Nadal,

Djokovic, Murray and Wawrinka. This selection was done in four rounds, such that in each round, the player that received the minimum number of votes was eliminated. The player that received the maximum number of votes in the final round was declared the best tennis player in the world. All the twenty-two members voted in all the four rounds and in each round, one member can vote for exactly one player. The following table gives the total number of votes received by each player across all the rounds:

Player	Votes
Djokovic	15
Federer	31
Murray	8
Nadal	31
Wawrinka	3

Further, it is also known that,

- i. Murray was the only player who received the same number of votes in two or more rounds.
- ii. all the members who voted for a specific player in a round voted for the same player in all the subsequent rounds unless he was eliminated.
- iii. there were exactly two rounds in which the number of votes received by all the players were distinct, and exactly two rounds in which exactly two players received the same number of votes, while the others received a distinct number of votes each.
- iv. in none of the rounds did more than one player receive the least number of votes.

**Q8. DIRECTIONS for question 8:** Type in your answer in the input box provided below the question.

What is the total number of members in the panel who had to change the player that they voted for during any of the four rounds of voting?

**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>73</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>17.69</b>
% of students who got the question right of those who attempted	<b>24.2</b>

[Video Solution](#)

[Text Solution](#)

From the table we can see that Wawrinka must have been eliminated in the first round because he received only three votes. None of the other players could have received less than three votes. Hence, Wawrinka received three votes in the first round. In the second round, these 3 votes must be distributed across the remaining players.

From (iii), Murray must have received at least 4 votes in the first round. Hence, he must have received 4 votes in the first and second rounds (from (i)). (Since he could not have received the same number of votes in at least two rounds – two votes each in rounds 2 and 3 is not possible because of (ii)).

Since Murray is the only player to receive the same number of votes across at least two rounds, the remaining players must have had an increase in the number of votes that they received. Therefore, Djokovic, Federer and Nadal must each have received one additional vote in round 2.

Djokovic must have received at least 4 votes in Round 1. Hence, he must have received at least 5 votes in Round 2. Also, Federer and Nadal could not have been eliminated in the 2<sup>nd</sup> round. Hence, Murray must have been eliminated in the second round. His 4 votes must be distributed across the remaining three players.

Let  $a$  be the number of votes that Djokovic received in the first round. Hence, he must have received  $a+1$  votes in the second round. In the third round, he must have received  $a+2$  or  $a+3$  votes (since the number of votes of Federer and Nadal must also have increased by one each).

Since Djokovic received a total of 15 votes, either  $3a+3$  or  $3a+4$ . For  $a$  to be an integer, only  $3a+3$  is possible and  $a = 4$ . Hence, Djokovic received 4, 5, 6 votes in 1<sup>st</sup>, 2<sup>nd</sup> and 3<sup>rd</sup> rounds respectively.

Let  $b$  and  $c$  denote the number of votes that Federer and Nadal received during the first round. In the second round, they must have received  $b+1$  and  $c+1$ . Since  $b+c = 11$  (as there are 22 members i.e., 22 votes),  $b$  and  $c$  can only be 5 and 6 in any order. ( $b$  and  $c$  cannot be 4 since only two players received the same number of votes and  $b$  and  $c$  cannot be 3 from (iii)).

In the second round, they must have received 6 and 7 votes. Since they could not have received the same number of votes in the final round (from (iv)), they must have received the same number of votes in round 3. Hence, they must have got 8 votes each in the third round. In the final round, they must have got 12 and 10 votes for them to have a total of 31 votes.

The following table gives the votes received by each player in each round.

	Federer / Nadal	Nadal / Federer	Djokovic	Murray	Wawrinka
Round 1	5	6	4	4	3
Round 2	6	7	5	4	
Round 3	8	8	6		
Round 4	12	10			

Except for the members who voted for Federer and Nadal in the first round, the remaining members had to change the player that they voted for i.e. 11 members changed the player that they voted for.

Ans: (11)

undefined

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

Four persons, Pavan, Tarun, Venky, and Waqar, are standing on the left bank of a river, whereas another four persons, Qureshi, Ramesh, Sanjay, and Uday, are standing on the right bank of the river. A ferry, which can be used to cross the river and go to the other bank, is present initially on the left bank. The ferry can carry a maximum of two people at a time. However, there must be at least one person in the ferry in order to guide it to the other bank. The travel of the ferry from one bank to the other is called a trip. The eight persons have certain preferences regarding how they would like to travel in the ferry. The following information is known about their preferences:

i.

- If Pavan is present in the ferry, Tarun must also be present in the ferry.

- ii. If Venky travels to a bank on which Sanjay is already present, Sanjay will immediately travel to the opposite bank.
- iii. Qureshi will travel in the ferry only when Uday is not present in the ferry.
- iv. Venky and Waqar cannot travel together in the ferry.

**Q9. DIRECTIONS** for question 9: Select the correct alternative from the given choices.

What is the minimum number of trips the ferry must make so that all the eight people are present on the same bank?

- a) 4
- b) 5 Your answer is correct
- c) 6
- d) All of them cannot be on the same bank.

#### Time spent / Accuracy Analysis

Time taken by you to answer this question	<b>493</b>
Avg. time spent on this question by all students	<b>262</b>
Difficulty Level	<b>M</b>
Avg. time spent on this question by students who got this question right	<b>274</b>
% of students who attempted this question	<b>36.26</b>
% of students who got the question right of those who attempted	<b>45.82</b>

[Video Solution](#)

[Text Solution](#)

Let P, Q, R, S, T, U, V, and W represent the eight people.

If all the eight people are to be present on the left bank, it would require at least eight trips. This is because, since the ferry is on the left bank, it will take two trips to bring one person from the right bank to the left bank (one person from left bank will go to the right bank and return with another person from the right bank).

If they were to converge on the right bank, the minimum number of trips it would take is 5. T and P from the left bank can go to the right bank first. S has to return with the ferry and take one more person, V, to the right bank. S will travel back and return with W. This will repeat until everyone moves to the right bank. Hence the answer is 5.

Choice (B)

undefined

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

Four persons, Pavan, Tarun, Venky, and Waqar, are standing on the left bank of a river, whereas another four persons, Qureshi, Ramesh, Sanjay, and Uday, are standing on the right bank of the river. A ferry, which can be used to cross the river and go to the other bank, is present initially on the left bank. The ferry can carry a maximum of two people at a time. However, there must be at least one person in the ferry in order to guide it to the other bank. The travel of the ferry from one bank to the other is called a trip. The eight persons have certain preferences regarding how they would like to travel in the ferry. The following information is known about their preferences:

- i. If Pavan is present in the ferry, Tarun must also be present in the ferry.
- ii. If Venky travels to a bank on which Sanjay is already present, Sanjay will immediately travel to the opposite bank.
- iii. Qureshi will travel in the ferry only when Uday is not present in the ferry.
- iv. Venky and Waqar cannot travel together in the ferry.

**Q10. DIRECTIONS** for question 10: Type in your answer in the input box provided below the question.

If Tarun and Ramesh are in the ferry during its second trip, what is the minimum number of trips in which all the people on the left bank could go to the right bank and vice versa?

**Your Answer:**10 □ **Your answer is incorrect**

[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>163</b>
Difficulty Level	<b>M</b>
Avg. time spent on this question by students who got this question right	<b>181</b>
% of students who attempted this question	<b>25.7</b>
% of students who got the question right of those who attempted	<b>37.9</b>

[Video Solution](#)

[Text Solution](#)

Let P, Q, R, S, T, U, V, and W represent the eight people.

If Tarun is present in the ferry in the second trip, he must have been in the ferry in the first trip as well. Since Tarun has to travel twice between the two banks in this case, the number of trips has to be at least six (more than the minimum number of trips obtained above). The following table shows one possible way in which this can be done in six trips.

At the end of Trip	Left Bank	Right Bank
0	P, T, V, W	Q, R, S, U
1	V, W	P, T, Q, R, S, U
2	T, V, W, R	P, Q, S, U
3	V, R	T, W, P, Q, S, U
4	V, R, Q, S	T, W, P, U
5	R, Q, S	V, T, W, P, U
6	R, Q, U, S	W, T, V, P

Hence, this can be done in a minimum of six trips.

Ans: (6)

undefined

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

Four persons, Pavan, Tarun, Venky, and Waqar, are standing on the left bank of a river, whereas another four persons, Qureshi, Ramesh, Sanjay, and Uday, are standing on the right bank of the river. A ferry, which can be used to cross the river and go to the other bank, is present initially on the left bank. The ferry can carry a maximum of two people at a time. However, there must be at least one person in the ferry in order to guide it to the other bank. The travel of the ferry from one bank to the other is called a trip. The eight persons have certain preferences regarding how they would like to travel in the ferry. The following information is known about their preferences:

- i. If Pavan is present in the ferry, Tarun must also be present in the ferry.
- ii. If Venky travels to a bank on which Sanjay is already present, Sanjay will immediately travel to the opposite bank.
- iii. Qureshi will travel in the ferry only when Uday is not present in the ferry.
- iv. Venky and Waqar cannot travel together in the ferry.

**Q11. DIRECTIONS** for questions 11 and 12: Select the correct alternative from the given choices.

If Ramesh and Uday are in the ferry during its second trip, who among the following could not have travelled in the ferry during its first trip?

- a) **Pavan**
- b) **Venky** Your answer is correct
- c) **Waqar**
- d) **None of the above**

**Time spent / Accuracy Analysis**

Time taken by you to answer this question	<b>306</b>
Avg. time spent on this question by all students	<b>81</b>
Difficulty Level	<b>M</b>
Avg. time spent on this question by students who got this question right	<b>75</b>
% of students who attempted this question	<b>30.29</b>
% of students who got the question right of those who attempted	<b>76.56</b>

[Video Solution](#)

[Text Solution](#)

If Venky had travelled in the first trip, Sanjay must be in the ferry in its second trip.  
Hence, Venky could not have travelled in the first trip. Choice (B)

undefined

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

Four persons, Pavan, Tarun, Venky, and Waqar, are standing on the left bank of a river, whereas another four persons, Qureshi, Ramesh, Sanjay, and Uday, are standing on the right bank of the river. A ferry, which can be used to cross the river and go to the other bank, is present initially on the left bank. The ferry can carry a maximum of two people at a time.

However, there must be at least one person in the ferry in order to guide it to the other bank. The travel of the ferry from one bank to the other is called a trip. The eight persons have certain preferences regarding how they would like to travel in the ferry. The following information is known about their preferences:

- i. If Pavan is present in the ferry, Tarun must also be present in the ferry.
- ii. If Venky travels to a bank on which Sanjay is already present, Sanjay will immediately travel to the opposite bank.
- iii. Qureshi will travel in the ferry only when Uday is not present in the ferry.
- iv. Venky and Waqar cannot travel together in the ferry.

**Q12. DIRECTIONS** for questions 11 and 12: Select the correct alternative from the given choices.

After the ferry completed three trips, which of the following pairs of persons cannot be on the left bank?

- a) **Sanjay, Uday**
- b) **Ramesh, Sanjay**
- c) **Pavan, Tarun**
- d) **Qureshi, Uday** Your answer is correct

**Time spent / Accuracy Analysis**

Time taken by you to answer this question	<b>285</b>
Avg. time spent on this question by all students	<b>112</b>
Difficulty Level	<b>M</b>
Avg. time spent on this question by students who got this question right	<b>118</b>
% of students who attempted this question	<b>22.15</b>
% of students who got the question right of those who attempted	<b>54.28</b>

[Video Solution](#)

[Text Solution](#)

Qureshi and Uday could not have travelled together in the ferry. Hence, for them to come from right bank to left bank, the ferry would have to make at least two trips from right bank to left bank. Since this is not the case, Qureshi and Uday could not have been on the left bank.  
Choice (D)

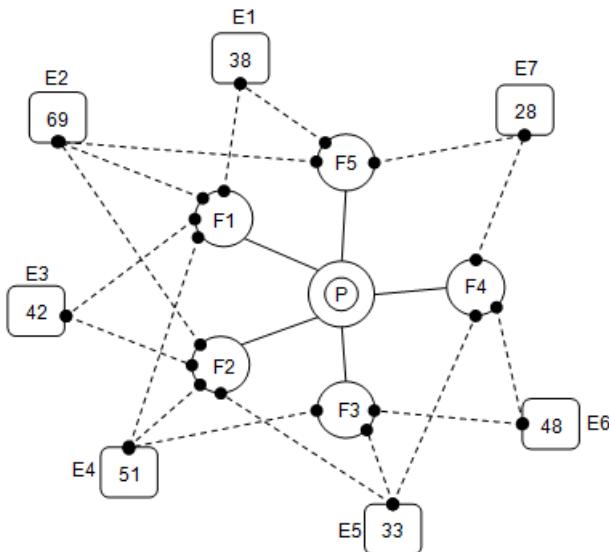
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**DIRECTIONS** for questions 13 to 16: Answer the questions on the basis of the information given below.

The capital city of the kingdom of Alami has the royal palace in the centre, with five fortifications, labelled F1 to F5, surrounding the palace. All the Alami soldiers are always present at the royal palace unless ordered to move to a fortification. An enemy kingdom Bagami planned to attack the royal palace and built camps around the fortifications. The Bagamis built seven camps - E1 to E7 - around the Alami fortifications and each Bagami camp had a certain number of soldiers. The soldiers from a given Bagami camp can attack only some of the fortifications, as indicated in the diagram

below. However, all the soldiers from a single Bagami camp need not necessarily attack the same fortification. The Alami king came to know about this and was planning to send his soldiers to the fortifications.

The following diagram shows the royal palace (P), fortifications (F1 to F5) and enemy (Bagami) camps (E1 to E7). The solid lines in the figure represent the respective fortification to which the Alami soldiers can be deployed from the palace. The dotted lines from each enemy camp represent the fortifications that the soldiers from that enemy camp can attack. The numbers inside each enemy camp represent the number of soldiers stationed in that camp.



Assume that all the Bagami soldiers attack the fortifications that they are assigned to at the same time and each soldier will attack exactly one fortification. Also, a higher numerical strength in terms of soldiers will assure victory to any side in such a manner that, if, say, 10 Bagami soldiers attack a fortification with 11 Alami soldiers, all the Bagami soldiers will die and the fortification will remain safe, but with only 1 Alami soldier remaining alive. If the number of Bagami soldiers attacking a fortification is equal to the number of Alami soldiers at the fortification, all the soldiers belonging to both the sides will die but the fortification will remain safe. In a similar manner, if the number of Bagami soldiers attacking is in excess of the number of Alami soldiers, the fortification will be destroyed, but with only the excess number of Bagami soldiers remaining alive.

**Q13. DIRECTIONS** for question 13: Type in your answer in the input box provided below the question.

What is the minimum number of soldiers the Alami king must deploy to all the fortifications put together in order to ensure that none of the fortifications is destroyed?

**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	270
Difficulty Level	M
Avg. time spent on this question by students who got this question right	304
% of students who attempted this question	12.69
% of students who got the question right of those who attempted	12.66

[Video Solution](#)

[Text Solution](#)

If none of the fortifications must be destroyed, each fortification must have enough soldiers to fight against all the enemy camps that can attack that fortification.

$$\text{Number of soldiers in } F_1 = 38 + 69 + 42 + 51 = 200$$

$$\text{Number of soldiers in } F_2 = 69 + 42 + 51 + 33 = 195$$

$$\text{Number of soldiers in } F_3 = 51 + 33 + 48 = 132$$

$$\text{Number of soldiers in } F_4 = 33 + 48 + 28 = 109$$

$$\text{Number of soldiers in } F_5 = 69 + 28 + 38 = 135$$

$$\begin{aligned} \text{Total number of soldiers across all fortifications} \\ = 200 + 195 + 132 + 109 + 135 = 771 \end{aligned}$$

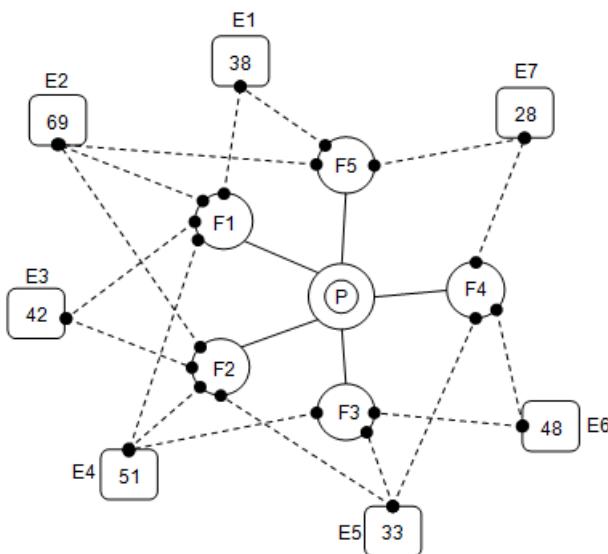
Ans: (771)

undefined

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

The capital city of the kingdom of Alami has the royal palace in the centre, with five fortifications, labelled F1 to F5, surrounding the palace. All the Alami soldiers are always present at the royal palace unless ordered to move to a fortification. An enemy kingdom Bagami planned to attack the royal palace and built camps around the fortifications. The Bagamis built seven camps - E1 to E7 - around the Alami fortifications and each Bagami camp had a certain number of soldiers. The soldiers from a given Bagami camp can attack only some of the fortifications, as indicated in the diagram below. However, all the soldiers from a single Bagami camp need not necessarily attack the same fortification. The Alami king came to know about this and was planning to send his soldiers to the fortifications.

The following diagram shows the royal palace (P), fortifications (F1 to F5) and enemy (Bagami) camps (E1 to E7). The solid lines in the figure represent the respective fortification to which the Alami soldiers can be deployed from the palace. The dotted lines from each enemy camp represent the fortifications that the soldiers from that enemy camp can attack. The numbers inside each enemy camp represent the number of soldiers stationed in that camp.



Assume that all the Bagami soldiers attack the fortifications that they are assigned to at the same time and each soldier will attack exactly one fortification. Also, a higher numerical strength in terms of soldiers will assure victory to any side in such a manner that, if, say, 10 Bagami soldiers attack a fortification with 11 Alami soldiers, all the Bagami soldiers will die and the fortification will remain safe, but with only 1 Alami soldier remaining alive. If the number of Bagami soldiers attacking a fortification is equal to the number of Alami soldiers at the fortification, all the soldiers belonging to both the sides will die but the fortification will remain safe. In a similar manner, if the number of Bagami soldiers attacking is in excess of the number of Alami soldiers, the fortification will be destroyed, but with only the excess number of Bagami soldiers remaining alive.

**Q14. DIRECTIONS** for question 14: Select the correct alternative from the given choices.

If the Alami king wants to save at least three fortifications from being destroyed, what is the minimum number of soldiers that he must deploy?

- a) 168
- b) 309
- c) 427
- d) 376

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

130

### Time spent / Accuracy Analysis

Difficulty Level

M

Avg. time spent on this question by students who got this question right 117

7.59

% of students who attempted this question

34.56

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

34.56

[Video Solution](#)

[Text Solution](#)

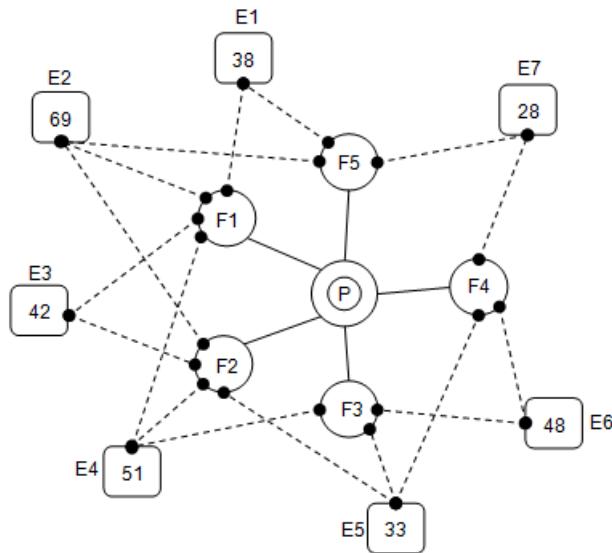
If three fortifications are to be saved from destruction, minimum of soldiers will be required to protect F3, F4 and F5. Hence, total number of soldiers required  
 $= 132 + 109 + 135 = 376$  Choice (D)

undefined

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

The capital city of the kingdom of Alami has the royal palace in the centre, with five fortifications, labelled F1 to F5, surrounding the palace. All the Alami soldiers are always present at the royal palace unless ordered to move to a fortification. An enemy kingdom Bagami planned to attack the royal palace and built camps around the fortifications. The Bagamis built seven camps - E1 to E7 - around the Alami fortifications and each Bagami camp had a certain number of soldiers. The soldiers from a given Bagami camp can attack only some of the fortifications, as indicated in the diagram below. However, all the soldiers from a single Bagami camp need not necessarily attack the same fortification. The Alami king came to know about this and was planning to send his soldiers to the fortifications.

The following diagram shows the royal palace (P), fortifications (F1 to F5) and enemy (Bagami) camps (E1 to E7). The solid lines in the figure represent the respective fortification to which the Alami soldiers can be deployed from the palace. The dotted lines from each enemy camp represent the fortifications that the soldiers from that enemy camp can attack. The numbers inside each enemy camp represent the number of soldiers stationed in that camp.



Assume that all the Bagami soldiers attack the fortifications that they are assigned to at the same time and each soldier will attack exactly one fortification. Also, a higher numerical strength in terms of soldiers will assure victory to any side in such a manner that, if, say, 10 Bagami soldiers attack a fortification with 11 Alami soldiers, all the Bagami soldiers will die and the fortification will remain safe, but with only 1 Alami soldier remaining alive. If the number of Bagami soldiers attacking a fortification is equal to the number of Alami soldiers at the fortification, all the soldiers belonging to both the sides will die but the fortification will remain safe. In a similar manner, if the number of Bagami soldiers attacking is in excess of the number of Alami soldiers, the fortification will be destroyed, but with only the excess number of Bagami soldiers remaining alive.

**Q15. DIRECTIONS** for question 15: Type in your answer in the input box provided below the question.

If it is known that the Bagami king is planning to send an equal number of soldiers from each enemy camp to all the possible fortifications from that enemy camp, what is the number of soldiers that will be killed during the attack, if no fortification

should be destroyed?

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>113</b>
Difficulty Level	<b>M</b>
Avg. time spent on this question by students who got this question right	<b>134</b>
% of students who attempted this question	<b>8.97</b>
% of students who got the question right of those who attempted	<b>34.02</b>

[Video Solution](#)

[Text Solution](#)

The total number of enemy soldiers that will attack the fortification = 309

Since the number of soldiers attacking each fortification is already known, the number of Alami soldiers will also be 309. Hence, a minimum of 618 soldiers will die if no fortification is to be destroyed.

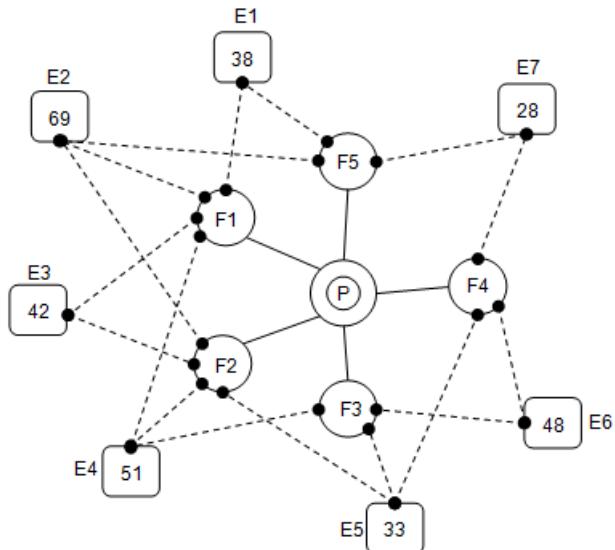
Ans: (618)

undefined

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

The capital city of the kingdom of Alami has the royal palace in the centre, with five fortifications, labelled F1 to F5, surrounding the palace. All the Alami soldiers are always present at the royal palace unless ordered to move to a fortification. An enemy kingdom Bagami planned to attack the royal palace and built camps around the fortifications. The Bagamis built seven camps - E1 to E7 - around the Alami fortifications and each Bagami camp had a certain number of soldiers. The soldiers from a given Bagami camp can attack only some of the fortifications, as indicated in the diagram below. However, all the soldiers from a single Bagami camp need not necessarily attack the same fortification. The Alami king came to know about this and was planning to send his soldiers to the fortifications.

The following diagram shows the royal palace (P), fortifications (F1 to F5) and enemy (Bagami) camps (E1 to E7). The solid lines in the figure represent the respective fortification to which the Alami soldiers can be deployed from the palace. The dotted lines from each enemy camp represent the fortifications that the soldiers from that enemy camp can attack. The numbers inside each enemy camp represent the number of soldiers stationed in that camp.



Assume that all the Bagami soldiers attack the fortifications that they are assigned to at the same time and each soldier will attack exactly one fortification. Also, a higher numerical strength in terms of soldiers will assure victory to any side in such a manner that, if, say, 10 Bagami soldiers attack a fortification with 11 Alami soldiers, all the Bagami soldiers will die and the

fortification will remain safe, but with only 1 Alami soldier remaining alive. If the number of Bagami soldiers attacking a fortification is equal to the number of Alami soldiers at the fortification, all the soldiers belonging to both the sides will die but the fortification will remain safe. In a similar manner, if the number of Bagami soldiers attacking is in excess of the number of Alami soldiers, the fortification will be destroyed, but with only the excess number of Bagami soldiers remaining alive.

**Q16. DIRECTIONS** for question 16: Select the correct alternative from the given choices.

During the attack, if a total of 612 soldiers died on both the sides put together, what is the minimum number of fortifications that would not have been destroyed?

- 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	2
Avg. time spent on this question by all students	92
Difficulty Level	M
Avg. time spent on this question by students who got this question right	100
% of students who attempted this question	5.35
% of students who got the question right of those who attempted	51.68

[Video Solution](#)

[Text Solution](#)

Since a total of 612 soldiers died, 306 form each side would have died. This implies that 3 enemy soldiers are remaining. This means that a maximum of three fortifications (one each) could have been destroyed. Hence, the minimum number of fortifications that would not have been destroyed will be  $5 - 3 = 2$ . Choice (A)

undefined

**Q17. DIRECTIONS** for questions 17 to 22: Each question is followed by two statements, I and II, giving certain data. You have to decide whether the information provided in the statements is sufficient for answering the question and mark your answer as

How many students from the top 20 rankers in the institute are Commerce graduates if it is known that none of the top five rankers are Commerce graduates?

I. None of the last four out of the top 20 rankers are Commerce graduates.

II. At least 8 of the top 15 rankers and not more than 8 of the last fifteen out of 20 top rankers are Commerce graduates.

- a) if the question can be answered by using one of the statements alone but cannot be answered by using the other statement alone. Your answer is correct
- b) if the question can be answered by using either statement alone.
- c) if the question can be answered by using both the statements together but cannot be answered by using either statement alone.
- d) if the question cannot be answered even by using both the statements together.

#### Time spent / Accuracy Analysis

Time taken by you to answer this question	343
Avg. time spent on this question by all students	179
Difficulty Level	M
Avg. time spent on this question by students who got this question right	178
% of students who attempted this question	46.22
% of students who got the question right of those who attempted	42.2

[Video Solution](#)

[Text Solution](#)

The question cannot be answered using statement I alone. From statement II alone we can get the answer. If there are at least eight commerce graduates in the top 15 they must be in the ranks 6 to 15 only (because the top 5 are not commerce graduates). When we consider the last 15 of the top 20, since this will be from 6 to 20, all the eight or more commerce graduates in the ranks 6 to 15 should also be counted here. That means, at least 8 commerce graduates must be there from 6 to 20. But statement II itself says that there are not more than 8 commerce graduates from ranks 6 to 20. This means, there are exactly eight commerce graduates from 6 to 20 or in other words, there are 8 commerce graduates in the top twenty rankers.

Choice (A)

undefined

**Q18. DIRECTIONS for questions 17 to 22:** Each question is followed by two statements, I and II, giving certain data. You have to decide whether the information provided in the statements is sufficient for answering the question and mark your answer as

Four cities - C<sub>1</sub>, C<sub>2</sub>, C<sub>3</sub> and C<sub>4</sub> - lie in a straight line, not necessarily in the same order, with the distance between any two adjacent cities being equal. From each of these cities, exactly one person among P<sub>1</sub>, P<sub>2</sub>, P<sub>3</sub> and P<sub>4</sub> starts simultaneously towards one of the other cities. From which city did P<sub>4</sub> start?

- I. From the starting point of P<sub>1</sub>, he can reach either of the cities C<sub>1</sub> and C<sub>4</sub> in the same time.
- II. Even if P<sub>3</sub> is twice as fast as P<sub>2</sub>, he cannot reach city C<sub>3</sub> by the time P<sub>2</sub> reaches the city C<sub>1</sub>.

- a) if the question can be answered by using one of the statements alone but cannot be answered by using the other statement alone.
- b) if the question can be answered by using either statement alone.
- c) if the question can be answered by using both the statements together but cannot be answered by using either statement alone.
- d) if the question cannot be answered even by using both the statements together.

You did not answer this question

Show Correct Answer

#### Time spent / Accuracy Analysis

Time taken by you to answer this question	16
Avg. time spent on this question by all students	179
Difficulty Level	M
Avg. time spent on this question by students who got this question right	184
% of students who attempted this question	31.71
% of students who got the question right of those who attempted	67.95

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

Let the distance between each pair of adjacent cities be  $x$  km.

From I, we can only say that the city from which  $P_1$  is starting, is equidistant from  $C_1$  and  $C_4$ , which is not sufficient to answer the question.

From II, if there is at least one city between the city from which  $P_2$  starts and  $C_1$ , then by the time  $P_2$  reaches  $C_1$ ,  $P_3$  must have reached  $C_3$ , what ever be the position of the cities.

$\therefore C_1$  is adjacent city to the city from which  $P_2$  started.

By the time  $P_2$  reaches  $C_1$  (i.e. by covering  $x$  km).  $P_3$  would have covered  $2x$  km.

$\therefore$  The city from which  $P_3$  started and the city  $C_3$  must be at the extreme ends.

But we cannot say anything about  $P_4$ .

$\therefore$  II alone is not sufficient.

Combining both the statements, as the city from which  $P_2$  is started is adjacent to  $C_1$ , the possible arrangement is as follows.

$C_4$	$C_2$	$C_1$	$C_3$
$P_3$	$P_1$	$P_4$	$P_2$

$\therefore P_4$  started from  $C_1$ .

Choice (C)

undefined

**Q19. DIRECTIONS for questions 17 to 22:** Each question is followed by two statements, I and II, giving certain data. You have to decide whether the information provided in the statements is sufficient for answering the question and mark your answer as

At a primary school, girls and boys were going from their morning assembly to their classrooms in separate lines. They had to move through a narrow doorway, where the two lines had to merge into one. After the lines merged, no girl had overtaken any other girl and no boy had overtaken any other boy. Initially, Meena was in the 4<sup>th</sup> position from the front in the girls line and her brother was at the 6<sup>th</sup> position from the end in the boys line. If after the lines merged, there were eight students ahead of Meena, how many boys were behind Meena?

I. There were three boys between Meena and her brother.

II. After the merger, Meena was ahead of her brother.

- a) if the question can be answered by using one of the statements alone but cannot be answered by using the other statement alone.
- b) if the question can be answered by using either statement alone.
- c) if the question can be answered by using both the statements together but cannot be answered by using either statement alone.
- d) if the question cannot be answered even by using both the statements together.

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

159

### Time spent / Accuracy Analysis

Difficulty Level

M

Avg. time spent on this question by students who got this question right **168**

% of students who attempted this question

**28.69**

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

**38.56**

[Video Solution](#)

[Text Solution](#)

After the merges, there are 8 students ahead of Meena (M), 3 girls and 5 boys.  
From I, we have to consider two possibilities. If Meena is ahead of her brother (br), we get

$$\left. \begin{array}{l} 3g \\ 5b \end{array} \right\} M \quad \left. \begin{array}{l} xg \\ 3b, br, 5b \end{array} \right\}$$

If Meena is behind her brother, we get

$$\left. \begin{array}{l} 3g \\ 1b, br, 3b \end{array} \right\} M, \quad \left. \begin{array}{l} xg \\ 2b \end{array} \right\}$$

∴ There could be 9 boys or 2 boys behind Meena.

II alone is not sufficient.

But along with I, we see that the number of boys behind Meena is 9.

Choice (C)

undefined

**Q20. DIRECTIONS for questions 17 to 22:** Each question is followed by two statements, I and II, giving certain data. You have to decide whether the information provided in the statements is sufficient for answering the question and mark your answer as

Vijay bought a new television costing at least Rs.10,000 after exchanging his old television with the new one. If exchanging the old television resulted in a 30% discount in the price of the new television, find the amount Vijay paid for purchasing the new television.

I. He borrowed an amount which was equal to 20% of the cost of the old television from his friend and raised the remaining amount from his personal savings.

II. His total personal savings were Rs.6400.

- a) if the question can be answered by using one of the statements alone but cannot be answered by using the other statement alone.
- b) if the question can be answered by using either statement alone.
- c) if the question can be answered by using both the statements together but cannot be answered by using either statement alone.
- d) if the question cannot be answered even by using both the statements together. □ Your answer is incorrect

Show Correct Answer

### Time spent / Accuracy Analysis

Time taken by you to answer this question

**286**

Avg. time spent on this question by all students

**128**

Difficulty Level

M

#### Time spent / Accuracy Analysis

Avg. time spent on this question by students who got this question right **130**

% of students who attempted this question **30.32**

% of students who got the question right of those who attempted **39.66**

[Video Solution](#)

[Text Solution](#)

Let the cost of the new television be ₹x, then the cost of the old television is ₹0.3x  
using statement I alone:

The amount borrowed by Vijay = ₹0.2 (0.3x)

₹0.06x

The remaining amount required by Vijay is 0.64x which he obtains from his savings.  
But we cannot determine the cost of the new television.

Hence statement I alone is not sufficient.

Using statement II alone we will not be able to answer the question.

By combining both the statements, as the cost of the new television is atleast ₹10,000,  
he has to use all the money in the savings account and the cost of the new television  
is exactly ₹10,000. Choice (C)

undefined

**Q21. DIRECTIONS** for questions 17 to 22: Each question is followed by two statements, I and II, giving certain data. You have to decide whether the information provided in the statements is sufficient for answering the question and mark your answer as

How many among the four players - A, B, C and D scored a century?

I. Ram said A and B scored centuries while Mohan said at least two among A, C and D scored centuries.

II. Ram always tells the truth while Mohan always lies.

a) if the question can be answered by using one of the statements alone but cannot be answered by using the other statement alone.

b) if the question can be answered by using either statement alone.

c) if the question can be answered by using both the statements together but cannot be answered by using either statement alone.

d) if the question cannot be answered even by using both the statements together.

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 **99**

Difficulty Level **M**

Avg. time spent on this question by students who got this question right **96**

% of students who attempted this question **42.2**

% of students who got the question right of those who attempted **73.2**

[Video Solution](#)

[Text Solution](#)

From statement I,  
Ram: A, B scored centuries.  
Mohan: The group out of A, C, D having scored centuries can be (AC), (AD), (CD) or (A, C, D)  
Thus statement (I) alone is not sufficient.  
Also, statement (II) alone is not sufficient.  
From statement (I) and statement (II) combined,  
Ram is truth teller. This implies A and B must have scored centuries Mohan lies. This implies none or only one person out of A, C, D must have scored centuries. Already A has scored century. So, C and D must not have scored century.  
Both statements together are sufficient.

Choice (C)

undefined

**Q22. DIRECTIONS** for questions 17 to 22: Each question is followed by two statements, I and II, giving certain data. You have to decide whether the information provided in the statements is sufficient for answering the question and mark your answer as

I have a total of 125 fruits - apples and oranges put together - which are to be distributed to 12 boys and 9 girls of a class, such that each girl gets at least one apple but no orange but each boy gets at least one apple and at least one orange. Can apples be distributed equally to all the 21 students? Assume that the number of fruits of any variety, distributed for any person is always an integer.

- I. The number of apples is a multiple of 7.
- II. The oranges can be distributed equally to all the boys.

- a) if the question can be answered by using one of the statements alone but cannot be answered by using the other statement alone.
- b) if the question can be answered by using either statement alone.
- c) if the question can be answered by using both the statements together but cannot be answered by using either statement alone.
- d) if the question cannot be answered even by using both the statements together.

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	207
Difficulty Level	D
Avg. time spent on this question by students who got this question right	212
% of students who attempted this question	21.55
% of students who got the question right of those who attempted	30.91

[Video Solution](#)

[Text Solution](#)

From statement I alone, we know that the number of apples is a multiple of seven, but we do not know whether it is a multiple of three or not. So we cannot find whether it is a multiple of 21 or not.

Hence, statement I alone is not sufficient.

From statement II alone, the number of oranges is  $12k$ , where  $k$  is a whole number and since total fruits is 125, if there are  $X$  apples,  $X + 12k = 125$ .

Since 125 is not divisible by 3 and  $12k$  is divisible by 3,  $X$  is not divisible by 3. Hence it is not divisible by 21. Hence statement II alone is sufficient. Choice (A)

undefined

**DIRECTIONS** for questions 23 to 26: Answer the questions on the basis of the information given below.

Six friends, Das, Kumar, Lal, Ratan, Vinay, and Yuvraj, wanted to play a game of Ludo and decided to draw lots to determine the order in which they play. For this purpose, they took six pieces of paper and wrote down a different number, from 1 to 6, on each piece of paper and then put them all in a bag. Each of them picked a piece of paper from the bag, without peeping into the bag, one after the other. They then saw the numbers that each of them picked and decided the order in which they will play. After they finished the game, they made the following statements, all of which are true:

Das : *I picked a number which was greater than the number picked by Lal and the number four was already picked before I picked a number.*

Kumar : *I was the third person to pick a number and the number two was already picked by that time.*

Lal : *I picked a number after Ratan did and the number two was lower than mine.*

Ratan : *I picked a number lower than the number picked by Yuvraj and I picked the number after Das did.*

Vinay : *Ratan and I picked consecutive numbers and neither of us picked the lowest number.*

Yuvraj : *I did not pick the highest number and nor was I the first to pick a number.*

**Q23. DIRECTIONS** for question 23: Type in your answer in the input box provided below the question.

Which number did Yuvraj pick?

You did not answer this question

Show Correct Answer

Time spent / Accuracy Analysis

Time taken by you to answer this question	<b>12</b>
Avg. time spent on this question by all students	<b>518</b>
Difficulty Level	<b>D</b>
Avg. time spent on this question by students who got this question right	<b>544</b>
% of students who attempted this question	<b>40.53</b>
% of students who got the question right of those who attempted	<b>66.48</b>

[Video Solution](#)

[Text Solution](#)

Given that Vinay and Ratan picked consecutive numbers. Also, Ratan picked a number lower than Yuvraj. Yuvraj did not pick the highest number. Yuvraj could have picked a maximum of 5. Hence, Ratan and Vinay could have picked 2 and 3 or 3 and 4.

If Ratan and Vinay picked 3 and 4 in any order, Yuvraj must have picked 5. Lal also picked a number higher than Ratan. Hence, Lal should have picked 6. But Das picked a number higher than Lal. Therefore, this case is not possible.

If Ratan and Vinay picked 2 and 3 in any order, Yuvraj could have picked 4 or 5. Lal also must have picked 4 or 5 and **Das must have picked 6** (since Das picked a higher number than Lal). **1 must have been picked by Kumar.**

If Ratan picked 2, he must have picked the number before Kumar, who was 3<sup>rd</sup>. But Das picked the number before Ratan. Hence, Das must have picked first or second. But according to Das's statement, 4 was picked before Das picked a number. This is not possible.

**Hence, Ratan should have picked 3 and Vinay should have picked 2.**

If Lal picked 5, Yuvraj would have picked 4. Das should have picked after Yuvraj, according to Das's statement. Ratan and Lal should have picked after Das. Therefore, Das must have picked 4<sup>th</sup>. Yuvraj should have picked 2<sup>nd</sup> (since he couldn't have picked first), Vinay should have picked first. Ratan would have been the 5<sup>th</sup> to pick a number and Lal would have been the last.

If Lal picked 4, Yuvraj would have 5. Lal should have picked 4 before Das. Das picked before Ratan. Ratan picked before Lal. This case is, therefore, not possible.

Hence, the following arrangement is possible.

Person	Order of Picking	Number Picked
Vinay	1	2
Yuvraj	2	4
Kumar	3	1
Das	4	6
Ratan	5	3
Lal	6	5

Yuvraj picked four.

Ans: (4)

undefined

**DIRECTIONS** for questions 23 to 26: Answer the questions on the basis of the information given below.

Six friends, Das, Kumar, Lal, Ratan, Vinay, and Yuvraj, wanted to play a game of Ludo and decided to draw lots to determine the order in which they play. For this purpose, they took six pieces of paper and wrote down a different number, from 1 to 6, on each piece of paper and then put them all in a bag. Each of them picked a piece of paper from the bag, without peeping into the bag, one after the other. They then saw the numbers that each of them picked and decided the order in which they will play. After they finished the game, they made the following statements, all of which are true:

Das : I picked a number which was greater than the number picked by Lal and the number four was already picked before I picked a number.

Kumar : I was the third person to pick a number and the number two was already picked by that time.

Lal : I picked a number after Ratan did and the number picked by Ratan was lower than mine.

Ratan : I picked a number lower than the number picked by Yuvraj and I picked the number after Das did.

Vinay : Ratan and I picked consecutive numbers and neither of us picked the lowest number.

Yuvraj : I did not pick the highest number and nor was I the first to pick a number.

**Q24. DIRECTIONS** for questions 24 to 26: Select the correct alternative from the given choices.

Who was the first person to pick a number?

- a) **Vinay**
- b) **Ratan**
- c) **Das**
- 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	2
Avg. time spent on this question by all students	78
Difficulty Level	D
Avg. time spent on this question by students who got this question right	75
% of students who attempted this question	39.63
% of students who got the question right of those who attempted	84.86

[Video Solution](#)

[Text Solution](#)

Given that Vinay and Ratan picked consecutive numbers. Also, Ratan picked a number lower than Yuvraj. Yuvraj did not pick the highest number. Yuvraj could have picked a maximum of 5. Hence, Ratan and Vinay could have picked 2 and 3 or 3 and 4.

If Ratan and Vinay picked 3 and 4 in any order, Yuvraj must have picked 5. Lal also picked a number higher than Ratan. Hence, Lal should have picked 6. But Das picked a number higher than Lal. Therefore, this case is not possible.

If Ratan and Vinay picked 2 and 3 in any order, Yuvraj could have picked 4 or 5. Lal also must have picked 4 or 5 and **Das must have picked 6** (since Das picked a higher number than Lal). **1 must have been picked by Kumar.**

If Ratan picked 2, he must have picked the number before Kumar, who was 3<sup>rd</sup>. But Das picked the number before Ratan. Hence, Das must have picked first or second. But according to Das's statement, 4 was picked before Das picked a number. This is not possible.

**Hence, Ratan should have picked 3 and Vinay should have picked 2.**

If Lal picked 5, Yuvraj would have picked 4. Das should have picked after Yuvraj, according to Das's statement. Ratan and Lal should have picked after Das. Therefore, Das must have picked 4<sup>th</sup>. Yuvraj should have picked 2<sup>nd</sup> (since he couldn't have picked first), Vinay should have picked first. Ratan would have been the 5<sup>th</sup> to pick a number and Lal would have been the last.

If Lal picked 4, Yuvraj would have 5. Lal should have picked 4 before Das. Das picked before Ratan. Ratan picked before Lal. This case is, therefore, not possible.

Hence, the following arrangement is possible.

Person	Order of Picking	Number Picked
Vinay	1	2
Yuvraj	2	4
Kumar	3	1
Das	4	6
Ratan	5	3
Lal	6	5

Vinay was the first person to pick a number.

Choice (A)

undefined

**DIRECTIONS** for questions 23 to 26: Answer the questions on the basis of the information given below.

Six friends, Das, Kumar, Lal, Ratan, Vinay, and Yuvraj, wanted to play a game of Ludo and decided to draw lots to determine the order in which they play. For this purpose, they took six pieces of paper and wrote down a different number, from 1 to 6, on each piece of paper and then put them all in a bag. Each of them picked a piece of paper from the bag, without peeping into the bag, one after the other. They then saw the numbers that each of them picked and decided the order in which they will play. After they finished the game, they made the following statements, all of which are true:

Das : I picked a number which was greater than the number picked by Lal and the number four was already picked before I picked a number.

Kumar : I was the third person to pick a number and the number two was already picked by that time.

Lal : I picked a number after Ratan did and the number picked by Ratan was lower than mine.

Ratan : I picked a number lower than the number picked by Yuvraj and I picked the number after Das did.

Vinay : Ratan and I picked consecutive numbers and neither of us picked the lowest number.

Yuvraj : I did not pick the highest number and nor was I the first to pick a number.

**Q25. DIRECTIONS** for questions 24 to 26: Select the correct alternative from the given choices.

Which of the following statements is true?

- a) Yuvraj and Kumar picked consecutive numbers.
- b) Das picked a number immediately after Ratan did.
- c) Lal and Yuvraj picked consecutive numbers.
- d) Das picked a number immediately before Kumar.

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	108
Difficulty Level	D
Avg. time spent on this question by students who got this question right	104
% of students who attempted this question	36.13
% of students who got the question right of those who attempted	81.57

[Video Solution](#)

[Text Solution](#)

Given that Vinay and Ratan picked consecutive numbers. Also, Ratan picked a number lower than Yuvraj. Yuvraj did not pick the highest number. Yuvraj could have picked a maximum of 5. Hence, Ratan and Vinay could have picked 2 and 3 or 3 and 4.

If Ratan and Vinay picked 3 and 4 in any order, Yuvraj must have picked 5. Lal also picked a number higher than Ratan. Hence, Lal should have picked 6. But Das picked a number higher than Lal. Therefore, this case is not possible.

If Ratan and Vinay picked 2 and 3 in any order, Yuvraj could have picked 4 or 5. Lal also must have picked 4 or 5 and **Das must have picked 6** (since Das picked a higher number than Lal). **1 must have been picked by Kumar.**

If Ratan picked 2, he must have picked the number before Kumar, who was 3<sup>rd</sup>. But Das picked the number before Ratan. Hence, Das must have picked first or second. But according to Das's statement, 4 was picked before Das picked a number. This is not possible.

**Hence, Ratan should have picked 3 and Vinay should have picked 2.**

If Lal picked 5, Yuvraj would have picked 4. Das should have picked after Yuvraj, according to Das's statement. Ratan and Lal should have picked after Das. Therefore, Das must have picked 4<sup>th</sup>. Yuvraj should have picked 2<sup>nd</sup> (since he couldn't have picked first), Vinay should have picked first. Ratan would have been the 5<sup>th</sup> to pick a number and Lal would have been the last.

If Lal picked 4, Yuvraj would have 5. Lal should have picked 4 before Das. Das picked before Ratan. Ratan picked before Lal. This case is, therefore, not possible.

Hence, the following arrangement is possible.

Person	Order of Picking	Number Picked
Vinay	1	2
Yuvraj	2	4
Kumar	3	1
Das	4	6
Ratan	5	3
Lal	6	5

Among the given statements, only the statement given in option C is true.

Choice (C)

undefined

**DIRECTIONS** for questions 23 to 26: Answer the questions on the basis of the information given below.

Six friends, Das, Kumar, Lal, Ratan, Vinay, and Yuvraj, wanted to play a game of Ludo and decided to draw lots to determine the order in which they play. For this purpose, they took six pieces of paper and wrote down a different number, from 1 to 6, on each piece of paper and then put them all in a bag. Each of them picked a piece of paper from the bag, without peeping into the bag, one after the other. They then saw the numbers that each of them picked and decided the order in which they will play. After they finished the game, they made the following statements, all of which are true:

*Das : I picked a number which was greater than the number picked by Lal and the number four was already picked before I picked a number.*

*Kumar : I was the third person to pick a number and the number two was already picked by that time.*

*Lal : I picked a number after Ratan did and the number picked by Ratan was lower than mine.*

Ratan : I picked a number lower than the number picked by Yuvraj and I picked the number after Das did.

Vinay : Ratan and I picked consecutive numbers and neither of us picked the lowest number.

Yuvraj : I did not pick the highest number and nor was I the first to pick a number.

**Q26. DIRECTIONS** for questions 24 to 26: Select the correct alternative from the given choices.

Among the following four friends, who picked the lowest number?

- a) **Yuvraj**
- b) **Das**
- c) **Lal**
- d) **Ratan**

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	77
Difficulty Level	D
Avg. time spent on this question by students who got this question right	72
% of students who attempted this question	37.95
% of students who got the question right of those who attempted	78.34

[Video Solution](#)

[Text Solution](#)

Given that Vinay and Ratan picked consecutive numbers. Also, Ratan picked a number lower than Yuvraj. Yuvraj did not pick the highest number. Yuvraj could have picked a maximum of 5. Hence, Ratan and Vinay could have picked 2 and 3 or 3 and 4.

If Ratan and Vinay picked 3 and 4 in any order, Yuvraj must have picked 5. Lal also picked a number higher than Ratan. Hence, Lal should have picked 6. But Das picked a number higher than Lal. Therefore, this case is not possible.

If Ratan and Vinay picked 2 and 3 in any order, Yuvraj could have picked 4 or 5. Lal also must have picked 4 or 5 and **Das must have picked 6** (since Das picked a higher number than Lal). **1 must have been picked by Kumar.**

If Ratan picked 2, he must have picked the number before Kumar, who was 3<sup>rd</sup>. But Das picked the number before Ratan. Hence, Das must have picked first or second. But according to Das's statement, 4 was picked before Das picked a number. This is not possible.

**Hence, Ratan should have picked 3 and Vinay should have picked 2.**

If Lal picked 5, Yuvraj would have picked 4. Das should have picked after Yuvraj, according to Das's statement. Ratan and Lal should have picked after Das. Therefore, Das must have picked 4<sup>th</sup>. Yuvraj should have picked 2<sup>nd</sup> (since he couldn't have picked first), Vinay should have picked first. Ratan would have been the 5<sup>th</sup> to pick a number and Lal would have been the last.

If Lal picked 4, Yuvraj would have 5. Lal should have picked 4 before Das. Das picked before Ratan. Ratan picked before Lal. This case is, therefore, not possible.

Hence, the following arrangement is possible.

Person	Order of Picking	Number Picked
Vinay	1	2
Yuvraj	2	4
Kumar	3	1
Das	4	6
Ratan	5	3
Lal	6	5

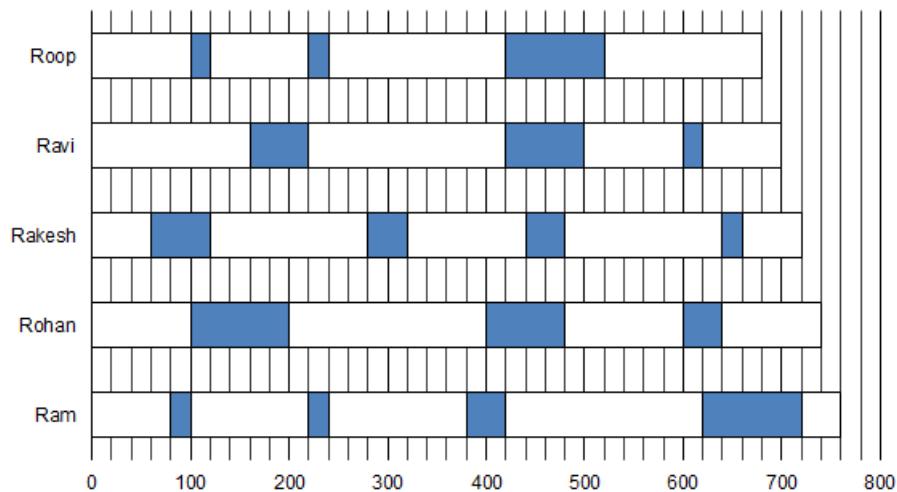
Ratan picked 3, the lowest among the given four friends.

Choice (D)

undefined

**DIRECTIONS** for questions 27 to 30: Answer the questions on the basis of the information given below.

Five drivers, who were working for a logistics company, travelled to five different places to deliver their consignments. During their drive, each driver took rest multiple number of times. The following graph gives the time (in minutes) that they took to reach their destinations. The darkly shaded regions in each bar indicate the times during which the respective driver rested and the unshaded regions indicate the times during which he drove. The table below the graph gives the distance travelled by each of the drivers.



Driver	Distance Travelled (km)
Ram	560
Rohan	510
Rakesh	540
Ravi	410
Roop	500

**Q27. DIRECTIONS** for question 27: Select the correct alternative from the given choices.

If the drivers had not taken any rest during their drive, which driver would have been the first to reach his destination? (Assume that there is no driver fatigue)

- a) **Ravi**
- b) **Roop**
- c) **Rakesh**
- d) **Rohan**

You did not answer this question

Show Correct Answer

**Time spent / Accuracy Analysis**

Time taken by you to answer this question	13
Avg. time spent on this question by all students	318
Difficulty Level	E
Avg. time spent on this question by students who got this question right	321
% of students who attempted this question	40.53
% of students who got the question right of those who attempted	69.47

[Video Solution](#)

### Text Solution

In this question we only need to consider the number of (minor) grid lines for each driver, after accounting for (deducting) the times of rest:

Time taken by Roop =  $34 - 7 = 27$

Time taken by Ravi =  $35 - 8 = 27$

Time taken by Rakesh =  $36 - 8 = 28$

Time taken by Rohan =  $37 - 11 = 26$

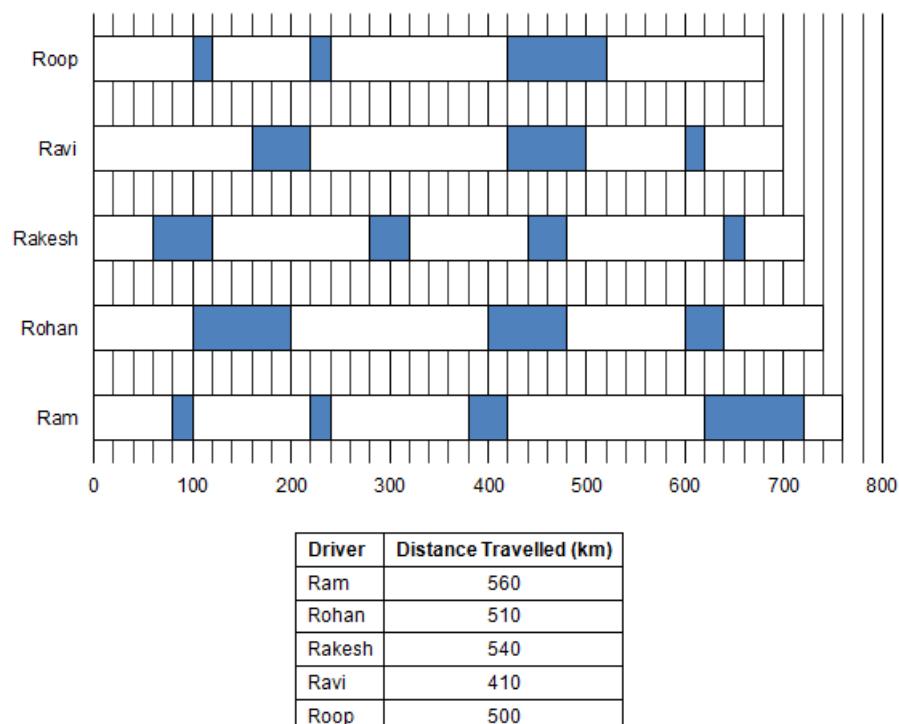
Hence, the answer is option D.

Choice (D)

undefined

**DIRECTIONS** for questions 27 to 30: Answer the questions on the basis of the information given below.

Five drivers, who were working for a logistics company, travelled to five different places to deliver their consignments. During their drive, each driver took rest multiple number of times. The following graph gives the time (in minutes) that they took to reach their destinations. The darkly shaded regions in each bar indicate the times during which the respective driver rested and the unshaded regions indicate the times during which he drove. The table below the graph gives the distance travelled by each of the drivers.



**Q28. DIRECTIONS** for question 28: Type in your answer in the input box provided in the question.

The highest average speed (in kmph), including rest times, over the entire drive for any driver was

You did not answer this question

Show Correct Answer

#### Time spent / Accuracy Analysis

Time taken by you to answer this question	94
Avg. time spent on this question by all students	195
Difficulty Level	E
Avg. time spent on this question by students who got this question right	195
% of students who attempted this question	34.33
% of students who got the question right of those who attempted	59.34

[Video Solution](#)

### Text Solution

We can arrive at the driver with the greatest average speed by simply considering ratio of the total distance travelled by each driver and the respective number of grid lines instead of actual time (as in earlier solution)

Average speed of Ram =  $560/38$

Average speed of Rohan =  $510/37$

Average speed of Rakesh =  $540/36$

Average speed of Ravi =  $410/35$

Average speed of Roop =  $500/34$

Now, by some observation, we can say that the ratio is highest for Rakesh.

Hence, the highest average speed was  $\frac{540}{\left[ \frac{(36 \times 20)}{60} \right]}$

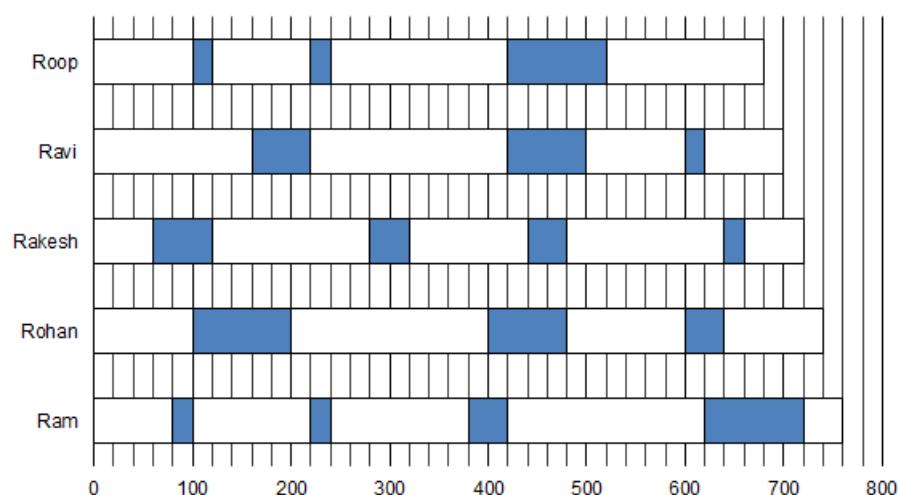
= 45 kmph.

Ans: (45)

undefined

**DIRECTIONS** for questions 27 to 30: Answer the questions on the basis of the information given below.

Five drivers, who were working for a logistics company, travelled to five different places to deliver their consignments. During their drive, each driver took rest multiple number of times. The following graph gives the time (in minutes) that they took to reach their destinations. The darkly shaded regions in each bar indicate the times during which the respective driver rested and the unshaded regions indicate the times during which he drove. The table below the graph gives the distance travelled by each of the drivers.



Driver	Distance Travelled (km)
Ram	560
Rohan	510
Rakesh	540
Ravi	410
Roop	500

**Q29. DIRECTIONS** for questions 29 and 30: Select the correct alternative from the given choices.

The average speed of which driver would have been the highest, if the drivers had not taken any rest during their drive? (Assume that there is no driver fatigue)

- a) Rohan
- b) Ram
- c) Rakesh
- d) Roop

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	124
Difficulty Level	E
Avg. time spent on this question by students who got this question right	127
% of students who attempted this question	35.2
% of students who got the question right of those who attempted	58.25

[Video Solution](#)

[Text Solution](#)

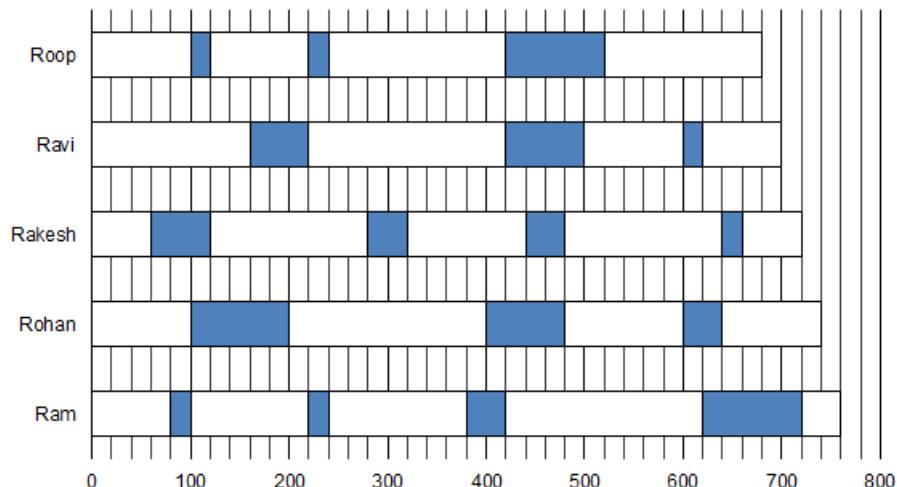
Average speed of Rohan, without rest =  $510/26 = 58.85$  kmph  
Average speed of Ram =  $560/580 \times 60 = 57.93$  kmph  
Average speed of Rakesh =  $540/560 \times 60 = 57.86$  kmph  
Average speed of Roop =  $500/540 \times 60 = 55.55$  kmph  
Hence, the highest average speed is of Rohan.

Choice (A)

undefined

**DIRECTIONS** for questions 27 to 30: Answer the questions on the basis of the information given below.

Five drivers, who were working for a logistics company, travelled to five different places to deliver their consignments. During their drive, each driver took rest multiple number of times. The following graph gives the time (in minutes) that they took to reach their destinations. The darkly shaded regions in each bar indicate the times during which the respective driver rested and the unshaded regions indicate the times during which he drove. The table below the graph gives the distance travelled by each of the drivers.



Driver	Distance Travelled (km)
Ram	560
Rohan	510
Rakesh	540
Ravi	410
Roop	500

**Q30. DIRECTIONS** for questions 29 and 30: Select the correct alternative from the given choices.

For which driver was the total duration of rest the lowest as a percentage of the duration for which he drove?

a) Ram

b) Rakesh

c) Ravi

d) Roop

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>150</b>
Difficulty Level	<b>E</b>
Avg. time spent on this question by students who got this question right	<b>145</b>
% of students who attempted this question	<b>34.36</b>
% of students who got the question right of those who attempted	<b>70.83</b>

[Video Solution](#)

[Text Solution](#)

For Ram, resting time = 180, driving time = 580. Required percentage = 31%

Similarly, for Rakesh, required percentage =  $160/560 \times 100 = 28.57\%$

For Ravi, required percentage =  $160/540 \times 100 = 29.63\%$

For Roop, required percentage =  $140/540 \times 100 = 25.93\%$

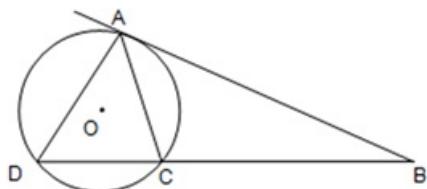
Hence, Roop had the lowest percentage.

Choice (D)

undefined

**Q1. DIRECTIONS for question 1:** Type in your answer in the input box provided below the question.

In the figure below, not drawn to scale, AB is a tangent to the circle, with centre O, at point A. If DA = 12 cm, CD = 16 cm and AB = 15 cm, then find the length of AC (in cm).



Enter your answer as a decimal value, rounded off to two decimal places.

You did not answer this question

Show Correct Answer

Time spent / Accuracy Analysis

Time taken by you to answer this question	<b>129</b>
Avg. time spent on this question by all students	<b>225</b>
Difficulty Level	<b>M</b>
Avg. time spent on this question by students who got this question right	<b>261</b>
% of students who attempted this question	<b>8.72</b>
% of students who got the question right of those who attempted	<b>7.85</b>

[Video Solution](#)

[Text Solution](#)

Let  $x$  be the length of the line  $CB$ .  
 Since,  $AB$  is a tangent to the circle and  $BD$  is a secant to the circle.  
 $\Rightarrow (BC)(BD) = AB^2$   
 $\Rightarrow (x)(16 + x) = (15)^2$   
 $\Rightarrow x = 9\text{cm}$   
 Since,  $AB$  is a tangent to the circle at  $A$  according to alternate segment theorem  $\angle CAB = \angle CDA$ .  
 $\Rightarrow \triangle ACB \approx \triangle DAB$ .

$$\frac{AC}{DA} = \frac{CB}{AB}$$

$$\Rightarrow AC = (DA) \left( \frac{CB}{AB} \right) = (12) \left( \frac{9}{15} \right) = \frac{36}{5} = 7.2 \text{ cm}$$

Ans: (7.2)

undefined

**Q2. DIRECTIONS** for question 2: Select the correct alternative from the given choices.

The magnitude of profit is one third of the discount offered. If the discount is 37.5%, find the profit percentage.

- a) **20%**
- b) **12.5%** Your answer is incorrect
- c) **40%**
- d) **25%**

Show Correct Answer

**Time spent / Accuracy Analysis**

Time taken by you to answer this question	<b>126</b>
Avg. time spent on this question by all students	<b>125</b>
Difficulty Level	<b>E</b>
Avg. time spent on this question by students who got this question right	<b>135</b>
% of students who attempted this question	<b>48.69</b>
% of students who got the question right of those who attempted	<b>50.41</b>

[Video Solution](#)

[Text Solution](#)

Marked Price (MP)	Discount	Selling Price (SP)	Cost Price (SP)	Profit	Profit Amount
8K	3K	5K	4K	K	25%

Since the discount is 37.5% which is  $3/8$ , let us assume the marked price as 8K.

$$\therefore \text{Discount} = 37.5\% \text{ of } (8K) = 3K$$

$$\therefore \text{Selling Price} = \text{M.P} - \text{Discount} = 8K - 3K = 5K$$

Since the profit is  $1/3^{\text{rd}}$  of the discount, the profit is K.

So, the Cost Price = SP - Profit = 5K - K = 4K

$$\text{Profit Percent} = \frac{\text{Profit}}{\text{C.P}} \times 100 = \frac{K}{4K} \times 100 = 25\%$$

Choice (D)

undefined

**Q3. DIRECTIONS** for question 3: Type in your answer in the input box provided below the question.

What is the remainder when  $2^{1000}$  is divided by 25?

**Your Answer:1 Your answer is correct**

**Time spent / Accuracy Analysis**

Time taken by you to answer this question	<b>41</b>
Avg. time spent on this question by all students	<b>117</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>44.39</b>
% of students who got the question right of those who attempted	<b>57.74</b>

[Video Solution](#)

[Text Solution](#)

We need to first look for a power of 2 which differs from a multiple of 25 by 1 or 2. We can arrive at 1025, a multiple of 25 and near to 1024, a power of 2.

Now, consider the remainder of  $2^{1000}$  when divided by 1025.

$$\text{Rem} \left( \frac{2^{1000}}{25} \right) = \text{Rem} \left( \frac{1024^{100}}{25} \right) = \text{Rem} \left( \frac{(-1)^{100}}{25} \right)$$

$$= (-1)^{100} = 1$$

Ans: (1)

undefined

**Q4. DIRECTIONS** for questions 4 and 5: Select the correct alternative from the given choices.

Which of the following triplets can be the lengths of the three sides of a triangle?

- I.  $4 + \sqrt{3}, 5 + \sqrt{2}, 2\sqrt{2}$
- II.  $4 - 2\sqrt{3}, 5 - \sqrt{2}, 2\sqrt{2}$
- III.  $3x^2, 3(x^2 + 1), 3(x^2 - 1)$ , where  $x \geq 2$

- a) Only I and II
- b) Only II and III
- c) Only I and III
- d) I, 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>17</b>
Avg. time spent on this question by all students	<b>147</b>
Difficulty Level	<b>M</b>
Avg. time spent on this question by students who got this question right	<b>149</b>
% of students who attempted this question	<b>30.29</b>
% of students who got the question right of those who attempted	<b>67.6</b>

[Video Solution](#)

[Text Solution](#)

For three lengths to be the sides of a triangle, the longest side should be less than the sum of other two sides.

- I.  $5 + \sqrt{2} < (4 + \sqrt{3}) + 2\sqrt{2}$  (i.e., possible)  
 II.  $5 - \sqrt{2} > 4 - 2\sqrt{3} + 2\sqrt{2}$  (i.e., not possible)

In the above choices,  $\sqrt{3}$  and  $\sqrt{2}$  can be taken as 1.73 and 1.41 approximately.

- III.  $3x^2 + 3 < 3x^2 + 3(x^2 - 1)$ , given  $x \geq 2$  (i.e., possible)  
 Hence, only I and III are possible.

Choice (C)

undefined

**Q5. DIRECTIONS** for questions 4 and 5: Select the correct alternative from the given choices.

If  $x > 1$  and  $(x^3)^{\sqrt{x}} - (x^{\sqrt[3]{x}})^{3\sqrt{x}} = 0$ , what is the value of  $x$ ?

- a) 9/4  
 b) 7/4  
 c) 3/2 Your answer is correct  
 d) 4/3

#### Time spent / Accuracy Analysis

Time taken by you to answer this question	155
Avg. time spent on this question by all students	151
Difficulty Level	E
Avg. time spent on this question by students who got this question right	147
% of students who attempted this question	24.26
% of students who got the question right of those who attempted	75.32

[Video Solution](#)

[Text Solution](#)

Given that  $(x^3)^{\sqrt{x}} = (x^{\sqrt[3]{x}})^{3\sqrt{x}}$   
 $\Rightarrow 3(x^{3/2}) = (4/3)(x^{7/2})$  or  $x = 1$   
 $\Rightarrow 3x^{3/2} = \frac{4}{3}x^{7/2} \Rightarrow x^2 = 9/4$  or 1  
 $\Rightarrow x = 3/2$  or  $-3/2$  or 1. But since  $x > 1$ ,  $x = 3/2$ .

Choice (C)

undefined

**Q6. DIRECTIONS** for question 6: Type in your answer in the input box provided below the question.

How many three-digit numbers exist such that the ratio of the hundreds digit and the tens digit is the same as the ratio of the

How many three-digit numbers exist such that the ratio of the hundreds digit and the tens digit is the same as the ratio of the tens digit and the units digit?

Your Answer:19 □ Your answer is incorrect

Show Correct Answer

Time spent / Accuracy Analysis

Time taken by you to answer this question	231
Avg. time spent on this question by all students	150
Difficulty Level	D
Avg. time spent on this question by students who got this question right	196
% of students who attempted this question	37.35
% of students who got the question right of those who attempted	10.78

[Video Solution](#)

[Text Solution](#)

Let the three digit number be abc.

$$\text{Given that } \frac{a}{b} = \frac{b}{c}$$

i.e.  $b^2 = ac$

This is possible when  $a = b = c$

∴ we have 9 numbers 111, 222 . . . 999.

Also checking for other values of a, b, c

$b = 2, ac = 4 \Rightarrow abc = 124 \text{ (or) } 421$

$b = 3, ac = 9 \Rightarrow abc = 139 \text{ (or) } 931$

$b = 4, ac = 16 \Rightarrow abc = 248 \text{ (or) } 842$

$b = 5, ac = 25 \Rightarrow \text{No value}$

$b = 6, ac = 36 \Rightarrow abc = 469 \text{ (or) } 964$

For other values of b, abc does not exist such that digits are distinct.

∴ 9 + 8 = 17 numbers exist

Ans: (17)

undefined

**Q7. DIRECTIONS** for questions 7 to 11: Select the correct alternative from the given choices.

A's speed is  $17/13$  times that of B. If A and B run a race, what part of the length of the race should A give B as a head start, so that B beats A by 20% of the length of the race?

a) 44%

b) 48% □ Your answer is correct

c) 46%

d) 42%

Time spent / Accuracy Analysis

Time taken by you to answer this question	242
Avg. time spent on this question by all students	172
Difficulty Level	E
Avg. time spent on this question by students who got this question right	170
% of students who attempted this question	26.53
% of students who got the question right of those who attempted	83.52

[Video Solution](#)

[Text Solution](#)

The ratio of A's and B's speed is 20 : 13. So if the length of the race is 200 metres, by the time A completes 80% of the race i.e., 160 m, B will be able to cover only 104 m. So in order to beat A, B should be given a head start of 200 – 104 or 96 m.

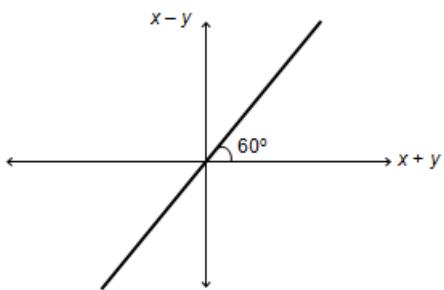
$\therefore \frac{96}{200}$  i.e., 48% of the length of the race is the head start to be given.

Choice (B)

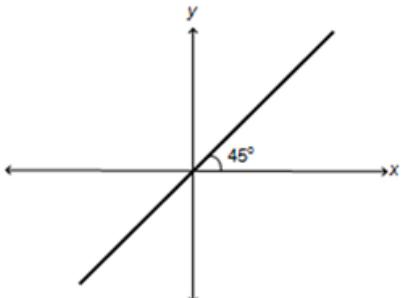
undefined

**Q8. DIRECTIONS** for questions 7 to 11: Select the correct alternative from the given choices.

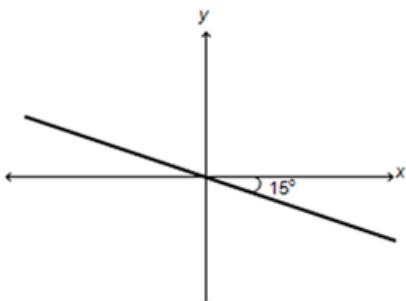
The graph of  $x - y$  against  $x + y$  is shown below. Find the corresponding graph of  $y$  against  $x$ .



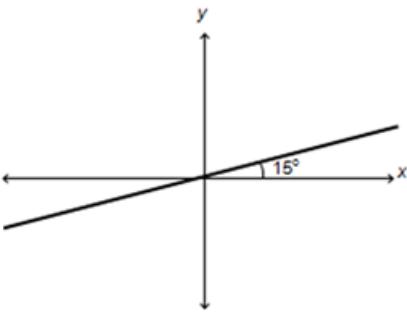
a)



b)

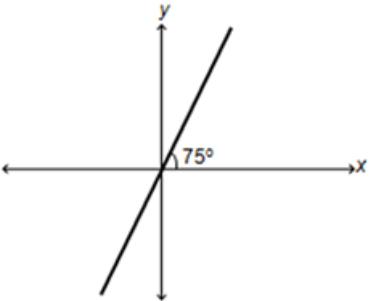


c)



Your answer is incorrect

d)



**Show Correct Answer**

**Time spent / Accuracy Analysis**

Time taken by you to answer this question	<b>511</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>133</b>
% of students who attempted this question	<b>24.38</b>
% of students who got the question right of those who attempted	<b>54.75</b>

[Video Solution](#)

**Text Solution**

From the graph, the equation of the line is

$$x - y = \sqrt{3} (x + y)$$

$$\Rightarrow y = -\frac{(\sqrt{3}-1)}{\sqrt{3}+1}x.$$

Since the value of  $-\frac{(\sqrt{3}-1)}{\sqrt{3}+1}$  is between  $-1$  and  $0$ , the value of  $\tan^{-1}\left(-\frac{(\sqrt{3}-1)}{\sqrt{3}+1}\right)$  will

be between  $-45^\circ$  and  $0^\circ$ .

Among the given options only choice (B) satisfies this condition.

Choice (B)

undefined

undefined

**Q9. DIRECTIONS for questions 7 to 11:** Select the correct alternative from the given choices.

A certain sum is invested at simple interest. If the sum becomes  $k$  times itself in 16 years and  $2k$  times itself in 40 years, in how many years will it become  $4k$  times itself?

- a) **96 years**
- b) **88 years** Your answer is correct
- c) **80 years**
- d) **64 years**

#### 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>175</b>
Difficulty Level	<b>E</b>
Avg. time spent on this question by students who got this question right	<b>181</b>
% of students who attempted this question	<b>43.32</b>
% of students who got the question right of those who attempted	<b>64.01</b>

[Video Solution](#)

[Text Solution](#)

The sum becomes  $k$  times itself in 16 years and it becomes  $2k$  times in 40 years both at SI.

⇒ The sum will earn an interest of  $k$  times itself in  $(40 - 16)$  i.e., 24 years, or an interest of  $2kp$  in 48 years.

∴ It requires  $40 + 2(24)$  i.e., 88 years for the sum to become  $4k$  times itself.

Choice (B)

**Q9. DIRECTIONS** for questions 7 to 11: Select the correct alternative from the given choices.

A certain sum is invested at simple interest. If the sum becomes  $k$  times itself in 16 years and  $2k$  times itself in 40 years, in how many years will it become  $4k$  times itself?

- a) **96 years**
- b) **88 years** Your answer is correct
- c) **80 years**
- d) **64 years**

#### 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>175</b>
Difficulty Level	<b>E</b>
Avg. time spent on this question by students who got this question right	<b>181</b>
% of students who attempted this question	<b>43.32</b>
% of students who got the question right of those who attempted	<b>64.01</b>

[Video Solution](#)

[Text Solution](#)

The sum becomes  $k$  times itself in 16 years and it becomes  $2k$  times in 40 years both at SI.

⇒ The sum will earn an interest of  $k$  times itself in  $(40 - 16)$  i.e., 24 years, or an interest of  $2kp$  in 48 years.

∴ It requires  $40 + 2(24)$  i.e., 88 years for the sum to become  $4k$  times itself.

Choice (B)

undefined

**Q10. DIRECTIONS** for questions 7 to 11: Select the correct alternative from the given choices.

What are the last two digit of  $73^{125}$ ?

- a) 93 Your answer is correct
- b) 53
- c) 73
- d) 13

**Time spent / Accuracy Analysis**

Time taken by you to answer this question	167
Avg. time spent on this question by all students	130
Difficulty Level	D
Avg. time spent on this question by students who got this question right	129
% of students who attempted this question	32.1
% of students who got the question right of those who attempted	69.62

[Video Solution](#)

[Text Solution](#)

$$N = 73^{125} = 73^{120} \cdot 7^{35} \cdot 17 = (73^{20})^6 \cdot 73^5$$

If the number in the base ends in 1, 3, 7 or 9, the last two digits of the result follow a cycle of at most twenty and the twentieth power always ends in 01. (Refer chapter on Numbers in basic study material).

∴  $73^{20}$  ends in 01

$$\begin{aligned} \text{While } 73^5 &\equiv (73^4) 73 \equiv ((5329)^2) 73 \\ &\equiv ((29)^2) 73 \equiv (841) 73 \equiv (41) (73) \\ &\equiv 2993 \equiv 93. \end{aligned}$$

∴ The last two digits of  $73^{125}$  are 93.

Choice (A)

undefined

**Q10. DIRECTIONS** for questions 7 to 11: Select the correct alternative from the given choices.

What are the last two digit of  $73^{125}$ ?

- a) 93 Your answer is correct

b) 53

c) 73

d) 13

#### Time spent / Accuracy Analysis

Time taken by you to answer this question	167
Avg. time spent on this question by all students	130
Difficulty Level	D
Avg. time spent on this question by students who got this question right	129
% of students who attempted this question	32.1
% of students who got the question right of those who attempted	69.62

[Video Solution](#)

[Text Solution](#)

$$N = 73^{125} = 73^{120} \cdot 7^{35} \quad 17 = (73^{20})^6 \cdot 73^5$$

If the number in the base ends in 1, 3, 7 or 9, the last two digits of the result follow a cycle of at most twenty and the twentieth power always ends in 01. (Refer chapter on Numbers in basic study material).

$\therefore 73^{20}$  ends in 01

$$\begin{aligned} \text{While } 73^5 &\equiv (73^4) 73 \equiv ((5329)^2) 73 \\ &\equiv ((29)^2) 73 \equiv (841) 73 \equiv (41) (73) \\ &\equiv 2993 \equiv 93. \end{aligned}$$

$\therefore$  The last two digits of  $73^{125}$  are 93.

Choice (A)

undefined

**Q11. DIRECTIONS** for questions 7 to 11: Select the correct alternative from the given choices.

Madhurima mixed 40 ml of 40% sulphuric acid solution with 80 ml of 25% sulphuric acid solution. In what ratio must the resulting solution be mixed with 50% sulphuric acid solution to give 40% sulphuric acid solution again?

a) 2 : 3

b) 1 : 1 Your answer is correct

c) 4 : 5

d) 5 : 4

#### Time spent / Accuracy Analysis

Time taken by you to answer this question	106
Avg. time spent on this question by all students	142
Difficulty Level	E
Avg. time spent on this question by students who got this question right	134
% of students who attempted this question	36.58
% of students who got the question right of those who attempted	83.38

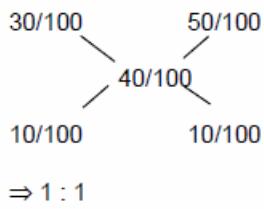
[Video Solution](#)

[Text Solution](#)

Considering only the sulphuric acid content, 40% of 40 ml when mixed with 25% of 80 ml the resultant content of sulphuric acid is

$$\frac{0.4(40) + 0.25(80)}{120} = \frac{36 \text{ parts}}{120 \text{ parts}} = \frac{3}{100}$$

Now this is mixed with 50% solution to give 40% solution. Then the ratio would be, using the alligation diagram:



Choice (B)

undefined

**Q12. DIRECTIONS** for question 12: Type in your answer in the input box provided below the question.

A tap can fill a drum in 60 minutes. After it was open for 20 minutes, a hole is made at the bottom of the drum to drain the water. The drum is filled 120 minutes after the hole is made. In how many minutes can the hole empty the entire drum?

**Your Answer:90 Your answer is correct**

**Time spent / Accuracy Analysis**

Time taken by you to answer this question	<b>206</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>45.72</b>
% of students who got the question right of those who attempted	<b>58.84</b>

[Video Solution](#)

[Text Solution](#)

The tap fills 1/3 the tank in 20 minutes.

Normally, it would take 40 minutes to fill the remaining 2/3 of the tank. Instead it takes 120 minutes; i.e. the effective flow rate reduces to 1/3 the tap's flow rate, i.e. the hole is draining away 2/3 of what the tap is filling in. If the tap takes 60 minutes to fill the tank, the hole takes  $(3/2)(60)$  minutes = 90 minutes to empty the full tank.

Ans: (90)

undefined

undefined

**Q13. DIRECTIONS** for questions 13 and 14: Select the correct alternative from the given choices.

If the graph of  $x = y^2 - 4y + 14$  is symmetric about  $y = K$ , what is the value of  $K$ ?

a) 0

b) 1

c) -1

d) 2

You did not answer this question

Show Correct Answer

**Time spent / Accuracy Analysis**

Time taken by you to answer this question **239**

Avg. time spent on this question by all students **108**

Difficulty Level **M**

Avg. time spent on this question by students who got this question right **104**

% of students who attempted this question **22.9**

% of students who got the question right of those who attempted **74.92**

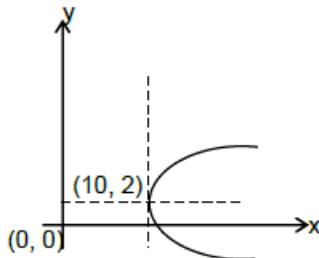
[Video Solution](#)

[Text Solution](#)

Given  $x = y^2 - 4y + 14$

$\Rightarrow x = (y - 2)^2 + 10$

The equation when plotted in the x-y plane will look as follows:



The given graph is symmetric about  $y = 2$ .

$\therefore$  The value of K is 2.

Choice (D)

**Q13. DIRECTIONS** for questions 13 and 14: Select the correct alternative from the given choices.

If the graph of  $x = y^2 - 4y + 14$  is symmetric about  $y = K$ , what is the value of K?

a) 0

b) 1

c) -1

d) 2

You did not answer this question

Show Correct Answer

**Time spent / Accuracy Analysis**

Time taken by you to answer this question **239**

Avg. time spent on this question by all students **108**

Difficulty Level **M**

Avg. time spent on this question by students who got this question right **104**

% of students who attempted this question **22.9**

% of students who got the question right of those who attempted **74.92**

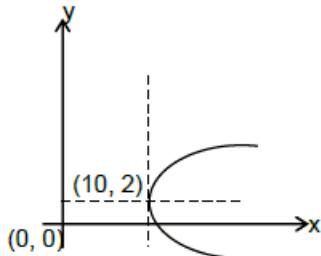
[Video Solution](#)

[Text Solution](#)

Given  $x = y^2 - 4y + 14$

$\Rightarrow x = (y - 2)^2 + 10$

The equation when plotted in the x-y plane will look as follows:



The given graph is symmetric about  $y = 2$ .

$\therefore$  The value of K is 2.

Choice (D)

undefined

**Q14. DIRECTIONS** for questions 13 and 14: Select the correct alternative from the given choices.

If  $\log_x 13 \times 18 = m$  and  $\log_x 13 \times 8 = n$ , then what is the value of  $\log_x 351$  in terms of  $m$  and  $n$ ?

a)  $\frac{m+3n}{2}$

b)  $\frac{3m+n}{4}$

c)  $\frac{3m-n}{2}$

d)  $m + n$

You did not answer this question

[Show Correct Answer](#)

**Time spent / Accuracy Analysis**

Time taken by you to answer this question **61**

Avg. time spent on this question by all students **206**

Difficulty Level **M**

Avg. time spent on this question by students who got this question right **209**

% of students who attempted this question **19.45**

% of students who got the question right of those who attempted **80.49**

[Video Solution](#)

[Text Solution](#)

By substituting values of m and n in each of the options we can arrive at the correct answer option.

However, simplifying and evaluating each option may be time consuming. Therefore, in this case a direct approach may be helpful.

Since  $351 = 13 \times 27 = 13 \times 3^3$ ,

$$\log_x 351 = \log_x 13 + 3\log_x 3$$

$$\text{Given, } \log_x 13 + \log_x 2 + 2\log_x 3 = m \quad \dots \dots \dots (1)$$

$$\text{and } \log_x 13 + 3\log_x 2 = n \quad \dots \dots \dots (2)$$

$3 \times (1) - (2)$  gives

$$2\log_x 13 + 6\log_x 3 = 3m - n$$

$$\text{i.e., } \log_x 13 + 3\log_x 3 = \frac{3m - n}{2}$$

$$\text{i.e., } \log_x 351 = \frac{3m - n}{2}$$

Choice (C)

undefined

**Q14. DIRECTIONS** for questions 13 and 14: Select the correct alternative from the given choices.

If  $\log_x 13 \times 18 = m$  and  $\log_x 13 \times 8 = n$ , then what is the value of  $\log_x 351$  in terms of m and n?

a)  $\frac{m+3n}{2}$

b)  $\frac{3m+n}{4}$

c)  $\frac{3m-n}{2}$

d) **m + n**

You did not answer this question

Show Correct Answer

#### Time spent / Accuracy Analysis

Time taken by you to answer this question	<b>61</b>
Avg. time spent on this question by all students	<b>206</b>
Difficulty Level	<b>M</b>
Avg. time spent on this question by students who got this question right	<b>209</b>
% of students who attempted this question	<b>19.45</b>
% of students who got the question right of those who attempted	<b>80.49</b>

[Video Solution](#)

[Text Solution](#)

By substituting values of m and n in each of the options we can arrive at the correct answer option.

However, simplifying and evaluating each option may be time consuming. Therefore, in this case a direct approach may be helpful.

Since  $351 = 13 \times 27 = 13 \times 3^3$ ,

$$\log_x 351 = \log_x 13 + 3\log_x 3$$

$$\text{Given, } \log_x 13 + \log_x 2 + 2\log_x 3 = m \quad \dots\dots\dots (1)$$

$$\text{and } \log_x 13 + 3\log_x 2 = n \quad \dots\dots\dots (2)$$

$3 \times (1) - (2)$  gives

$$2\log_x 13 + 6\log_x 3 = 3m - n$$

$$\text{i.e., } \log_x 13 + 3\log_x 3 = \frac{3m - n}{2}$$

$$\text{i.e., } \log_x 351 = \frac{3m - n}{2}$$

Choice (C)

undefined

**DIRECTIONS** for questions 15 and 16: Answer the questions on the basis of the information given below.

A transport company dealing in the transportation of steel rods charges a certain fixed amount for each rod and another additional amount which is proportional to the length of the rod. It costs Rs.50 to transport a 20 feet long rod. Instead, if the same rod is cut into two parts, the cost of transporting the shorter and longer parts would be Rs.26 and Rs.34 respectively.

**Q15. DIRECTIONS** for question 15 and 16: Type in your answer in the input box provided below the question.

What is the length (in feet) of the shorter piece?

**Your Answer:8 Your answer is correct**

Time spent / Accuracy Analysis

Time taken by you to answer this question **156**

Avg. time spent on this question by all students **174**

Difficulty Level **M**

Avg. time spent on this question by students who got this question right **171**

% of students who attempted this question **35.73**

% of students who got the question right of those who attempted **78.13**

[Video Solution](#)

[Text Solution](#)

Let the fixed charge per rod be ₹F and let the variable charge per foot of the rod be ₹C. Thus  $F + 20C = 50$

Hence  $F = (50 - 20C) \dots \dots (1)$

Let the two parts into which the rod is cut be  $l$  feet and  $(20 - l)$  feet.

Using (1) we can say that for each part of the rod

$(50 - 20C) + lC = 24 \dots \dots (2)$

$(50 - 20C) + (20 - l)C = 36 \dots \dots (3)$ , where the length of the shorter rod =  $l$  feet.

Solving (2) and (3), we get  $l = 8$

$C = 2$  and  $F = 10$ .

**Alternative solution:**

Let the fixed amount the company charges for each rod be equal to the variable charge for  $x$  feet of the rod. Now, if the rod is cut, let the lengths of the shorter and longer pieces be  $a$  and  $b$  feet (i.e.,  $a < b$ ). Then according to the data

$$x + a : x + b : x + 20$$

$$= 26 : 34 : 50$$

$$\therefore x + a : x + b : x + 20 : 2x + 20$$

$$[\because (x + a) + (x + b) = 2x + (a + b) = 2x + 20]$$

$$= 26 : 34 : 50 : 60 \quad (\text{I})$$

$$\therefore x : a : b = 10 : 16 : 24 \quad (\text{II})$$

$\left[ \begin{matrix} 4^{\text{th}} \text{ term} - 3^{\text{rd}} \text{ term gives } x \\ 1^{\text{st}} \text{ term} - x \text{ gives } a \\ 2^{\text{nd}} \text{ term} - x \text{ gives } b \end{matrix} \right]$

The total length is  $16 + 24$  or 40 parts of the above ratio, which is 20 feet. Thus each

part in the above ratio  $= \frac{1}{2}$  feet. Therefore, the shorter part is 16 parts or  $16 \times \frac{1}{2} = 8$  feet.

Ans: (8)

undefined

undefined

**DIRECTIONS** for questions 15 and 16: Answer the questions on the basis of the information given below.

A transport company dealing in the transportation of steel rods charges a certain fixed amount for each rod and another additional amount which is proportional to the length of the rod. It costs Rs.50 to transport a 20 feet long rod. Instead, if the same rod is cut into two parts, the cost of transporting the shorter and longer parts would be Rs.26 and Rs.34 respectively.

**Q15. DIRECTIONS** for question 15 and 16: Type in your answer in the input box provided below the question.

What is the length (in feet) of the shorter piece?

**Your Answer:8 Your answer is correct**

Time spent / Accuracy Analysis

Time taken by you to answer this question

156

Avg. time spent on this question by all students

174

### Time spent / Accuracy Analysis

Difficulty Level	M
Avg. time spent on this question by students who got this question right	171
% of students who attempted this question	35.73
% of students who got the question right of those who attempted	78.13

[Video Solution](#)

### Text Solution

Let the fixed charge per rod be ₹F and let the variable charge per foot of the rod be ₹C. Thus  $F + 20C = 50$   
Hence  $F = (50 - 20C) \dots \text{(1)}$   
Let the two parts into which the rod is cut be  $l$  feet and  $(20 - l)$  feet.  
Using (1) we can say that for each part of the rod  
 $(50 - 20C) + lC = 24 \dots \text{(2)}$   
 $(50 - 20C) + (20 - l)C = 36 \dots \text{(3)}$ , where the length of the shorter rod =  $l$  feet.  
Solving (2) and (3), we get  $l = 8$   
 $C = 2$  and  $F = 10$ .

#### Alternative solution:

Let the fixed amount the company charges for each rod be equal to the variable charge for  $x$  feet of the rod. Now, if the rod is cut, let the lengths of the shorter and longer pieces be  $a$  and  $b$  feet (i.e.,  $a < b$ ). Then according to the data

$$\begin{aligned}x + a : x + b : x + 20 \\= 26 : 34 : 50 \\∴ x + a : x + b : x + 20 : 2x + 20 \\[∴ (x + a) + (x + b) = 2x + (a + b) = 2x + 20] \\= 26 : 34 : 50 : 60 \quad (\text{I}) \\∴ x : a : b = 10 : 16 : 24 \quad (\text{II}) \\[4^{\text{th}} \text{ term} - 3^{\text{rd}} \text{ term gives } x \\1^{\text{st}} \text{ term} - x \text{ gives } a \\2^{\text{nd}} \text{ term} - x \text{ gives } b.\quad]\end{aligned}$$

The total length is  $16 + 24$  or 40 parts of the above ratio, which is 20 feet. Thus each part in the above ratio  $= \frac{1}{2}$  feet. Therefore, the shorter part is 16 parts or  $16 \times \frac{1}{2} = 8$  feet.

Ans: (8)

**DIRECTIONS for questions 15 and 16:** Answer the questions on the basis of the information given below.

A transport company dealing in the transportation of steel rods charges a certain fixed amount for each rod and another additional amount which is proportional to the length of the rod. It costs Rs.50 to transport a 20 feet long rod. Instead, if the same rod is cut into two parts, the cost of transporting the shorter and longer parts would be Rs.26 and Rs.34 respectively.

**Q16. DIRECTIONS for question 15 and 16:** Type in your answer in the input box provided below the question.

What is the fixed amount (in Rs.) the company charges for each rod?

**Your Answer:10 Your answer is correct**

### 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	48
% of students who attempted this question	33.69
% of students who got the question right of those who attempted	83.54

[Video Solution](#)

[Text Solution](#)

The number on the RHS in I (or II) (from the above alternative solution) are amounts (in rupees) corresponding to the lengths on the LHS.  
∴ The fixed amount charged for every rod is equal to the variable charge for  $x$  feet of rod, which is ₹10. Ans: (10)

undefined

**DIRECTIONS** for questions 15 and 16: Answer the questions on the basis of the information given below.

A transport company dealing in the transportation of steel rods charges a certain fixed amount for each rod and another additional amount which is proportional to the length of the rod. It costs Rs.50 to transport a 20 feet long rod. Instead, if the same rod is cut into two parts, the cost of transporting the shorter and longer parts would be Rs.26 and Rs.34 respectively.

**Q16. DIRECTIONS** for question 15 and 16: Type in your answer in the input box provided below the question.

What is the fixed amount (in Rs.) the company charges for each rod?

**Your Answer:10 Your answer is correct**

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	48
% of students who attempted this question	33.69
% of students who got the question right of those who attempted	83.54

[Video Solution](#)

[Text Solution](#)

The number on the RHS in I (or II) (from the above alternative solution) are amounts (in rupees) corresponding to the lengths on the LHS.  
∴ The fixed amount charged for every rod is equal to the variable charge for  $x$  feet of rod, which is ₹10. Ans: (10)

undefined

undefined

**DIRECTIONS** for questions 15 and 16: Answer the questions on the basis of the information given below.

A transport company dealing in the transportation of steel rods charges a certain fixed amount for each rod and another additional amount which is proportional to the length of the rod. It costs Rs.50 to transport a 20 feet long rod. Instead, if the same rod is cut into two parts, the cost of transporting the shorter and longer parts would be Rs.26 and Rs.34 respectively.

**Q16. DIRECTIONS** for question 15 and 16: Type in your answer in the input box provided below the question.

What is the fixed amount (in Rs.) the company charges for each rod?

**Your Answer:10** Your answer is correct

**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	48
% of students who attempted this question	33.69
% of students who got the question right of those who attempted	83.54

[Video Solution](#)

[Text Solution](#)

The number on the RHS in I (or II) (from the above alternative solution) are amounts (in rupees) corresponding to the lengths on the LHS.

∴ The fixed amount charged for every rod is equal to the variable charge for x feet of rod, which is ₹10.

Ans: (10)

**Q17. DIRECTIONS** for questions 17 and 18: Type in your answer in the input box provided below the question.

If the geometric mean of the first  $n$  terms of the geometric progression 4, 8, 16, .... is 1024, then find the value of  $n$ .

**Your Answer:9** Your answer is incorrect

[Show Correct Answer](#)

**Time spent / Accuracy Analysis**

Time taken by you to answer this question	171
Avg. time spent on this question by all students	155
Difficulty Level	E
Avg. time spent on this question by students who got this question right	156
% of students who attempted this question	37.42
% of students who got the question right of those who attempted	31.13

[Video Solution](#)

[Text Solution](#)

We can observe that the common ratio ( $r$ ) of the given series is 2 and the first term ( $a$ ) is 4.

The  $n^{\text{th}}$  term of the sequence will be of the form  $4(2^{n-1})$

Given,  $4 \cdot 4(2^{n-1}) = (1024)^2$

$$\Rightarrow 2^4 \cdot 2^{n-1} = 2^{20}$$

$$\Rightarrow 2^{n-1} = 2^{16}$$

$$\Rightarrow n = 17$$

Ans: (17)

undefined

undefined

**Q17. DIRECTIONS** for questions 17 and 18: Type in your answer in the input box provided below the question.

If the geometric mean of the first  $n$  terms of the geometric progression 4, 8, 16, .... is 1024, then find the value of  $n$ .

Your Answer:9 □ Your answer is incorrect

Show Correct Answer

**Time spent / Accuracy Analysis**

Time taken by you to answer this question	<b>171</b>
Avg. time spent on this question by all students	<b>155</b>
Difficulty Level	<b>E</b>
Avg. time spent on this question by students who got this question right	<b>156</b>
% of students who attempted this question	<b>37.42</b>
% of students who got the question right of those who attempted	<b>31.13</b>

[Video Solution](#)

[\*\*Text Solution\*\*](#)

We can observe that the common ratio ( $r$ ) of the given series is 2 and the first term ( $a$ ) is 4.

The  $n^{\text{th}}$  term of the sequence will be of the form  $4(2^{n-1})$

$$\text{Given, } 4 \cdot 4(2^{n-1}) = (1024)^2$$

$$\Rightarrow 2^4 \cdot 2^{n-1} = 2^{20}$$

$$\Rightarrow 2^{n-1} = 2^{16}$$

$$\Rightarrow n = 17$$

Ans: (17)

**Q18. DIRECTIONS** for questions 17 and 18: Type in your answer in the input box provided below the question.

If  $(21)_n \times (36)_n = (776)_n$  and  $(12)_n \times (63)_n = (x)_n$ , then find  $x$ .

Your Answer:677 □ Your answer is incorrect

Show Correct Answer

**Time spent / Accuracy Analysis**

Time taken by you to answer this question	<b>189</b>
Avg. time spent on this question by all students	<b>149</b>
Difficulty Level	<b>E</b>
Avg. time spent on this question by students who got this question right	<b>150</b>
% of students who attempted this question	<b>25.92</b>
% of students who got the question right of those who attempted	<b>62.58</b>

[Video Solution](#)

[\*\*Text Solution\*\*](#)

$$\begin{aligned}
 (2n + 1)(3n + 6) &= (7n^2 + 7n + 6) \\
 6n^2 + 15n + 6 &= 7n^2 + 7n + 6 \\
 n^2 - 8n &= 0 \Rightarrow n = 8 \\
 \therefore (12)_8 \times (63)_8 &= (776)_8
 \end{aligned}$$

**Alternative solution:**

$$\begin{aligned}
 \text{Given } (21)_n \times (36)_n &= (776)_n \\
 \text{Clearly } n > 7 \\
 \Rightarrow (21)_n \times (3)_n &= (63)_n \quad \dots \quad (1) \\
 (12)_n \times (3)_n &= (36)_n \quad \dots \quad (2) \\
 \text{We know, } (21)_n \times (36)_n &= (776)_n \\
 \Rightarrow (21)_n \times (3)_n \times (12)_n &= (776)_n \text{ (from (2))} \\
 \Rightarrow (63)_n \times (12)_n &= (776)_n \\
 \therefore x = 776
 \end{aligned}$$

Ans: (776)

undefined

**Q18. DIRECTIONS** for questions 17 and 18: Type in your answer in the input box provided below the question.

If  $(21)_n \times (36)_n = (776)_n$  and  $(12)_n \times (63)_n = (x)_n$ , then find  $x$ .

Your Answer:677 □ Your answer is incorrect

Show Correct Answer

#### Time spent / Accuracy Analysis

Time taken by you to answer this question	189
Avg. time spent on this question by all students	149
Difficulty Level	E
Avg. time spent on this question by students who got this question right	150
% of students who attempted this question	25.92
% of students who got the question right of those who attempted	62.58

[Video Solution](#)

[Text Solution](#)

$$\begin{aligned}
 (2n + 1)(3n + 6) &= (7n^2 + 7n + 6) \\
 6n^2 + 15n + 6 &= 7n^2 + 7n + 6 \\
 n^2 - 8n &= 0 \Rightarrow n = 8 \\
 \therefore (12)_8 \times (63)_8 &= (776)_8
 \end{aligned}$$

**Alternative solution:**

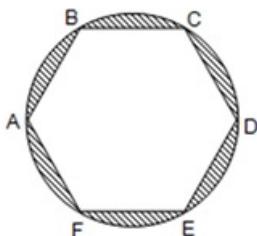
$$\begin{aligned}
 \text{Given } (21)_n \times (36)_n &= (776)_n \\
 \text{Clearly } n > 7 \\
 \Rightarrow (21)_n \times (3)_n &= (63)_n \quad \dots (1) \\
 (12)_n \times (3)_n &= (36)_n \quad \dots (2) \\
 \text{We know, } (21)_n \times (36)_n &= (776)_n \\
 \Rightarrow (21)_n \times (3)_n \times (12)_n &= (776)_n \text{ (from (2))} \\
 \Rightarrow (63)_n \times (12)_n &= (776)_n \\
 \therefore x = 776
 \end{aligned}$$

Ans: (776)

undefined

**Q19. DIRECTIONS** for questions 19 and 20: Select the correct alternative from the given choices.

In the given figure, a regular hexagon, ABCDEF, is inscribed in a circle of radius 6 cm. Find the area (in sq.cm.) of the shaded region.



a)  $36\left(\pi - \frac{3\sqrt{3}}{2}\right)$  Your answer is correct

b)  $36\left(\pi - \frac{\sqrt{3}}{2}\right)$

c)  $36\left(\pi - \sqrt{3}\right)$

d)  $36\left(2\sqrt{3} - \pi\right)$

#### Time spent / Accuracy Analysis

Time taken by you to answer this question	102
Avg. time spent on this question by all students	122
Difficulty Level	M
Avg. time spent on this question by students who got this question right	120
% of students who attempted this question	41.55
% of students who got the question right of those who attempted	91.05

[Video Solution](#)

[Text Solution](#)

Let the centre of the circle (and also the hexagon) be O. The triangle AOB will be an equilateral triangle, with the side length equal to the radius of the circle.

$$\therefore \text{The area of the hexagon} = 6 \times \left( \frac{\sqrt{3}}{4} \right) (6)^2 = 36 \times \frac{3\sqrt{3}}{2}$$

$$\begin{aligned}\therefore \text{The area shaded region} &= \pi(6)^2 - \pi \left( 36 \times \frac{3\sqrt{3}}{2} \right) \\ &= 36 \left( \pi - \frac{3\sqrt{3}}{2} \right).\end{aligned}$$

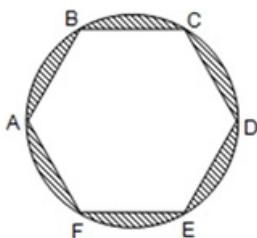
Choice (A)

undefined

undefined

**Q19. DIRECTIONS** for questions 19 and 20: Select the correct alternative from the given choices.

In the given figure, a regular hexagon, ABCDEF, is inscribed in a circle of radius 6 cm. Find the area (in sq.cm.) of the shaded region.



a)  $36 \left( \pi - \frac{3\sqrt{3}}{2} \right)$  Your answer is correct

b)  $36 \left( \pi - \frac{\sqrt{3}}{2} \right)$

c)  $36(\pi - \sqrt{3})$

d)  $36(2\sqrt{3} - \pi)$

#### Time spent / Accuracy Analysis

Time taken by you to answer this question **102**

Avg. time spent on this question by all students **122**

Difficulty Level **M**

Avg. time spent on this question by students who got this question right **120**

% of students who attempted this question **41.55**

% of students who got the question right of those who attempted **91.05**

[Video Solution](#)

[Text Solution](#)

Let the centre of the circle (and also the hexagon) be O. The triangle AOB will be an equilateral triangle, with the side length equal to the radius of the circle.

$$\therefore \text{The area of the hexagon} = 6 \times \left( \frac{\sqrt{3}}{4} \right) (6)^2 = 36 \times \frac{3\sqrt{3}}{2}$$

$$\therefore \text{The area shaded region} = \pi(6)^2 - \pi \left( 36 \times \frac{3\sqrt{3}}{2} \right)$$

$$= 36 \left( \pi - \frac{3\sqrt{3}}{2} \right).$$

Choice (A)

undefined

**Q20. DIRECTIONS** for questions 19 and 20: Select the correct alternative from the given choices.

At an island, people use a number system to base  $n$  such that  $n < 9$ . Which of the following is true of the remainder obtained when an inhabitant of that island divides  $(111\dots n \text{ times})_n$  by  $(n+1)_n$ ?

- a) It is 0, if  $n$  is odd
- b) It is 1, if  $n$  is even
- c) Both (A) and (B) are true
- d) Neither (A) nor (B) is true

You did not answer this question

[Show Correct Answer](#)

**Time spent / Accuracy Analysis**

Time taken by you to answer this question	<b>10</b>
Avg. time spent on this question by all students	<b>122</b>
Difficulty Level	<b>M</b>
Avg. time spent on this question by students who got this question right	<b>132</b>
% of students who attempted this question	<b>12.19</b>
% of students who got the question right of those who attempted	<b>60.07</b>

[Video Solution](#)

[Text Solution](#)

$$(111\ldots n \text{ times})_n = n^{n-1} + n^{n-2} + \dots + 1$$

$$= 1 + n + n^2 + \dots + n^{n-1} = \frac{n^n - 1}{n-1} = f(n)$$

$$\text{Remainder when } \frac{n^n - 1}{n-1} \text{ is divided by } (n+1) \text{ is } f(-1) = \frac{(-1)^n - 1}{-2} = \frac{1 - (-1)^n}{2}$$

$$\text{If } n \text{ is even, remainder} = \frac{1-1}{2} = 0 \therefore (\text{A}) \text{ is false}$$

$$\text{If } n \text{ is odd, remainder} = \frac{1-(-1)}{2} = 1 \therefore (\text{B}) \text{ is also false}$$

**Alternate solution:**

$$(n+1)_n = (11)_{10} \quad n < 9$$

So, remainder when  $(111\ldots N \text{ times})_n$  is divided by  $(11)_n$  is  
(sum of digits in even places) – (sum of digits in odd places)

If  $n$  is even remainder = 0 otherwise remainder = 1

Choice (D)

**Q20. DIRECTIONS** for questions 19 and 20: Select the correct alternative from the given choices.

At an island, people use a number system to base  $n$  such that  $n < 9$ . Which of the following is true of the remainder obtained when an inhabitant of that island divides  $(111\ldots n \text{ times})_n$  by  $(n+1)_n$ ?

- a) It is 0, if  $n$  is odd
- b) It is 1, if  $n$  is even
- c) Both (A) and (B) are true
- d) Neither (A) nor (B) is true

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	122
Difficulty Level	M
Avg. time spent on this question by students who got this question right	132
% of students who attempted this question	12.19
% of students who got the question right of those who attempted	60.07

[Video Solution](#)

### Text Solution

$$(111\ldots n \text{ times})_n = n^{n-1} + n^{n-2} + \dots + 1 \\ = 1 + n + n^2 + \dots + n^{n-1} = \frac{n^n - 1}{n-1} = f(n)$$

$$\text{Remainder when } \frac{n^n - 1}{n-1} \text{ is divided by } (n+1) \text{ is } f(-1) = \frac{(-1)^n - 1}{-2} = \frac{1 - (-1)^n}{2}$$

$$\text{If } n \text{ is even, remainder} = \frac{1-1}{2} = 0 \therefore (\text{A}) \text{ is false}$$

$$\text{If } n \text{ is odd, remainder} = \frac{1-(-1)}{2} = 1 \therefore (\text{B}) \text{ is also false}$$

**Alternate solution:**

$$(n+1)_n = (11)_{10} \quad n < 9$$

So, remainder when  $(111\ldots N \text{ times})_n$  is divided by  $(11)_n$  is  
(sum of digits in even places) – (sum of digits in odd places)

If  $n$  is even remainder = 0 otherwise remainder = 1

Choice (D)

undefined

**Q20. DIRECTIONS** for questions 19 and 20: Select the correct alternative from the given choices.

At an island, people use a number system to base  $n$  such that  $n < 9$ . Which of the following is true of the remainder obtained when an inhabitant of that island divides  $(111\ldots n \text{ times})_n$  by  $(n+1)_n$ ?

- a) It is 0, if  $n$  is odd
- b) It is 1, if  $n$  is even
- c) Both (A) and (B) are true
- d) Neither (A) nor (B) is true

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	122
Difficulty Level	M
Avg. time spent on this question by students who got this question right	132
% of students who attempted this question	12.19
% of students who got the question right of those who attempted	60.07

[Video Solution](#)

### Text Solution

$$(111\dots n \text{ times})_n = n^{n-1} + n^{n-2} + \dots + 1$$

$$= 1 + n + n^2 + \dots + n^{n-1} = \frac{n^n - 1}{n-1} = f(n)$$

$$\text{Remainder when } \frac{n^n - 1}{n-1} \text{ is divided by } (n+1) \text{ is } f(-1) = \frac{(-1)^n - 1}{-2} = \frac{1 - (-1)^n}{2}$$

$$\text{If } n \text{ is even, remainder} = \frac{1-1}{2} = 0 \therefore (\text{A}) \text{ is false}$$

$$\text{If } n \text{ is odd, remainder} = \frac{1-(-1)}{2} = 1 \therefore (\text{B}) \text{ is also false}$$

**Alternate solution:**

$$(n+1)_n = (11)_{10} \quad n < 9$$

So, remainder when  $(111\dots N \text{ times})_n$  is divided by  $(11)_n$  is  
(sum of digits in even places) – (sum of digits in odd places)

If  $n$  is even remainder = 0 otherwise remainder = 1

Choice (D)

undefined

undefined

**DIRECTIONS** for questions 21 and 22: Answer the questions on the basis of the data given below.

A train started at 9:00 a.m. at station X with a speed of 72 kmph. After two hours, another train started at station Y towards X with a speed of 90 kmph. The two trains are expected to cross each other at 1:30 p.m. Owing to a signal problem arising at 12 noon, the speed of each of them was reduced by the same quantity and they crossed each other at 4:30 p.m.

**Q21. DIRECTIONS** for question 21: Type in your answer in the input box provided below the question.

What is the new speed of the train (in kmph) that started from station X?

**Your Answer:18 Your answer is correct**

Time spent / Accuracy Analysis

Time taken by you to answer this question	63
Avg. time spent on this question by all students	250
Difficulty Level	M
Avg. time spent on this question by students who got this question right	252
% of students who attempted this question	24.34
% of students who got the question right of those who attempted	52.54

[Video Solution](#)

[Text Solution](#)

At 12:00 noon, they would have taken  $1\frac{1}{2}$  more hours to meet. Instead they met  $4\frac{1}{2}$  hours later i.e. relative velocity became  $\frac{1}{3}$  of the initial value.

$$\frac{1}{3} (72 + 90) \text{ or } 54 \text{ km/hr}$$

i.e. relative velocity is decreased by 108 km/hr i.e. 54 km/hr for each train (the speed decreased by the same quantity for both the trains)

∴ The new speed of the train from X is  $72 - 54$  or 18 km/hr.

Ans: (18)

**DIRECTIONS** for questions 21 and 22: Answer the questions on the basis of the data given below.

A train started at 9:00 a.m. at station X with a speed of 72 kmph. After two hours, another train started at station Y towards X with a speed of 90 kmph. The two trains are expected to cross each other at 1:30 p.m. Owing to a signal problem arising at 12 noon, the speed of each of them was reduced by the same quantity and they crossed each other at 4:30 p.m.

**Q21. DIRECTIONS** for question 21: Type in your answer in the input box provided below the question.

What is the new speed of the train (in kmph) that started from station X?

**Your Answer:18 Your answer is correct**

Time spent / Accuracy Analysis

Time taken by you to answer this question	<b>63</b>
Avg. time spent on this question by all students	<b>250</b>
Difficulty Level	<b>M</b>
Avg. time spent on this question by students who got this question right	<b>252</b>
% of students who attempted this question	<b>24.34</b>
% of students who got the question right of those who attempted	<b>52.54</b>

[Video Solution](#)

[Text Solution](#)

At 12:00 noon, they would have taken  $1\frac{1}{2}$  more hours to meet. Instead they met  $4\frac{1}{2}$  hours later i.e. relative velocity became  $\frac{1}{3}$  of the initial value.

$$\frac{1}{3} (72 + 90) \text{ or } 54 \text{ km/hr}$$

i.e. relative velocity is decreased by 108 km/hr i.e. 54 km/hr for each train (the speed decreased by the same quantity for both the trains)

∴ The new speed of the train from X is  $72 - 54$  or 18 km/hr.

Ans: (18)

undefined

**DIRECTIONS** for questions 21 and 22: Answer the questions on the basis of the data given below.

A train started at 9:00 a.m. at station X with a speed of 72 kmph. After two hours, another train started at station Y towards X with a speed of 90 kmph. The two trains are expected to cross each other at 1:30 p.m. Owing to a signal problem arising at 12 noon, the speed of each of them was reduced by the same quantity and they crossed each other at 4:30 p.m.

**Q22. DIRECTIONS** for question 22: Select the correct alternative from the given choices.

If the signal problem had occurred at 1:00 p.m. instead of 12 noon, at what time would the two trains have crossed each other?

- a) 3:30 p.m.
- b) 3:00 p.m.
- c) 2:00 p.m.
- d) 2:30 p.m. Your answer is correct

#### Time spent / Accuracy Analysis

Time taken by you to answer this question	<b>59</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>106</b>
% of students who attempted this question	<b>19.82</b>
% of students who got the question right of those who attempted	<b>79.57</b>

[Video Solution](#)

[Text Solution](#)

Had the signal problem not occurred they would have met 1/2 hour from 1:00 p.m. Due to the signal problem the relative speed became 1/3<sup>rd</sup> of the initial value, the time taken will now be 3 (1/2) hour = 1½ hr after 1:00 p.m. i.e. at 2:30 p.m.

Choice (D)

undefined  
undefined  
undefined

**Q23. DIRECTIONS** for question 23: Type in your answer in the input box provided below the question.

A red bulb flashes 4 times per minute and a green bulb flashes 6 times per two minutes, at regular intervals. If both the bulbs start flashing at the same time, how many times do they flash together every hour?

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

[Show Correct Answer](#)

#### Time spent / Accuracy Analysis

Time taken by you to answer this question	<b>55</b>
Avg. time spent on this question by all students	<b>109</b>
Difficulty Level	<b>E</b>
Avg. time spent on this question by students who got this question right	<b>116</b>
% of students who attempted this question	<b>46.7</b>
% of students who got the question right of those who attempted	<b>39.4</b>

[Video Solution](#)

[Text Solution](#)

The red bulb flashes every 15 seconds and green bulb flashes every 20 seconds. If they start flashing simultaneously, they flash together again after 60 seconds (i.e. L.C.M of 15 & 20).

∴ They flash together 60 times every hour.

Ans: (60)

**Q23. DIRECTIONS** for question 23: Type in your answer in the input box provided below the question.

A red bulb flashes 4 times per minute and a green bulb flashes 6 times per two minutes, at regular intervals. If both the bulbs start flashing at the same time, how many times do they flash together every hour?

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

Show Correct Answer

**Time spent / Accuracy Analysis**

Time taken by you to answer this question	<b>55</b>
Avg. time spent on this question by all students	<b>109</b>
Difficulty Level	<b>E</b>
Avg. time spent on this question by students who got this question right	<b>116</b>
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[Video Solution](#)

[Text Solution](#)

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Ans: (60)

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

Show Correct Answer

**Time spent / Accuracy Analysis**

Time taken by you to answer this question	<b>55</b>
Avg. time spent on this question by all students	<b>109</b>
Difficulty Level	<b>E</b>
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% of students who attempted this question	<b>46.7</b>
% of students who got the question right of those who attempted	<b>39.4</b>

[Video Solution](#)

[Text Solution](#)

The red bulb flashes every 15 seconds and green bulb flashes every 20 seconds. If they start flashing simultaneously, they flash together again after 60 seconds (i.e. L.C.M of 15 & 20).

∴ They flash together 60 times every hour.

Ans: (60)

undefined

undefined

**Q24. DIRECTIONS** for questions 24 and 25: Select the correct alternative from the given choices.

In a triangle ABC, AB = AC, BC = 6 cm and BE and CF are the medians drawn to AC and AB respectively. If  $BE \perp CF$ , then find AC (in cm).

- a)  $3\sqrt{10}$
- b)  $6\sqrt{5}$
- c)  $4\sqrt{10}$
- d)  $8\sqrt{5}$

You did not answer this question

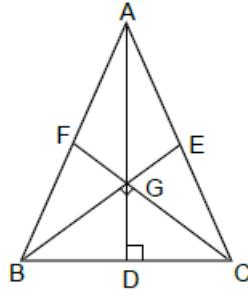
[Show Correct Answer](#)

**Time spent / Accuracy Analysis**

Time taken by you to answer this question	<b>117</b>
Avg. time spent on this question by all students	<b>188</b>
Difficulty Level	<b>M</b>
Avg. time spent on this question by students who got this question right	<b>200</b>
% of students who attempted this question	<b>6.88</b>
% of students who got the question right of those who attempted	<b>62.65</b>

[Video Solution](#)

[Text Solution](#)



Given that,  $AB = AC$  and  $BC = 6 \text{ cm}$ .

Let  $AD$  be the median drawn to  $BC$  and let ' $G$ ' be the centroid. Moreover,  $BE \perp CF$ .

$\therefore \triangle GBC$  is right angled at ' $G$ '.

$GD \perp BC$

Moreover, from symmetry,  $\triangle BGD$  and  $\triangle GDC$  are identical.

$\Rightarrow BD = DC = 3 \text{ cm}$  and  $\angle GCD = 45^\circ$

$\Rightarrow GD = DC = 3 \text{ cm}$

$\Rightarrow AD = 9 \text{ cm}$  ( $G$  is the centroid)

In right-angled triangle  $ADC$ ,

$$AC = \sqrt{(AD)^2 + (CD)^2} = \sqrt{81+9} = \sqrt{90} = 3\sqrt{10} \text{ cm}$$

Choice (A)

**Q24. DIRECTIONS** for questions 24 and 25: Select the correct alternative from the given choices.

In a triangle  $ABC$ ,  $AB = AC$ ,  $BC = 6 \text{ cm}$  and  $BE$  and  $CF$  are the medians drawn to  $AC$  and  $AB$  respectively. If  $BE \perp CF$ , then find  $AC$  (in cm).

- a)  $3\sqrt{10}$
- b)  $6\sqrt{5}$
- c)  $4\sqrt{10}$
- d)  $8\sqrt{5}$

You did not answer this question

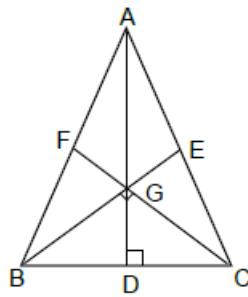
Show Correct Answer

Time spent / Accuracy Analysis

Time taken by you to answer this question	<b>117</b>
Avg. time spent on this question by all students	<b>188</b>
Difficulty Level	<b>M</b>
Avg. time spent on this question by students who got this question right	<b>200</b>
% of students who attempted this question	<b>6.88</b>
% of students who got the question right of those who attempted	<b>62.65</b>

[Video Solution](#)

[Text Solution](#)



Given that,  $AB = AC$  and  $BC = 6 \text{ cm}$ .

Let  $AD$  be the median drawn to  $BC$  and let ' $G$ ' be the centroid. Moreover,  $BE \perp CF$ .

$\therefore \triangle GBC$  is right angled at ' $G$ '.

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Moreover, from symmetry,  $\triangle BGD$  and  $\triangle GDC$  are identical.

$\Rightarrow BD = DC = 3 \text{ cm}$  and  $\angle GCD = 45^\circ$

$\Rightarrow GD = DC = 3 \text{ cm}$

$\Rightarrow AD = 9 \text{ cm}$  ( $G$  is the centroid)

In right-angled triangle  $ADC$ ,

$$AC = \sqrt{(AD)^2 + (CD)^2} = \sqrt{81+9} = \sqrt{90} = 3\sqrt{10} \text{ cm}$$

Choice (A)

undefined

undefined

**Q25. DIRECTIONS** for questions 24 and 25: Select the correct alternative from the given choices.

If the product of two numbers is four times their LCM, which of the following can be the two numbers?

- a) 48, 62
- b) 36, 81
- c) 50, 84
- d) 24, 52

You did not answer this question

Show Correct Answer

#### Time spent / Accuracy Analysis

Time taken by you to answer this question	92
Avg. time spent on this question by all students	139
Difficulty Level	VE
Avg. time spent on this question by students who got this question right	136
% of students who attempted this question	44
% of students who got the question right of those who attempted	87.84

[Video Solution](#)

### Text Solution

The product of two numbers =  $4 \times \text{LCM}$  of the numbers.  
Therefore, HCF of the required two numbers = 4.  
From the options, the numbers in only option (D) have a HCF of 4.      Choice (D)

undefined

**Q25. DIRECTIONS** for questions 24 and 25: Select the correct alternative from the given choices.

If the product of two numbers is four times their LCM, which of the following can be the two numbers?

- a) 48, 62
- b) 36, 81
- c) 50, 84
- d) 24, 52

You did not answer this question

Show Correct Answer

#### Time spent / Accuracy Analysis

Time taken by you to answer this question	92
Avg. time spent on this question by all students	139
Difficulty Level	VE
Avg. time spent on this question by students who got this question right	136
% of students who attempted this question	44
% of students who got the question right of those who attempted	87.84

### Video Solution

### Text Solution

The product of two numbers =  $4 \times \text{LCM}$  of the numbers.  
Therefore, HCF of the required two numbers = 4.  
From the options, the numbers in only option (D) have a HCF of 4.      Choice (D)

undefined

**Q25. DIRECTIONS** for questions 24 and 25: Select the correct alternative from the given choices.

If the product of two numbers is four times their LCM, which of the following can be the two numbers?

- a) 48, 62
- b) 36, 81
- c) 50, 84
- d) 24, 52

You did not answer this question

Show Correct Answer

**Time spent / Accuracy Analysis**

Time taken by you to answer this question	<b>92</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>136</b>
% of students who attempted this question	<b>44</b>
% of students who got the question right of those who attempted	<b>87.84</b>

[Video Solution](#)

[Text Solution](#)

The product of two numbers =  $4 \times \text{LCM of the numbers}$ .

Therefore, HCF of the required two numbers = 4.

From the options, the numbers in only option (D) have a HCF of 4.

Choice (D)

undefined

**Q26. DIRECTIONS** for question 26: Type in your answer in the input box provided below the question.

The cost of five apples, four bananas and three chikkoos is Rs.50. If the cost of an apple, a banana and a chikkoo is Rs.12, how much more (in Rs.) does an apple cost than a chikkoo?

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

**Time spent / Accuracy Analysis**

Time taken by you to answer this question	<b>23</b>
Avg. time spent on this question by all students	<b>98</b>
Difficulty Level	<b>E</b>
Avg. time spent on this question by students who got this question right	<b>95</b>
% of students who attempted this question	<b>46.11</b>
% of students who got the question right of those who attempted	<b>92.45</b>

[Video Solution](#)

[Text Solution](#)

Let the cost (in ₹) of an apple, a banana and a chikoo be  $a$ ,  $b$  and  $c$  respectively.

Given that

$$5a + 4b + 3c = 50 \quad \text{--- (1)}$$

$$\text{and } a + b + c = 12 \quad \text{--- (2)}$$

Consider (1) – 4 × (2), we get  $a - c = 50 - 4 \times 12 = 2$

∴ An apple costs ₹2 more than a chikoo.

Ans: (2)

undefined

**Q26. DIRECTIONS** for question 26: Type in your answer in the input box provided below the question.

The cost of five apples, four bananas and three chikkoos is Rs.50. If the cost of an apple, a banana and a chikkoo is Rs.12, how much more (in Rs.) does an apple cost than a chikkoo?

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

**Time spent / Accuracy Analysis**

Time taken by you to answer this question	23
Avg. time spent on this question by all students	98
Difficulty Level	E
Avg. time spent on this question by students who got this question right	95
% of students who attempted this question	46.11
% of students who got the question right of those who attempted	92.45

[Video Solution](#)

[Text Solution](#)

Let the cost (in ₹) of an apple, a banana and a chikoo be  $a$ ,  $b$  and  $c$  respectively.

Given that

$$5a + 4b + 3c = 50 \quad \text{--- (1)}$$

$$\text{and } a + b + c = 12 \quad \text{--- (2)}$$

Consider (1) – 4 × (2), we get  $a - c = 50 - 4 \times 12 = 2$

∴ An apple costs ₹2 more than a chikoo.

Ans: (2)

undefined

**Q26. DIRECTIONS** for question 26: Type in your answer in the input box provided below the question.

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

**Time spent / Accuracy Analysis**

Time taken by you to answer this question	23
Avg. time spent on this question by all students	98
Difficulty Level	E
Avg. time spent on this question by students who got this question right	95
% of students who attempted this question	46.11
% of students who got the question right of those who attempted	92.45

[Video Solution](#)

[Text Solution](#)

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Given that

$$5a + 4b + 3c = 50 \quad \text{--- (1)}$$

$$\text{and } a + b + c = 12 \quad \text{--- (2)}$$

Consider (1) – 4 × (2), we get  $a - c = 50 - 4 \times 12 = 2$

∴ An apple costs ₹2 more than a chikoo.

Ans: (2)

**Q27. DIRECTIONS** for questions 27 and 28: Select the correct alternative from the given choices.

XYZ is a rightangled triangle, rightangled at Z. If the lengths of two of the three medians of the triangle are  $4\sqrt{13}$  units and 10 units, what is the maximum possible area (in sq.units) of the triangle XYZ?

- a) 48
- b) 72
- c) 96
- d) 108

You did not answer this question Show Correct Answer

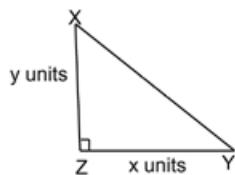
#### Time spent / Accuracy Analysis

Time taken by you to answer this question	15
Avg. time spent on this question by all students	149
Difficulty Level	VD
Avg. time spent on this question by students who got this question right	146
% of students who attempted this question	3.88
% of students who got the question right of those who attempted	41.85

[Video Solution](#)

#### Text Solution

Let the lengths of the perpendicular legs of the triangle XYZ be x units and y units.



The lengths of the medians will be  $\sqrt{\left(\frac{x}{2}\right)^2 + \left(\frac{y}{2}\right)^2}$ ,  $\sqrt{(x)^2 + \left(\frac{y}{2}\right)^2}$  and  $\sqrt{\left(\frac{x}{2}\right)^2 + y^2}$

Let us assume  $x \geq y$ .

For maximum the area of such triangle, we will assume the length of the shorter two (out of the three) medians to be 10 units and  $4\sqrt{13}$  units.

$$\Rightarrow \sqrt{\left(\frac{x}{2}\right)^2 + \left(\frac{y}{2}\right)^2} = 10 \text{ and } \sqrt{\left(\frac{x}{2}\right)^2 + y^2} = 4\sqrt{13}$$

$$\Rightarrow x^2 + y^2 = 400 ; x^2 + 4y^2 = 832$$

$$\Rightarrow 3y^2 = 432$$

$$\Rightarrow y = 12, x = 16$$

$\therefore$  The maximum possible area of the triangle XYZ

$$= \frac{(12)(16)}{2} = 96 \text{ sq units.}$$

#### Alternative Solution:

Assuming the shortest median, i.e., the median to the hypotenuse to be 10 units, the hypotenuse becomes 20 units. Using the Pythagorean triplet (3, 4, 5) one possible set for the perpendicular sides of the triangle is 12 and 16, which yields one other median as  $\sqrt{12^2 + 8^2} = \sqrt{208} = 4\sqrt{13}$ , which is consistent with the given data.

$$\text{Hence, area} = \frac{1}{2} \times 12 \times 16 = 96.$$

Choice (C)

undefined

undefined

undefined

**Q27. DIRECTIONS** for questions 27 and 28: Select the correct alternative from the given choices.

XYZ is a rightangled triangle, rightangled at Z. If the lengths of two of the three medians of the triangle are  $4\sqrt{13}$  units and 10 units, what is the maximum possible area (in sq.units) of the triangle XYZ?

- a) 48
- b) 72
- c) 96
- d) 108

You did not answer this question Show Correct Answer

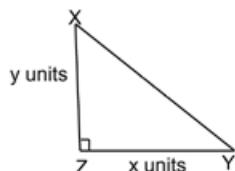
**Time spent / Accuracy Analysis**

Time taken by you to answer this question	15
Avg. time spent on this question by all students	149
Difficulty Level	VD
Avg. time spent on this question by students who got this question right	146
% of students who attempted this question	3.88
% of students who got the question right of those who attempted	41.85

[Video Solution](#)

**Text Solution**

Let the lengths of the perpendicular legs of the triangle XYZ be x units and y units.



The lengths of the medians will be  $\sqrt{\left(\frac{x}{2}\right)^2 + \left(\frac{y}{2}\right)^2}$ ,  $\sqrt{(x)^2 + \left(\frac{y}{2}\right)^2}$  and  $\sqrt{\left(\frac{x}{2}\right)^2 + y^2}$

Let us assume  $x \geq y$ .

For maximum the area of such triangle, we will assume the length of the shorter two (out of the three) medians to be 10 units and  $4\sqrt{13}$  units.

$$\begin{aligned} &\Rightarrow \sqrt{\left(\frac{x}{2}\right)^2 + \left(\frac{y}{2}\right)^2} = 10 \text{ and } \sqrt{\left(\frac{x}{2}\right)^2 + y^2} = 4\sqrt{13} \\ &\Rightarrow x^2 + y^2 = 400; x^2 + 4y^2 = 832 \\ &\Rightarrow 3y^2 = 432 \\ &\Rightarrow y = 12, x = 16 \\ &\therefore \text{The maximum possible area of the triangle XYZ} \\ &= \frac{(12)(16)}{2} = 96 \text{ sq units.} \end{aligned}$$

**Alternative Solution:**

Assuming the shortest median, i.e., the median to the hypotenuse to be 10 units, the hypotenuse becomes 20 units. Using the Pythagorean triplet (3, 4, 5) one possible set for the perpendicular sides of the triangle is 12 and 16, which yields one other median as  $\sqrt{12^2 + 8^2} = \sqrt{208} = 4\sqrt{3}$ , which is consistent with the given data.

$$\text{Hence, area} = \frac{1}{2} \times 12 \times 16 = 96.$$

Choice (C)

**Q27. DIRECTIONS** for questions 27 and 28: Select the correct alternative from the given choices.

XYZ is a rightangled triangle, rightangled at Z. If the lengths of two of the three medians of the triangle are  $4\sqrt{13}$  units and 10 units, what is the maximum possible area (in sq.units) of the triangle XYZ?

- a) 48
- b) 72
- c) 96
- d) 108

You did not answer this question Show Correct Answer

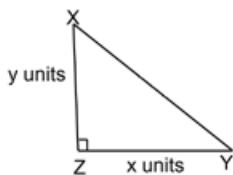
#### Time spent / Accuracy Analysis

Time taken by you to answer this question	15
Avg. time spent on this question by all students	149
Difficulty Level	VD
Avg. time spent on this question by students who got this question right	146
% of students who attempted this question	3.88
% of students who got the question right of those who attempted	41.85

[Video Solution](#)

#### Text Solution

Let the lengths of the perpendicular legs of the triangle XYZ be x units and y units.



The lengths of the medians will be  $\sqrt{\left(\frac{x}{2}\right)^2 + \left(\frac{y}{2}\right)^2}$ ,  $\sqrt{(x)^2 + \left(\frac{y}{2}\right)^2}$  and  $\sqrt{\left(\frac{x}{2}\right)^2 + y^2}$

Let us assume  $x \geq y$ .

For maximum the area of such triangle, we will assume the length of the shorter two (out of the three) medians to be 10 units and  $4\sqrt{13}$  units.

$$\Rightarrow \sqrt{\left(\frac{x}{2}\right)^2 + \left(\frac{y}{2}\right)^2} = 10 \text{ and } \sqrt{\left(\frac{x}{2}\right)^2 + y^2} = 4\sqrt{13}$$

$$\Rightarrow x^2 + y^2 = 400 ; x^2 + 4y^2 = 832$$

$$\Rightarrow 3y^2 = 432$$

$$\Rightarrow y = 12, x = 16$$

$\therefore$  The maximum possible area of the triangle XYZ

$$= \frac{(12)(16)}{2} = 96 \text{ sq units.}$$

#### Alternative Solution:

Assuming the shortest median, i.e., the median to the hypotenuse to be 10 units, the hypotenuse becomes 20 units. Using the Pythagorean triplet (3, 4, 5) one possible set for the perpendicular sides of the triangle is 12 and 16, which yields one other median as  $\sqrt{12^2 + 8^2} = \sqrt{208} = 4\sqrt{13}$ , which is consistent with the given data.

$$\text{Hence, area} = \frac{1}{2} \times 12 \times 16 = 96.$$

Choice (C)

undefined

**Q28. DIRECTIONS** for questions 27 and 28: Select the correct alternative from the given choices.

If  $-\frac{2}{3} \leq x \leq \frac{5}{7}$  and  $-\frac{3}{4} \leq y \leq \frac{4}{5}$ , then what is the minimum value of  $xy^3$ ?

- a)  $-\frac{64}{175}$
- b)  $-\frac{135}{448}$
- c)  $-\frac{9}{32}$
- d)  $-\frac{128}{375}$

You did not answer this question

[Show Correct Answer](#)

**Time spent / Accuracy Analysis**

Time taken by you to answer this question	<b>15</b>
Avg. time spent on this question by all students	<b>128</b>
Difficulty Level	<b>E</b>
Avg. time spent on this question by students who got this question right	<b>139</b>
% of students who attempted this question	<b>26.87</b>
% of students who got the question right of those who attempted	<b>43.34</b>

[Video Solution](#)

**Text Solution**

The minimum value of  $xy^3$  occurs when  $x = -\frac{2}{3}$  and  $y = \frac{4}{5}$ . The minimum value is  $-\frac{128}{375}$ .

Choice (D)

undefined

**Q28. DIRECTIONS** for questions 27 and 28: Select the correct alternative from the given choices.

If  $-\frac{2}{3} \leq x \leq \frac{5}{7}$  and  $-\frac{3}{4} \leq y \leq \frac{4}{5}$ , then what is the minimum value of  $xy^3$ ?

- a)  $-\frac{64}{175}$
- b)  $-\frac{135}{448}$
- c)  $-\frac{9}{32}$
- d)  $-\frac{128}{375}$

You did not answer this question

[Show Correct Answer](#)

**Time spent / Accuracy Analysis**

Time taken by you to answer this question	<b>15</b>
Avg. time spent on this question by all students	<b>128</b>
Difficulty Level	<b>E</b>
Avg. time spent on this question by students who got this question right	<b>139</b>

**Time spent / Accuracy Analysis**

% of students who attempted this question	<b>26.87</b>
% of students who got the question right of those who attempted	<b>43.34</b>

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

The minimum value of  $x y^3$  occurs when  $x = -\frac{2}{3}$  and  $y = \frac{4}{5}$ . The minimum value is  $-\frac{128}{375}$ .

Choice (D)

undefined

undefined

**Q28. DIRECTIONS** for questions 27 and 28: Select the correct alternative from the given choices.

If  $-\frac{2}{3} \leq x \leq \frac{5}{7}$  and  $-\frac{3}{4} \leq y \leq \frac{4}{5}$ , then what is the minimum value of  $xy^3$ ?

a)  $-\frac{64}{175}$

b)  $-\frac{135}{448}$

c)  $-\frac{9}{32}$

d)  $-\frac{128}{375}$

You did not answer this question

[Show Correct Answer](#)**Time spent / Accuracy Analysis**

Time taken by you to answer this question	<b>15</b>
Avg. time spent on this question by all students	<b>128</b>
Difficulty Level	<b>E</b>
Avg. time spent on this question by students who got this question right	<b>139</b>
% of students who attempted this question	<b>26.87</b>
% of students who got the question right of those who attempted	<b>43.34</b>

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

The minimum value of  $x y^3$  occurs when  $x = -\frac{2}{3}$  and  $y = \frac{4}{5}$ . The minimum value is  $-\frac{128}{375}$ .

Choice (D)

undefined

**Q29. DIRECTIONS** for question 29: Type in your answer in the input box provided below the question.

At the beginning of a year, the populations of three countries, A, B, and C, were in the ratio 4 : 5 : 6. During that year, the respective populations of the three countries increased by percentages which were in the ratio of 2 : 3 : 4. If the populations of A and B at the end of the year were 176 mn and 230 mn respectively, find the population (in mn) of C at the end of the year.

Your Answer:284 □ Your answer is incorrect

Show Correct Answer

**Time spent / Accuracy Analysis**

Time taken by you to answer this question	25
Avg. time spent on this question by all students	211
Difficulty Level	M
Avg. time spent on this question by students who got this question right	222
% of students who attempted this question	23.01
% of students who got the question right of those who attempted	52.02

[Video Solution](#)

[Text Solution](#)

Let the populations of the countries be  $4X$ ,  $5X$ ,  $6X$ . Let the percentage increases be  $2y$ ,  $3y$ ,  $4y$ .

$$\text{Now, let } \frac{y}{100} = Y$$

The population of the country A after the year

$$= 4X(1 + 2Y) = 176 \text{ mn} \quad (1)$$

Population of country B after the year

$$= 5X(1 + 3Y) = 230 \text{ mn} \quad (2)$$

$$\text{Dividing (2) by (1) gives } \frac{1+3Y}{1+2Y} = \frac{46}{44} \quad (3)$$

Solving (3) for  $Y$ , we get  $44 + 132Y = 46 + 92Y$

$$\Rightarrow Y = 0.05$$

We need to find the population of C at the end of the year, i.e., the value of  $6X(1 + 4Y)$   
 $= 6X(1.2)$

Given,  $4X(1 + 2Y) = 4X(1.1) = 176$ ,

$$\text{We get } 6X(1.2) = 176 \times \frac{6}{4} \times \frac{1.2}{1.1} = 288$$

Ans: (288)

**Q28. DIRECTIONS** for questions 27 and 28: Select the correct alternative from the given choices.

If  $-\frac{2}{3} \leq x \leq \frac{5}{7}$  and  $-\frac{3}{4} \leq y \leq \frac{4}{5}$ , then what is the minimum value of  $xy^3$ ?

a)  $-\frac{64}{175}$

b)  $-\frac{135}{448}$

c)  $-\frac{9}{32}$

d)  $-\frac{128}{375}$

You did not answer this question

Show Correct Answer

#### Time spent / Accuracy Analysis

Time taken by you to answer this question	15
Avg. time spent on this question by all students	128
Difficulty Level	E
Avg. time spent on this question by students who got this question right	139
% of students who attempted this question	26.87
% of students who got the question right of those who attempted	43.34

[Video Solution](#)

[Text Solution](#)

The minimum value of  $x y^3$  occurs when  $x = -\frac{2}{3}$  and  $y = \frac{4}{5}$ . The minimum value is

$$-\frac{128}{375}$$

Choice (D)

undefined

**Q29. DIRECTIONS** for question 29: Type in your answer in the input box provided below the question.

At the beginning of a year, the populations of three countries, A, B, and C, were in the ratio 4 : 5 : 6. During that year, the respective populations of the three countries increased by percentages which were in the ratio of 2 : 3 : 4. If the populations of A and B at the end of the year were 176 mn and 230 mn respectively, find the population (in mn) of C at the end of the year.

Your Answer:284 □ Your answer is incorrect

Show Correct Answer

#### Time spent / Accuracy Analysis

Time taken by you to answer this question	25
Avg. time spent on this question by all students	211
Difficulty Level	M
Avg. time spent on this question by students who got this question right	222
% of students who attempted this question	23.01
% of students who got the question right of those who attempted	52.02

[Video Solution](#)

[Text Solution](#)

Let the populations of the countries be  $4X$ ,  $5X$ ,  $6X$ . Let the percentage increases be  $2y$ ,  $3y$ ,  $4y$ .

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$$= 6X(1.2)$$

Given,  $4X(1 + 2Y) = 4X(1.1) = 176$ ,

$$\text{We get } 6X(1.2) = 176 \times \frac{6}{4} \times \frac{1.2}{1.1} = 288$$

Ans: (288)

**Q29. DIRECTIONS** for question 29: Type in your answer in the input box provided below the question.

At the beginning of a year, the populations of three countries, A, B, and C, were in the ratio  $4 : 5 : 6$ . During that year, the respective populations of the three countries increased by percentages which were in the ratio of  $2 : 3 : 4$ . If the populations of A and B at the end of the year were 176 mn and 230 mn respectively, find the population (in mn) of C at the end of the year.

Your Answer:284 □ Your answer is incorrect

Show Correct Answer

#### Time spent / Accuracy Analysis

Time taken by you to answer this question	25
Avg. time spent on this question by all students	211
Difficulty Level	M
Avg. time spent on this question by students who got this question right	222
% of students who attempted this question	23.01
% of students who got the question right of those who attempted	52.02

[Video Solution](#)

[Text Solution](#)

Let the populations of the countries be  $4X$ ,  $5X$ ,  $6X$ . Let the percentage increases be  $2y$ ,  $3y$ ,  $4y$ .

Now, let  $\frac{y}{100} = Y$

The population of the country A after the year

$$= 4X(1 + 2Y) = 176 \text{ mn } \quad (1)$$

Population of country B after the year

$$= 5X(1 + 3Y) = 230 \text{ mn } \quad (2)$$

$$\text{Dividing (2) by (1) gives } \frac{1+3Y}{1+2Y} = \frac{46}{44} \quad (3)$$

Solving (3) for  $Y$ , we get  $44 + 132Y = 46 + 92Y$

$$\Rightarrow Y = 0.05$$

We need to find the population of C at the end of the year, i.e., the value of  $6X(1 + 4Y)$

$$= 6X(1.2)$$

Given,  $4X(1 + 2Y) = 4X(1.1) = 176$ ,

$$\text{We get } 6X(1.2) = 176 \times \frac{6}{4} \times \frac{1.2}{1.1} = 288$$

Ans: (288)

undefined

**Q30. DIRECTIONS** for question 30: Select the correct alternative from the given choices.

The average of  $n$  numbers is 4. If a number  $x$  is added, the average increases to 7. Find  $x$  in terms of  $n$ .

- a)  $n - 4$
- b)  $2n + 7$
- c)  $3n + 7$  Your answer is correct
- d)  $n + 21$

#### Time spent / Accuracy Analysis

Time taken by you to answer this question	8
Avg. time spent on this question by all students	87
Difficulty Level	VE
Avg. time spent on this question by students who got this question right	84
% of students who attempted this question	39.34
% of students who got the question right of those who attempted	95.22

[Video Solution](#)

[Text Solution](#)

$$\begin{aligned}4n + x &= (n + 1) \times 7 \\ \Rightarrow x &= 3n + 7\end{aligned}$$

Choice (C)