

#### Mock CAT - 14 2018

Scorecard (procreview.jsp?sid=aaa5BycB\_LJvH-TdBuPHwSun Jan 20 07:12:36 UTC 2019&qsetId=Yq0T uJ8YJo=&qsetName=Mock CAT - 14 2018)

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Qs Analysis (QsAnalysis.jsp?sid=aaa5BycB\_LJvH-TdBuPHwSun Jan 20 07:12:36 UTC 2019&qsetId=Yq0T uJ8YJo=&qsetName=Mock CAT - 14 2018)

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**VARC** 

**LRDI** 

QA

Sec 1

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

All human societies, past and present, have had a vested interest in education; and some wits have claimed that teaching (at its best an educational activity) is the second oldest profession. While not all societies channel sufficient resources into support for educational activities and institutions, all at the very least acknowledge their centrality—and for good reasons. For one thing, it is obvious that children are born illiterate and innumerate, and ignorant of the norms and cultural achievements of the community or society into which they have been thrust; but with the help of professional teachers and the dedicated amateurs in their families and immediate environs (and with the aid, too, of educational resources made available through the media and nowadays the internet), within a few years they can read, write, calculate, and act (at least often) in culturally-appropriate ways. Some learn these skills with more facility than others, and so education also serves as a social-sorting mechanism and undoubtedly has enormous impact on the economic fate of the individual. Put more abstractly, at its best education equips individuals with the skills and substantive knowledge that allows them to define and to pursue their own goals, and also allows them to participate in the life of their community as full-fledged, autonomous citizens.

But this is to cast matters in very individualistic terms, and it is fruitful also to take a societal perspective, where the picture changes somewhat. It emerges that in pluralistic societies such as the Western democracies there are some groups that do not wholeheartedly support the development of autonomous individuals, for such folk can weaken a group from within by thinking for themselves and challenging communal norms and beliefs; from the point of view of groups whose survival is thus threatened, formal, state-provided education is not necessarily a good thing. But in other ways even these groups depend for their continuing survival on educational processes, as do the larger societies and nation-states of which they are part. The great social importance of education is underscored, too, by the fact that when a society is shaken by a crisis, this often is taken as a sign of educational breakdown; education, and educators, become scapegoats.

It is not surprising that such an important social domain has attracted the attention of philosophers for thousands of years, especially as there are complex issues aplenty that have great philosophical interest. Even a cursory reading of these opening paragraphs reveals that they touch on, in nascent form, some but by no means all of the issues that have spawned vigorous debate down the ages; restated more explicitly in terms familiar to philosophers of education, the issues the discussion above flitted over were: education as transmission of knowledge versus education as the fostering of inquiry and reasoning skills that are conducive to the development of autonomy (which, roughly, is the tension between education as conservative and education as progressive and as an instrument of human liberation, which also is closely related to differing views about human "perfectibility"—issues that historically have been raised in debates concerning the aims of education); the question of what this knowledge, and what these skills, ought to be —part of the domain of philosophy of the curriculum; the questions of how learning is possible, and what is it to have learned something—two sets of issues that relate to the question of the capacities and potentialities that are present at birth, and also to the process (and stages) of human development and to what degree this process is flexible and hence can be influenced or manipulated.

Q.1
Which of the following statements is not false according to the given passage?

- 1 The individual perspective of the merit of education is at loggerheads with its societal perspective.
- 2 Education propels the individual, who is at his best, towards achieving his goals.
- 3 For ages, philosophers have debated certain issues related to education.

 $4 \bigcirc$  Education has attracted the attention of philosophers primarily because of its complex socio-political merits.

Solution:

**Correct Answer: 3** 

**Genre: Philosophy / Education** 

Word Count# 596

Option 1 – Refer to the line: "But this is to cast matters in very individualistic terms, and it is fruitful also to take a societal perspective, where the picture changes somewhat." This makes option 1 incorrect.

Option 2 – Refer to the line: "Education equips individuals with the skills and substantive knowledge that allows them to define and to pursue their own goals." This makes option 2 incorrect.

Option 3 – Correct answer. Refer to the last paragraph.

Option 4 – Refer to the line: "It is not surprising that such an important social domain has attracted the attention of philosophers for thousands of years, especially as there are complex issues aplenty that have great philosophical interest." This makes option 4 incorrect.

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**■** Bookmark

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Q.2
Which of the following has been discussed in the passage as a positive impact of education?

- 1 Children become proficient in the art of cultural appropriation.
- 2 Educated citizens become autonomous.
- 3 An educated citizen becomes a threat to the survival of a group.

4 During times of crisis, educators bear the brunt of blame.

Solution:

**Correct Answer: 2** 

**Genre: Philosophy / Education** 

Word Count# 596

Refer to the line: "...knowledge that allows them to define and to pursue their own goals, and also allows them to participate in the life of their community as full-fledged, autonomous citizens." So, option 2 is correct.

Option 1 – Cultural appropriation is a negative term. It doesn't mean being culturally mannered.

Options 3 and 4- These are not mentioned as positive impacts.

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Q.3
Which of the following has not been the part of philosophical debates over the merits of education?

- 1  $\bigcirc$  The manipulation of education as a process
- $2 \bigcirc$  The development of a human's innate potential
- 3 Education's role in human liberation

### 4 The domain of educational curriculum

Solution:

**Correct Answer: 1** 

Genre: Philosophy / Education

Word Count# 596

Refer to the last paragraph. All the options, except 1, have been mentioned. 'Manipulation of education as a process is an alien or irrelevant phrase.

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Q.4
With which of the following would a philosopher of education agree?

- 1 Teaching, the second oldest profession, requires some reformation to perfect its methodology.
- 2 Education affects the social fabric of a society.

- $3 \bigcirc$  The tension between the progressive and conservative branches of education affects the definition of 'perfectibility' as an aim of education.
- 4 The spirit of inquiry and the ability to reason impact the liberation of a society.

Solution:

**Correct Answer: 2** 

Genre: Philosophy / Education

Word Count# 596

Option 1 – It is a distorted option as it combines two different pieces of information presented in the passage in an illogical manner. 'Perfect its methodology' is not mentioned in the context.

Option 2 – This is the main idea of the first paragraph. It's also covered in the last paragraph. So, it is the correct answer.

Option 3 – It's again a distorted option. Refer to the reasoning given above to negate option 1. This option has a similar problem.

Option 4 – It is factually incorrect. The passage doesn't support this option.

FeedBack



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Q.5
Which of the following is not true about the tone of the author?

- 1 The author explains certain features of education, the subject.
- 2 The author narrates some debates associated with education, the branch of study.
- 3 The author analyses some interpretations of the aim of education.

4 The author criticizes certain societies that don't acknowledge the merits of education.

Solution:

**Correct Answer: 4** 

**Genre: Philosophy / Education** 

**Word Count# 596** 

The author in the passage maintains a neutral tone. S/he simply explains a particular topic of philosophy. We don't find a lot of opinions related to the author's personal beliefs. So, options 1, 2, and 3 are related to the paragraph. Option 4 is the clear answer as it talks about a negative tone.

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# Q.6 The primary purpose of the passage is to: 1 describe the various facets of the philosophy of education. 2 explain the various utilities of education as a social tool.

3 oshowcase the various musings of philosophers of education.

4 highlight the importance of teaching as a tool of education.

**Solution:** 

**Correct Answer: 1** 

**Genre: Philosophy / Education** 

**Word Count# 596** 

This question requires the process of elimination.

Option 1 - This is the correct answer, or rather it is the closest option. It

matches the theme and the tone of the passage.

Option 2 – It is a little narrow and doesn't cover anything except the first two paragraphs.

Option 3 – The author simply talks about the topics discussed by educational philosophers. Secondly, it is only discussed in the last paragraph. So, this is the not the main focus.

Option 4 – It is wrong. Teaching has been mentioned in only one line of the passage.

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**■** Bookmark

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

One constant in China has been the poor state of workers' rights and the frequent outbreaks of labour unrest. From coalminers in the snowy north-east to factory staff in the steamy Pearl River Delta, workers have agitated against low pay, wage arrears, unsafe conditions and job losses. A law on labour contracts that took effect in 2008 aimed to keep Chinese hard-hats happier, and on paper it should have succeeded. Indeed, the worldwide ranking of employment-protection laws by the Organisation for Economic Cooperation and Development, a rich-country think-tank, puts China near the very top of the tables on several indicators.

In practice, however, the law has only helped a bit. The lack of independent unions or genuine collective bargaining leaves China's blue-collar workers vulnerable and grumpy. Incidents of labour unrest remain widespread. Around 600 strikes or protests have been reported this year, according to researchers at China Labour Bulletin, a Hong Kong-based watchdog, who reckon this tally of known incidents may represent only 10-15% of the actual number. The government is trying to keep unrest in check by lowering the threshold at which the police intervene. In Beijing protests used to be broken up if 50 workers showed up; now ten will suffice.

But even though the law has left blue-collar workers in the lurch, it has brought considerable, unintended benefits for white-collar ones. Managers in all sorts of companies—Chinese, foreign, state-owned and private—complain that the law makes it difficult to fire office staff, even in cases of egregious malfeasance. "When the law was written, we didn't anticipate this," says Wang Kan of the China Institute of Industrial Relations.

He describes a case involving a senior executive at a big technology company who was caught subcontracting work at grossly inflated prices to a firm that he had established using a relative's name. His employer was unable to meet the extensive documentary and procedural requirements laid out in the law, so could not dismiss him. The executive's departure instead came on terms he dictated: he got a huge payout and the firm he was leaving even waived non-compete restrictions it would normally have imposed.

Blue-collar workers may have even less job security than before, partly because of slowing growth and the closure of some state-owned firms. Yet they are often unable to use the labour law to protect themselves. Many of them, especially the tens of millions of migrant workers who roam from job to job in construction and other lowly roles, are taken on without formal contracts, says Aaron Halegua of New York University, even though that contravenes the law in itself. If an employer denies any relationship with a worker and there are no documents to prove one, he says, the worker's case will seldom reach a court or arbitration panel.

Q.7
Why does the author provide the example of the executive?

1 To highlight the extent of official wrongdoing in China

2 To give an example of malfeasance committed by public officials

3 To show an unintended consequence of the law regarding labour rights

4 To prove that the law in practice is ineffective in protecting the rights of workers

Solution:

**Correct Answer: 3** 

Genre: Economics / Labour Law / Politics

Word Count# 464

The author, in this passage, talks about a certain law in China which was supposed to protect blue-collar workers. But, in practice, the law has not

proven to be very effective. Then he talks about a possible loophole in the law which actually helps corrupt white-collar officials. So, option 3 is the intention of the author behind giving this example.

Option 2 is too extreme. 'The extent of official wrongdoing' is too generic.

Option 1 talks about 'public officials'. It is beyond the scope of the example.

Option 4 talks about 'all workers' but the example actually shows that the law unintentionally protects even corrupt officials.

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## Which of the following is true as per the passage?

- 1 Lack of documentation hinders the hiring of workers in Chinese factories.
- 2 Police in China have become more and more brutal and unyielding.
- 3 The Chinese government doesn't want people to strike and that's why it has banned 10 people from working together.
- $4 \bigcirc$  The number of worker strikes reported in China is probably less than the actual number of strikes.

Solution:

**Correct Answer: 4** 

**Genre: Economics / Labour Law / Politics** 

Word Count# 464

Option 1 is beyond the scope of the passage. The passage doesn't comment on the hiring process in China.

Option 2 is too generic. The passage only talks about strikes and the role of the police there. It can't be generalised to draw an inference about police in China in a broader context.

Option 3 distorts the fact. The government has not banned 10 people from working together. It has allowed police to disperse a gathering of 10 people for the purpose of protesting.

Option 4 is clearly true from the line "Incidents of labour unrest remain widespread. Around 600 strikes or protests have been reported this year, according to researchers at China Labour Bulletin, a Hong Kongbased watchdog, who reckon this tally of known incidents may represent only 10-15% of the actual number."

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**■** Bookmark

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One constant in China has been the poor state of workers' rights and the frequent outbreaks of labour unrest. From coalminers in the snowy north-east to factory staff in the steamy Pearl River Delta, workers have agitated against low pay, wage arrears, unsafe conditions and job losses. A law on labour contracts that took effect in 2008 aimed to keep Chinese hard-hats happier, and on paper it should have succeeded. Indeed, the worldwide ranking of employment-protection laws by the Organisation for Economic Cooperation and Development, a rich-country think-tank, puts China near the very top of the tables on several indicators.

In practice, however, the law has only helped a bit. The lack of independent unions or genuine collective bargaining leaves China's blue-collar workers vulnerable and grumpy. Incidents of labour unrest remain widespread. Around 600 strikes or protests have been reported this year, according to researchers at China Labour Bulletin, a Hong Kong-based watchdog, who reckon this tally of known incidents may represent only 10-15% of the actual number. The government is trying to keep unrest in check by lowering the threshold at which the police intervene. In Beijing protests used to be broken up if 50 workers showed up; now ten will suffice.

But even though the law has left blue-collar workers in the lurch, it has brought considerable, unintended benefits for white-collar ones. Managers in all sorts of companies—Chinese, foreign, state-owned and private—complain that the law makes it difficult to fire office staff, even in cases of egregious malfeasance. "When the law was written, we didn't anticipate this," says Wang Kan of the China Institute of Industrial Relations.

He describes a case involving a senior executive at a big technology company who was caught subcontracting work at grossly inflated prices to a firm that he had established using a relative's name. His employer was unable to meet the extensive documentary and procedural requirements laid out in the law, so could not dismiss him. The executive's departure instead came on terms he dictated: he got a huge payout and the firm he was leaving even waived non-compete restrictions it would normally have imposed.

Blue-collar workers may have even less job security than before, partly because of slowing growth and the closure of some state-owned firms. Yet they are often unable to use the labour law to protect themselves. Many of them, especially the tens of millions of migrant workers who roam from job to job in construction and other lowly roles, are taken on without formal contracts, says Aaron Halegua of New York University, even though that contravenes the law in itself. If an employer denies any relationship with a worker and there are no documents to prove one, he says, the worker's case will seldom reach a court or arbitration panel.

Q.9
Which of the following has impacted the blue-collar workers in China?

1 Extensive documentary and procedural requirements laid out in the law

2 Difficulty in firing office staff as per the law

3 Lack of independent unions or genuine collective bargaining

4 Frequent outbreaks of labour unrest

Solution:

**Correct Answer: 3** 

**Genre: Economics / Labour Law / Politics** 

Word Count# 464

Refer to the line – "The lack of independent unions or genuine collective bargaining leaves China's blue-collar workers vulnerable and grumpy." Option

3 is the clear answer.

Option 1 is true for white-collar workers.

Option 2 too is mentioned with respect to white-collar workers.

Option 4 is a consequence of the worker's problems, not the cause.

FeedBack

**■** Bookmark

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## Q.10

What is the main conclusion of the author in the passage?

- 1 Oue to lack of documentation, a worker in China is, more often than not, deprived of his rights to legal help.
- 2 The labour law in question has not really helped the blue collar workers in China.
- $3\, \bigcirc$  The labour laws in China are ineffective in protecting the rights of the entrepreneurs.
- $4\, \bigcirc$  China has been wrongly ranked high in labour practice index.

Solution:

**Correct Answer: 2** 

Genre: Economics / Labour Law / Politics

Word Count# 464

The author's main idea in the passage is to analyse the pros and cons of the law under discussion. Only option 2 matches this. So, it is the correct answer.

Option 1 comes at the end of the paragraph, but it is not the main conclusion of the passage.

Options 3 and 4 are too generic. The author doesn't talk about all the laws in China.

FeedBack

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**■** Bookmark

Answer key/Solution

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Q.11

What can be inferred about the author's view of the law?

- 1 There is a loophole in the system.
- 2 There is a dire need of good candidates.
- 3 There is a loophole in the crisis handling by the government.
- 4 There is a dire need for reformation.

Solution:

**Correct Answer: 1** 

Genre: Economics / Labour Law / Politics

Word Count# 464

The author says that the law has succeeded to some extent. Refer to the line – "In practice, however, the law has only helped a bit." So, the author doesn't say that the law has completely failed. So, option 1 is the correct answer. Option 4 doesn't specify the area where reformation is needed. Options 2 and 3 are irrelevant.

FeedBack

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## Which of the following best describes the author's style of presenting his ideas in the passage?

- 1 The author presents two sides of the same argument in an implicit manner.
- $2\, \ensuremath{\,^{\frown}}$  The author recounts the application of a remedy and analyses its efficacy.
- $3 \bigcirc$  The author highlights the unintended consequences of following a utopian approach towards an otherwise resolvable problem.
- $4 \bigcirc$  The author showcases a problem and goes on to enumerate certain measures to overcome this deficiency.

Solution:

**Correct Answer: 2** 

**Genre: Economics / Labour Law / Politics** 

Word Count# 464

This question can be answered by using the method of elimination.

Option 1 – The author doesn't use an implicit tone. And the author doesn't

mention the pros and cons of the situation.

Option 2 – It best matches the analytical overtone of the passage.

Option 3 – 'Utopian approach' is wrong as the passage discusses a particular law.

Option 4 – The author doesn't discuss any remedy for any problem.

FeedBack

**■** Bookmark

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Less than two months are left until the October European Union summit that was meant to agree upon a Brexit deal. Yet the gap between the two sides remains wide. Theresa May proposed her Chequers plan for future relations only seven weeks ago. That made it wise for Dominic Raab, the Brexit secretary, and Michel Barnier, the European Commission's Brexit point man, to agree in Brussels this week to continuous negotiations. It follows a flurry of diplomacy by Mrs May and her foreign secretary, Jeremy Hunt, aimed at averting too firm an EU rejection of the Chequers plan.

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This leads to the second diplomatic blunder, using the threat of no deal as a bargaining tool. It is true that neither side wants such a result. Yet Brussels knows it would be far worse for Britain than for the EU. Moreover, European diplomats think the real target of no-deal talk by Mrs May's ministers is domestic. The government needs to shore up rocky support at home for the Chequers plan by displaying the gory horrors of a no-deal alternative.

The third, related, example is repeated attacks on Brussels for an ideological intransigence that pushes towards a no-deal Brexit. Ministers like the tactic of getting around Mr Barnier and his team by negotiating directly with more pragmatic national governments. The notion that any problem London has with the EU can be solved by appealing to Berlin (and Paris) dies hard among British politicians, although it has seldom worked.

It also misses two other key points. Mr Barnier is operating under negotiating guidelines set by national governments, which he has consulted and kept closely informed throughout the process. And on the EU side he is the person with the most to lose if all goes wrong. A failed negotiation that led to a no-deal Brexit would badly damage Mr Barnier, who harbours hopes of being the next president of the European Commission. That should make him the ally of the British, not their enemy, in finding a mutually acceptable deal.

This does not mean there is no point talking to other heads of government, as Mrs May will do at an informal summit in Salzburg next month. Indeed, if Chequers is to have any chance, she must persuade them to soften Mr Barnier's guidelines. It is also true that some countries are more inclined to be kind to Britain than others. But her problem is that the two hardest-liners are France and Germany.

The best way to soften them may be to stress the case for close co-operation in non-economic areas such as domestic security and defence. It is surely not to wave around no-deal threats, attack the European Commission and insist loudly on the indelibility of Britain's red lines.

Q.13

Which one of the following is not true according to the passage?

- 1 A no-deal exit plan will be more catastrophic for Europe than it will be for Britain.
- 2 Mrs. May is really not in a position to be rigid during the Brexit discussions.
- 3 The Chequers plan has a potential to succeed.
- 4 Mr Barnier is likely to support Britain in its quest for a practical solution to Brexit.

Solution:

**Correct Answer: 1** 

**Genre: International Politics** 

Word Count# 618

This is an easy factual question.

Option 1 - Refer to the line: "Yet Brussels knows it would be far worse for

Britain than for the EU." So, option 1 is clearly untrue. The author mentions the same thing in the previous paragraph too.

Option 2 – It is true. Refer to the line "A big problem is that Mrs May and her ministers overestimate their negotiating strength."

Option 3 - Refer to the first paragraph. Then refer to the line, "The government needs to shore up rocky support at home for the Chequers plan by displaying the gory horrors of a no-deal alternative." So, this plan has some merit.

Option 4 – Refer to the lines: "A failed negotiation that led to a no-deal Brexit would badly damage Mr Barnier, who harbours hopes of being the next president of the European Commission. That should make him the ally of the British, not their enemy, in finding a mutually acceptable deal." So, this option is correct too.

FeedBack

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Q.14

Which one of the following can you infer from the last paragraph of the passage?

- 1 Waving around no-deal threats to other member nations of the EU would lead to Britain not receiving any cooperation in the areas of domestic security and defence.
- $2^{\circ}$  Waving around no-deal threats to other member nations of the EU might lead to the Chequers plan not being accepted by the EU.
- 3 Waving around no-deal threats to other member nations of the EU might lead to souring of Britain's relations with France and Germany.
- 4 Waving around no-deal threats to other member nations of the EU would lead the European Commission to soften its guidelines for the Brexit negotiations.

**Solution:** 

**Correct Answer: 2** 

**Genre: International Politics** 

Word Count# 618

This can be answered by eliminating the wrong choices. One needs to focus primarily on the main idea of the last paragraph.

Option 1 – It can't be inferred as no data is given with relation to 'domestic security and defence'. May be the people of the country will still support their government.

Option 2 – This can clearly be inferred from the last paragraph.

Option 3 – The author gives the example of France and Germany in a different context. So, this is an out of scope option.

Option 4 – The paragraph says the exact opposite. Britain can't be rigid in its stance on negotiation.

FeedBack

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Q.15

Which one of the following is an assumption of the author when she says, "A big problem is that Mrs May and her ministers overestimate their negotiating strength"?

- 1 Mrs. May and her ministers don't have a clear idea of their situation in these negotiations.
- 2 Mrs. May and her ministers have made a mistake with Brexit and they are now trying to garner public support for reversing their decision.
- 3 Mrs. May and her ministers' inability to realize the reality of their negotiating position will continue to posit problems in the Brexit negotiation.
- $4 \bigcirc$  The fact that Mrs. May and her ministers do not see their negotiating position clearly will cause the Chequers plan to be rejected by the EU.

**Solution:** 

**Correct Answer: 3** 

**Genre: International Politics** 

Word Count# 618

Assumption questions can be answered by using the negation method. In this question, only option 3 matches the main idea of the passage. If we negate it, the entire argument of the author in favour of negotiating a Brexit deal will fall apart.

The other options are not logical assumptions.

FeedBack

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#### Q.16

Which one of these has not been mentioned as an example for the author's assertion that Britain has ceded ground to the EU?

- 1 The no-deal threats being used as a bargaining tool, despite the clear understanding that it would be worse for Britain than for the EU.
- 2 The wide range of people warning against a no-deal exit from lorry drivers to Irish power suppliers proves how Britain will suffer the most.
- 3 France and Germany are the toughest adversaries who are not being persuaded to soften their position by Mrs. May and her ministers.
- 4 The incorrect and unsuccessful idea of the ministers to try and negotiate directly with more pragmatic national governments.

Solution:

**Correct Answer: 3** 

**Genre: International Politics** 

Word Count# 618

Option 1 - It is mentioned repeatedly in the first three paragraphs.

Option 2 - It is clearly explained in the third paragraph.

Option 3 – The author mentions that these two countries will be tough to persuade. Nowhere is it mentioned that Britain is not trying to negotiate with these two countries. So, it is the correct answer.

Option 4 - Refer to the second and third paragraphs.

FeedBack

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The first concerns growing talk of a no-deal Brexit. Contingency plans from the EU and, this week, from the government confirm how disruptive this would be. They also show Britain suffering the most. Warnings keep mounting against a no-deal exit, from lorry-drivers, NHS trusts, power-suppliers in Northern Ireland and many others. Mr Hunt was right to call the idea a mistake that would be regretted for generations. Yet after criticism he recanted a day later, claiming to have meant that Britain would prosper, but Europe suffer.

This leads to the second diplomatic blunder, using the threat of no deal as a bargaining tool. It is true that neither side wants such a result. Yet Brussels knows it would be far worse for Britain than for the EU. Moreover, European diplomats think the real target of no-deal talk by Mrs May's ministers is domestic. The government needs to shore up rocky support at home for the Chequers plan by displaying the gory horrors of a no-deal alternative.

The third, related, example is repeated attacks on Brussels for an ideological intransigence that pushes towards a no-deal Brexit. Ministers like the tactic of getting around Mr Barnier and his team by negotiating directly with more pragmatic national governments. The notion that any problem London has with the EU can be solved by appealing to Berlin (and Paris) dies hard among British politicians, although it has seldom worked.

It also misses two other key points. Mr Barnier is operating under negotiating guidelines set by national governments, which he has consulted and kept closely informed throughout the process. And on the EU side he is the person with the most to lose if all goes wrong. A failed negotiation that led to a no-deal Brexit would badly damage Mr Barnier, who harbours hopes of being the next president of the European Commission. That should make him the ally of the British, not their enemy, in finding a mutually acceptable deal.

This does not mean there is no point talking to other heads of government, as Mrs May will do at an informal summit in Salzburg next month. Indeed, if Chequers is to have any chance, she must persuade them to soften Mr Barnier's guidelines. It is also true that some countries are more inclined to be kind to Britain than others. But her problem is that the two hardest-liners are France and Germany.

The best way to soften them may be to stress the case for close co-operation in non-economic areas such as domestic security and defence. It is surely not to wave around no-deal threats, attack the European Commission and insist loudly on the indelibility of Britain's red lines.

Q.17 Which one of these is closest to the meaning of the word "intransigence" as used in the passage?	
1 ○ A willingness to meet halfway	
2 ○ Cantankerous debate	
3 ○ Aggressive negotiation tactics	
4 ○ Stubborn lack of compromise	
Solution:	■ Bookmark
Correct Answer : 4	P BOOKIII ar K
Genre: International Politics	م Answer key/Solution
Word Count# 618	,
Option 4 matches the meaning of the given term.	
FeedBack	

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

Less than two months are left until the October European Union summit that was meant to agree upon a Brexit deal. Yet the gap between the two sides remains wide. Theresa May proposed her Chequers plan for future relations only seven weeks ago. That made it wise for Dominic Raab, the Brexit secretary, and Michel Barnier, the European Commission's Brexit point man, to agree in Brussels this week to continuous negotiations. It follows a flurry of diplomacy by Mrs May and her foreign secretary, Jeremy Hunt, aimed at averting too firm an EU rejection of the Chequers plan.

A big problem is that Mrs May and her ministers overestimate their negotiating strength. They have been egged on in this by Brexiteers ever since Michael Gove, now environment secretary, claimed in 2016 that, after a Brexit vote, Britain would "hold all the cards". A glance at the negotiations suggests this was wrong. Britain has slowly but steadily ceded ground to the EU, not the other way round. Three current examples paint a similar picture.

The first concerns growing talk of a no-deal Brexit. Contingency plans from the EU and, this week, from the government confirm how disruptive this would be. They also show Britain suffering the most. Warnings keep mounting against a no-deal exit, from lorry-drivers, NHS trusts, power-suppliers in Northern Ireland and many others. Mr Hunt was right to call the idea a mistake that would be regretted for generations. Yet after criticism he recanted a day later, claiming to have meant that Britain would prosper, but Europe suffer.

This leads to the second diplomatic blunder, using the threat of no deal as a bargaining tool. It is true that neither side wants such a result. Yet Brussels knows it would be far worse for Britain than for the EU. Moreover, European diplomats think the real target of no-deal talk by Mrs May's ministers is domestic. The government needs to shore up rocky support at home for the Chequers plan by displaying the gory horrors of a no-deal alternative.

The third, related, example is repeated attacks on Brussels for an ideological intransigence that pushes towards a no-deal Brexit. Ministers like the tactic of getting around Mr Barnier and his team by negotiating directly with more pragmatic national governments. The notion that any problem London has with the EU can be solved by appealing to Berlin (and Paris) dies hard among British politicians, although it has seldom worked.

It also misses two other key points. Mr Barnier is operating under negotiating guidelines set by national governments, which he has consulted and kept closely informed throughout the process. And on the EU side he is the person with the most to lose if all goes wrong. A failed negotiation that led to a no-deal Brexit would badly damage Mr Barnier, who harbours hopes of being the next president of the European Commission. That should make him the ally of the British, not their enemy, in finding a mutually acceptable deal.

This does not mean there is no point talking to other heads of government, as Mrs May will do at an informal summit in Salzburg next month. Indeed, if Chequers is to have any chance, she must persuade them to soften Mr Barnier's guidelines. It is also true that some countries are more inclined to be kind to Britain than others. But her problem is that the two hardest-liners are France and Germany.

The best way to soften them may be to stress the case for close co-operation in non-economic areas such as domestic security and defence. It is surely not to wave around no-deal threats, attack the European Commission and insist loudly on the indelibility of Britain's red lines.

0.18

Which one of these is an inference that can be drawn from the author's argument in Para 4?

- 1 The real aim of the no-deal exit threat is more diplomatic than tactical.
- 2 The reason Mrs. May's ministers are so rigid about the no-deal exit is their innate awareness of it being their last resort.
- 3 Mrs. May's ministers are using the no-deal threats to scare the domestic population into supporting the Chequers plan.

**■** Bookmark

Answer key/Solution

4 At the heart of the no-deal exit threat lies a fear of losing the domestic political support.

Solution:

**Correct Answer: 4** 

**Genre: International Politics** 

Word Count# 618

Option 1 - "More diplomatic than tactical' is wrong. It is the other way round.

The politicians who tout this attitude are actually trying to retain their

domestic support base.

Option 2 – 'It being their last resort' makes this an extreme option.

Option 3 – They are not trying to 'scare' the population. It is not factually supported by the paragraph.

Option 4 – It is the main idea of the entire paragraph. Hence, it is the correct answer.

FeedBack

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

I have already related to you with what care they look after their sick, so that nothing is left undone which may contribute either to their health or ease. And as for those who are afflicted with incurable disorders, they use all possible means of cherishing them, and of making their lives as comfortable as possible; they visit them often, and take great pains to make their time pass easily. But if any have torturing, lingering pain, without hope of recovery or ease, the priests and magistrates repair to them and exhort them, since they are unable to proceed with the business of life, are become a burden to themselves and all about them, and have in reality outlived themselves, they should no longer cherish a rooted disease, but choose to die since they cannot live but in great misery; being persuaded, if they thus deliver themselves from torture, or allow others to do it, they shall be happy after death. Since they forfeit none of the pleasures, but only the troubles of life by this, they think they not only act reasonably, but consistently with religion; for they follow the advice of their priests, the expounders of God's will.

Those who are wrought upon by these persuasions, either starve themselves or take laudanum. But no one is compelled to end his life thus; and if they cannot be persuaded to it, the former care and attendance on them is continued. And though they esteem a voluntary death, when chosen on such authority, to be very honourable, on the contrary, if any one commits suicide without the concurrence of the priests and senate, they honour not the body with a decent funeral, but throw it into a ditch.

Q.19

Which of the following is true according to the passage?

This is a tough to read passage. What the author is trying to say is that under what conditions euthanasia should be allowed in a society. He gives some reasons and explanations for that.

Option 1 – Refer to the line: "But if any have torturing, lingering pain, without hope of recovery or ease, the priests and magistrates repair to them and exhort them, since they are unable to proceed with the business of life,..." What the author means is that for a terminally ill patient, the magistrate or priest should not try to exhort them. They should try to help them in other means i.e. by supporting euthanasia.

Option 2 – Refer to the line: "Since they forfeit none of the pleasures, but only the troubles of life by this, they think they not only act reasonably..." So, this option is correct.

Option 3 – This paragraph is not about every society. The author doesn't talk about how a society should behave towards sick people. So, it is an alien option.

Option 4 - This is wrong. There is no mention of 'honourable practice' in the passage.

FeedBack

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

I have already related to you with what care they look after their sick, so that nothing is left undone which may contribute either to their health or ease. And as for those who are afflicted with incurable disorders, they use all possible means of cherishing them, and of making their lives as comfortable as possible; they visit them often, and take great pains to make their time pass easily. But if any have torturing, lingering pain, without hope of recovery or ease, the priests and magistrates repair to them and exhort them, since they are unable to proceed with the business of life, are become a burden to themselves and all about them, and have in reality outlived themselves, they should no longer cherish a rooted disease, but choose to die since they cannot live but in great misery; being persuaded, if they thus deliver themselves from torture, or allow others to do it, they shall be happy after death. Since they forfeit none of the pleasures, but only the troubles of life by this, they think they not only act reasonably, but consistently with religion; for they follow the advice of their priests, the expounders of God's will.

Those who are wrought upon by these persuasions, either starve themselves or take laudanum. But no one is compelled to end his life thus; and if they cannot be persuaded to it, the former care and attendance on them is continued. And though they esteem a voluntary death, when chosen on such authority, to be very honourable, on the contrary, if any one commits suicide without the concurrence of the priests and senate, they honour not the body with a decent funeral, but throw it into a ditch.

Under which circumstance is voluntary suicide not acceptable according to the passage?

1 When there is not enough persuasion by priests and magistrates

2 When suicide is done by either starvation or the consumption of laudanum

3 When suicide is not done according to the guidelines set by the religious texts

4 When suicide is done without proper permission from authorities

Solution:

Correct Apswer: 4

Answer key/Solution

Correct Answer : 4
Genre: Sociology / Ethics

Word Count# 288

Refer to the last line of the passage: "if any one commits suicide without the concurrence of the priests and senate, they honour not the body with a decent funeral, but throw it into a ditch." Option 4 is the clear answer.

Option 1 – It is misleading. The line talks about people who don't listen to such persuasions.

Option 2 – It is just a literal interpretation of the first line of the last paragraph. The author mentions this as an example.

Option 3 - 'Religious texts' is an alien phrase in this context.

FeedBack

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

I have already related to you with what care they look after their sick, so that nothing is left undone which may contribute either to their health or ease. And as for those who are afflicted with incurable disorders, they use all possible means of cherishing them, and of making their lives as comfortable as possible; they visit them often, and take great pains to make their time pass easily. But if any have torturing, lingering pain, without hope of recovery or ease, the priests and magistrates repair to them and exhort them, since they are unable to proceed with the business of life, are become a burden to themselves and all about them, and have in reality outlived themselves, they should no longer cherish a rooted disease, but choose to die since they cannot live but in great misery; being persuaded, if they thus deliver themselves from torture, or allow others to do it, they shall be happy after death. Since they forfeit none of the pleasures, but only the troubles of life by this, they think they not only act reasonably, but consistently with religion; for they follow the advice of their priests, the expounders of God's will.

Those who are wrought upon by these persuasions, either starve themselves or take laudanum. But no one is compelled to end his life thus; and if they cannot be persuaded to it, the former care and attendance on them is continued. And though they esteem a voluntary death, when chosen on such authority, to be very honourable, on the contrary, if any one commits suicide without the concurrence of the priests and senate, they honour not the body with a decent funeral, but throw it into a ditch.

0.21

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

1 O To discuss and debate the merits of voluntary suicide

2 To present a strong case for supporting voluntary suicide
3 To show the conditions under which voluntary death is acceptable
4 To analyse the pros and cons of euthanasia

Solution:
Correct Answer: 3

Answer key/Solution

Genre: Sociology / Ethics
Word Count# 288

This is a tough to read passage. What the author is trying to say is that under what conditions euthanasia should be allowed in a society. He gives some reasons and explanations for that.

Option 1 - Voluntary suicide is not the correct expression. The passage talks about only the terminally ill.

Option 2 - Same logic as above. The passage doesn't advocate voluntary suicide for all.

Option 3 – It is the correct answer.

Option 4 - The author doesn't analyse the cons of euthanasia.

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

In Northern Europe, this summer feels like a modern-day version of the biblical plagues. Cows are dying of thirst in Switzerland, fires are gobbling up timber in Sweden, the majestic Dachstein glacier is melting in Austria.

In London, stores are running out of fans and air-conditioners. In Greenland, an iceberg may break off a piece so large that it could trigger a tsunami that destroys settlements on shore. Last week, Sweden's highest peak, Kebnekaise mountain, no longer was in first place after its glacier tip melted.

Southern Europe is even hotter. Temperatures in Spain and Portugal are expected to reach 37.7-43 degrees Celsius this weekend.

But in the northernmost latitudes, where the climate is warming faster than the global average, temperatures have been the most extreme, according to a study by researchers at Oxford University and the World Weather Attribution network.

By analysing data from seven weather stations in northern Europe, the researchers found that the closer a community is to the Arctic Circle, the more this summer's heat stood out in the temperature record. A number of cities and towns in Norway, Sweden and Finland hit all-time highs this summer, with towns as far north as the Arctic Circle recording nearly 32-degree temperatures.

Not only is much of northern and western Europe hotter than normal, but the weather is also more erratic. Torrential rains and violent thunderstorms have alternated with droughts in parts of France.

In the Netherlands, a drought - rather than the rising seas - is hurting its system of dikes because there is not enough fresh water countering the seawater.

The preliminary results of the Oxford study found that, in some places, climate change more than doubled the likelihood of this summer's European heat wave.

Temperatures that used to be seen as outliers - like those in the summer of 2003 when at least 70,000 people died across Europe - will become "the norm for summer" after 2060, said Jean Jouzel, who was vice -chairman of the Intergovernmental Panel on Climate Change in 2007 when it won the Nobel Prize.

## Q.22 Which of the following is true in the light of the given passage? 1 Global warming trends have a tendency to subside after a few years. 2 The way Europe is warming up, the exceptions of climate will become the rules. 3 Although heat is on the rise, European weather pattern is more or less stable. 4 Extreme heat across Europe was a natural occurrence before too.

Solution:

**Correct Answer: 2** 

**Genre: Environmental Studies** 

Word Count# 344

In the passage it is stated that, 'Temperatures that used to be seen as outliers

- like those in the summer of 2003 when at least 70,000 people died across

Europe - will become "the norm for summer" after 2060, said Jean Jouzel,'. The other options cannot be verified from the data provided.

FeedBack

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

In Northern Europe, this summer feels like a modern-day version of the biblical plagues. Cows are dying of thirst in Switzerland, fires are gobbling up timber in Sweden, the majestic Dachstein glacier is melting in Austria.

In London, stores are running out of fans and air-conditioners. In Greenland, an iceberg may break off a piece so large that it could trigger a tsunami that destroys settlements on shore. Last week, Sweden's highest peak, Kebnekaise mountain, no longer was in first place after its glacier tip melted.

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Q.23

As per the passage, what can be inferred about 'biblical plagues'?

**■** Bookmark

Answer key/Solution

1 It led to the death of a lot of cows during its peak.
2 It led to catastrophic fires during its impact period.
3 It led to the melting of a lot of important glaciers.
4 It led to a variety of ecological disasters during its time.

Solution:
Correct Answer: 4
Genre: Environmental Studies
Word Count# 344

Clearly, the author writes the first line in a metaphorical sense. The events of today are mentioned to draw a parallel with the Biblical events. Hence, option

4 is the correct answer. The other options are too literal to be inferred from the passage.

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

In Northern Europe, this summer feels like a modern-day version of the biblical plagues. Cows are dying of thirst in Switzerland, fires are gobbling up timber in Sweden, the majestic Dachstein glacier is melting in Austria.

In London, stores are running out of fans and air-conditioners. In Greenland, an iceberg may break off a piece so large that it could trigger a tsunami that destroys settlements on shore. Last week, Sweden's highest peak, Kebnekaise mountain, no longer was in first place after its glacier tip melted.

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# Q.24 What is the purpose of the first two paragraphs? 1 To highlight the grave consequences of climate change 2 To provide a vision of impending doom by providing Biblical accounts 3 To show how our sense of belonging is threatened by climate change 4 To help Europeans get a perspective regarding how heat is dangerous

Solution:

**Correct Answer: 1** 

**Genre: Environmental Studies** 

Word Count# 344

The passage talks of global warming and climate change and the first two paragraphs indirectly, via examples, highlight the predicament that Europeans are facing.

Option 2 is too literal. Same is the case for 3.

4 talks about heat whereas the paragraphs talk about climate change.

FeedBack

### Q.25

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

What exactly is deconstruction, and why has it become so influential in American literary criticism while largely ignored by American philosophers? I think if you asked most practicing deconstructionists for a definition they would not only be unable to provide one, but also would regard the very request as a manifestation of that "logocentrism" which it is one of the aims of deconstruction to, well, deconstruct. By "logocentrism" they mean roughly the concern with truth, rationality, logic, and "the word" that marks the Western philosophical tradition.

- 1. Deconstruction as a critical apparatus defies meaning because it is not even understood by the practitioners.
- 2. Deconstruction as a theory of criticism is anarchic in its stance.
- 3. Deconstruction as a critical method is primarily seen as an attempt to separate literature from philosophy and logocentrism.
- 4. Deconstruction as a critical tool strives to break free from certain traditional labels such as logocentrism.

### Solution:

**Correct Answer: 4** 

The passage talks about how deconstruction is a term which very hard to define and loosely it is a stance against "logocentrism"; a key concept in traditional Western philosophy. So, option 4 is the correct answer.

Option 1 – 'Defies meaning' is not correct. The concept defies traditional definitions. So, this is an incorrect answer.

Option 2 - It is too narrow.

Option 3 – It is again too narrow and it doesn't mention the main idea i.e. the problem with defining deconstruction.

FeedBack

**■** Bookmark

Answer key/Solution

**■** Bookmark

Answer key/Solution

### Q.26

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

Some parents urge their children to be the best in everything they do. They push them to be the best athlete, and the best scholar, and the best musician, and so on. Other parents urge their children to pursue whatever they are best at, whether it be athletics, academics or music. Some parents push their children to try their best. Still others try hard not to push their children to be the best, or even to try to be their best, because they worry about the psychological damage that such messages might cause. But most parents love their children, and however they raise them, they are trying the best they can on their behalf.

- 1. Most parents genuinely want what is best for their children they just have different conceptions of what that requires.
- 2. Parents push their children to be the best in everything they do or everything they try but they are not sure what works for the child.
- 3. Some parents worry about the psychological damage that pushing too hard can have over the child while some of them want their child to be the best in everything they try.
- 4. Most parents genuinely love their children and they want them to be the best scholar, musician or athlete.

### Solution:

**Correct Answer: 1** 

The author in this paragraph gives the different examples to mainly show that parents love their children and want the best for them. So, option 1 is the correct answer.

**■** Bookmark

Answer key/Solution

Option 2 – This is a distorted option. It also misses the fact that parents may not be sure (not definitely not sure) but they try and they love their children. Some parents also don't pressurise their children.

Option 3 - It just reiterates two examples given in the paragraph. It misses the main point.

Option 4 – It is again incomplete. It only covers the first two lines of the paragraph.

### 0.27

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

Many of us have heard the Gyuto Monks of Tibet. With their extraordinary chanting and low throaty drone of ancient sacred texts, they have kept audiences in the West spellbound with their long, careful and accurate recitations of potent Tibetan Buddhist texts. Sitting in their presence you feel a clarity, and a potent spiritual transference of energy and healing. The Buddhist tradition stems from India and the sacred language of Sanskrit. While Tibetan Buddhists have a rich chanting tradition, in India, this age-old tradition goes back even further.

- 1. The Gyuto monks of Tibet chant Vedic texts of Sanskrit origin which gives a clear and potent message.
- 2. The Buddhist tradition of chanting sacred texts is long, careful and accurate; the Gyuto tradition is mesmerizing.
- 3. The Gyuto style of chanting ancient, sacred text is impressive; the Buddhist tradition has some Indian roots
- 4. The Gyuto monks of Tibet chant a Buddhist sacred text which is clear and accurate and stems from the Sanskrit language.

### Solution:

**Correct Answer: 3** 

Option 1 - It is wrong as Buddhist monks do not chant Vedic text of Sanskrit origin.

**■** Bookmark

Answer key/Solution

Option 2 – It is wrong as the tradition is not long careful and accurate. It's their rendition which is described as being so.

Option 3 is the correct summary.

Option 4 – It is wrong as it says the text is clear and accurate which is wrong. Their chanting is clear and accurate.

FeedBack

### Q.28

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

- 1. The hero who, despite their hideous impairment, was able to get into the Paralympics.
- 2. It's, thus, all about the hero and pity narrative.
- 3. Never about the disability rights narrative.
- 4. It's represented through a lens of pity, or stories about overcoming the odds.
- 5. Disability is never represented from a human rights perspective.

Solution:

**Correct Answer: 54123** 

5 is clearly the opening sentence.

5 and 4 create a mandatory pair. 'It's represented' refers to 'Disability' in 5.

1 is an example of the idea mentioned in 4. So, 1 will come next.

2 and 3 come next. 3 adds to the idea mentioned in 2. And both these sentences provide a conclusion to the paragraph.

FeedBack

**■** Bookmark

Answer key/Solution

### 0.29

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

- 1. The sources the Grimms depended on were both oral and literary.
- 2. Two of the finest, "The Fisherman and His Wife" and "The Juniper Tree", were sent to them in written form by the painter Philipp Otto Runge, and reproduced by the Grimms in the Low German dialect Runge wrote them in.
- 3. After two hundred years, it's impossible to say how exact their transcriptions were, but the same is true of any collection of folk tales or songs before the age of tape recording.
- 4. Much of the rest came in oral form from people at various levels of the middle class, including family friends.
- 5. One thing they did not do was walk the countryside, seeking out peasants in their fields and cottages and taking down their stories word by word. Some of their tales were taken directly from literary sources.

Solution:

**Correct Answer: 15243** 

The main idea of the paragraph is the source of the Grimms. So, 1 introduces the topic.

As 1 talks about the source, 5 comes next as it raises a counter point. It clearly shows what the Grimms didn't do. It also adds another possible source to the list.

'Two of the finest' in 2 refers to the source mentioned in 5. So, 152 become a mandatory sequence.

'Two...much of the rest' makes 2 and 4 a mandatory pair.

3 comes last in the narration.

FeedBack

**■** Bookmark

Answer key/Solution

Q.30

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

- 1. If you are religious you understand that basic human desire in religious terms; if not then you still have the same desire but you will see it only as achievable through other forms of secular progressive hope.
- 2. Future social cohesion requires fidelity to uncertainty, not certainty.
- 3. Either way, in the words of George Michael, you gotta have faith and probably a good dollop of hope and charity, too.
- 4. If all that is solid has melted into air then, in the apparent death of any other convincing collective belief, religion has rushed in to fill the role of laying the ground for something different, something better, something solid once again.

**■** Bookmark

Answer key/Solution

5. But all of them are equally uncertain and none yet existent.

### Solution:

**Correct Answer: 24153** 

2 opens the paragraph by describing the main topic – future social cohesion.

2 and 4 is a mandatory pair - 4 explains the concept of uncertainty raised in 2.

1 gives a counter point to 4.

5 with 'all of them' comes after 2 and 4.

3 is the last sentence as it talks about a concession with 'either way'.

FeedBack

### Q.31

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

- 1. Soil microbes were a major source of novel antibiotics until culturable sources were exhausted by the 1960s as resistance to them arose.
- 2. The new drug acts on gram-positive bacteria, a class that includes Clostridium difficile (inflammatory bowel disease) and Staphylococcus aureus (staph infection).
- 3. Teixobactin, a compound isolated from a soil microbe, could be the first major antibiotic breakthrough since the 1980s.
- 4. The antibiotic destroys the cell wall by targeting a lipid (fatty molecule) in its structure, rather than proteins targeted by antibiotics such as penicillin.
- 5. A recently developed technique called the iChip enabled researchers to grow and screen some of the unexplored bacteria that cannot be cultured conventionally.

### Solution:

**Correct Answer: 31524** 

3 introduces the main topic of the paragraph - Teixobactin.

31 is a pair - 'The novel antibiotics' refers to 3.

5 gives a recent development to the point raised in 1.

'The new drug' in 2 refers to the development mentioned in 5. 4 adds to 2. So, the correct sequence is 31524.

FeedBack

### **■** Bookmark

Answer key/Solution

### 0.32

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

- 1. In black and white frames they showed ordinary girls of a metro city who appear every morning briskly on footpaths, having finished their daily home chores, carrying their lunches, catching buses, entering the local train stations, ready to start the day behind typewriters, files and telephone wires.
- 2. Girls in cotton saris, shalwar kameez, skirts and scarves; 11000 girls to whom the writer director K A Abbas and the poet Ali Sardar Jafri raised a toast.
- 3. I am thinking of two men who more than half a century ago celebrated women's day by making a film about the working girls of Bombay called Gyarah Hazaar Ladkian.
- 4. Even today, Abbas's women Bholi, Sylvia and Teen Aurtein rise like phoenixes from their own ashes.
- 5. This combined venture of the two fared as badly at the box office as most of Abbas's films did in those early Bollywood days.

### **Solution:**

**Correct Answer: 4** 

The correct sequence is 3125. 3 opens the paragraph as it introduces the topic- the author thinking about the two men who made a movie on working women in Bombay. Next, 1 and 2 create a mandatory pair by stating what

Abbas and Jafri had depicted in the movie. 5 follows next as it mention 'two',

which is a reference to Abbas and Jafri. 4 is the odd sentence out as it has no connection to other sentences in the paragraph. It is probably about three women characters of Abbas's movies, about which we know nothing.

FeedBack

**■** Bookmark

Answer key/Solution

### 0.33

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

- 1. One of the most revolutionary social reforms of the Jacobin regime was the abolition of slavery in the French colonies.
- 2. But the reluctance of Europeans to go and work in distant and unfamiliar lands meant a shortage of labour on the plantations.
- 3. The fall of the Jacobin government allowed the wealthier middle classes to seize power.
- 4. The colonies in the Caribbean Martinique, Guadeloupe and San Domingo were important suppliers of commodities such as tobacco, indigo, sugar and coffee.
- 5. The slave trade began in the seventeenth century.

### Solution:

**Correct Answer: 3** 

All the other sentences talk about the slave trade. The correct order is 1425. 3 talks about 'the fall of the government." So, it is the odd one out.

■ Bookmark

Answer key/Solution

FeedBack

### Q.34

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

- 1. "Air rage" or sudden and violent behaviour by a passenger affecting those who work on flights or associated people is a menace that has led to civil aviation authorities issuing strict guidelines on deterrence and punishment for those responsible for such acts.
- 2. In 2015, all the flights travelling from Delhi to Goa were cancelled.
- 3. In India, while the laws on unruly and disruptive behaviour in an airliner are clear, they are difficult to enforce when the perpetrators take the cover of their positions of power.
- 4. The Air India cabin crew had its task cut out but handled the incident well as can be gleaned from raw video images of what transpired on March 23.
- 5. The outrageous conduct of Ravindra Gaikwad, the Member of Parliament from Osmanabad who belongs to the Shiv Sena, with Air India staff after seeking a business class seat in an all-economy flight from Pune to Delhi, required more than just a legal response by the airline.

### Solution:

**Correct Answer: 2** 

Other than sentence 2, the given paragraph if arranged sequentially talks about stricter actions which should be taken against anyone irrespective of their power status if they misbehave with those who work on flights. 2 on the other hand talks about airlines but is not directly connected to the remaining sentences of the paragraph.

■ Bookmark

Answer key/Solution

Aman, a shopkeeper who had a fashion mart, decided to shut it down to move into some new business, and therefore put all its stock on Stock Clearance Sale. But when the sale had ended, he noticed that he was still left with some stock and hence decided to sell them on very cheap prices to his five friends - Ajay, Bhanu, Chetan, Divya and Eshaan.

The stock, Aman left with, which he sold to his five friends is written below, with the prices at which he sold these things among his five friends.

- 1. 13 T-shirts at their price ranging from Rs.300 to Rs.500 per T-shirt.
- 2. 10 caps at Rs. 20 per cap.
- 3. 14 pairs of shoes at Rs. 1650 per pair.
- 4. Some perfume bottles, not more than 12, at Rs.800 per bottle.

### Further, it is known that

- 1. All friends bought at least 2 pieces of each of the four mentioned things, except perfume bottles, but it is known that they all bought at least 1 perfume bottle.
- 2. No one bought more than 11 pieces in total and none of them spent more than Rs.8000 to buy these things.

### 0.35

What could be the minimum amount (in Rs.) spent by one of the friends of Aman?

Solution:
Correct Answer : 4740

Bookmark

Answer key/Solution

The minimum number of things to be bought by each friend is 2 t-shirts, 2 caps, 2 pairs of shoes and 1 perfume. Therefore, the minimum amount spent by one of the friends of Aman will be when that friend will buy exactly 7 definite items and buy 2 t shirts at the minimum price possible that is 300.

∴ (300 × 2) + (20 × 2) + (1650 × 2) + 800 = 4740, can be the minimum amount spent.

Aman, a shopkeeper who had a fashion mart, decided to shut it down to move into some new business, and therefore put all its stock on Stock Clearance Sale. But when the sale had ended, he noticed that he was still left with some stock and hence decided to sell them on very cheap prices to his five friends - Ajay, Bhanu, Chetan, Divya and Eshaan.

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### Further, it is known that

- 1. All friends bought at least 2 pieces of each of the four mentioned things, except perfume bottles, but it is known that they all bought at least 1 perfume bottle.
- 2. No one bought more than 11 pieces in total and none of them spent more than Rs.8000 to buy these things.

### 0.36

Had the upper limit of the total expense of Rs. 8000 was not there, then the maximum amount (in Rs.) spent by one of the friends of Aman was how much more than the maximum amount (in Rs.) spent by that friend with that limit of Rs.8000?

Solution:
Correct Answer : 3740

Bookmark

Answer key/Solution

If the upper limit of Rs. 800 not there, then, a friend of Aman could buy maximum of 11 things. To make the price maximum he will buy maximum number of pairs of shoes and perfume since they are the expensive of all along with the 7 definite numbers of items to be purchased.

11 things that could be bought by a friend to make the price maximum is 2 caps, 2 t-shirts at the price of 500 each, 6 pair of shoes, 1 perfumes, and the corresponding total price of all these things will be: Rs.11740. Now with the bar of Rs.8000, the maximum price possible is Rs.8000:

2 caps (Rs. 40) + 3 pair of shoes (Rs. 3300) + 3 perfume (Rs. 2400) + 2 tshirts (Rs. 305) = 8000 (Note: Other combinations leading to the sum of 8000 might be possible, this one illustration of the amount leading to 8000 is shown to tell that it is possible).

∴ Rs.11740 - Rs 8000 = Rs. 3740

Aman, a shopkeeper who had a fashion mart, decided to shut it down to move into some new business, and therefore put all its stock on Stock Clearance Sale. But when the sale had ended, he noticed that he was still left with some stock and hence decided to sell them on very cheap prices to his five friends - Ajay, Bhanu, Chetan, Divya and Eshaan.

The stock, Aman left with, which he sold to his five friends is written below, with the prices at which he sold these things among his five friends.

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- 2. 10 caps at Rs. 20 per cap.
- 3. 14 pairs of shoes at Rs. 1650 per pair.
- 4. Some perfume bottles, not more than 12, at Rs.800 per bottle.

### Further, it is known that

- 1. All friends bought at least 2 pieces of each of the four mentioned things, except perfume bottles, but it is known that they all bought at least 1 perfume bottle.
- 2. No one bought more than 11 pieces in total and none of them spent more than Rs.8000 to buy these things.

### 0.37

If Ajay bought exactly 10 items and spent the maximum possible amount, then maximum how much did he spend (in Rs.) on buying T-shirts?

Solution:
Correct Answer : 1410

Bookmark

Answer key/Solution

Now with the bar of Rs.8000, the maximum price possible is Rs.8000:

2 caps (Rs. 40) + 3 pair of shoes (Rs. 3300) + 3 perfume (Rs. 2400) + 2 t-shirts (Rs. 305) = 8000 (Note: Other combinations leading to the sum of 8000 might be possible, this one illustration of the amount leading to 8000 is shown to tell that it is possible).

Here, note that the number of items bought is 10, but now we need to maximize the price of the t-shirts. 2 caps (Rs. 40) + 3 pair of shoes (Rs. 3300) + 2 perfume (Rs. 1600) + 3 t-shirts (Rs. 1410) = 8000, therefore, the maximum amount on buying t shirts could be Rs. 1410.

Aman, a shopkeeper who had a fashion mart, decided to shut it down to move into some new business, and therefore put all its stock on Stock Clearance Sale. But when the sale had ended, he noticed that he was still left with some stock and hence decided to sell them on very cheap prices to his five friends - Ajay, Bhanu, Chetan, Divya and Eshaan.

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- 3. 14 pairs of shoes at Rs. 1650 per pair.
- 4. Some perfume bottles, not more than 12, at Rs.800 per bottle.

### Further, it is known that

- 1. All friends bought at least 2 pieces of each of the four mentioned things, except perfume bottles, but it is known that they all bought at least 1 perfume bottle.
- 2. No one bought more than 11 pieces in total and none of them spent more than Rs.8000 to buy these things.

### Q.38

If the total pieces bought by each of the five friends are in an Arithmetic Progression (AP) having distinct terms and also the stock of Aman's fashion mart was left with no piece of any item, then what is the minimum possible average (in Rs.) of the amount spent by all of them?

Solution:
Correct Answer : 6720

Bookmark

Answer key/Solution

To find out the minimum possible average of the amount spent by all of them:

Since, the minimum number of items to be bought by a friend of Aman is 7, therefore the minimum AP that could be formed by taking the common difference 1 is: 7, 8, 9, 10, and 11.

Total number of things must be: 7 + 8 + 9 + 10 + 11 = 45, therefore the perfumes should be 8 in number. Now to make the average minimum:

Aja	ıy	Bhar	nu	Chetan		Divya		Eshaan	
2 caps	40								
2 shirts	300 × 2	5 shirts	300 × 5						
2 pair of shoes	1650 × 2	3 pair of shoes	1650 × 3	4 pair of shoes	1650 × 4	3 pair of shoes	1650 × 3	2 pair of shoes	1650 × 2
1 perfume	800	1 perfume	800	1 perfume	800	3 perfume	800 × 3	2 perfume	800 × 2
7	4740	8	6390	9	8040	10	7990	11	6440

Average amount is:  $\frac{(4740 + 6390 + 8040 + 7990 + 6440)}{5} = 6720.$ 

Aamdaam Company is planning to hire system analysts. The conditions for candidates to apply for the post are:

- i. Must be an engineering graduate with specialization in Computer/IT and must have obtained at least 60% marks
- ii. Must have working experience in the field of IT for a minimum of 2 years after obtaining required qualification
- iii. Must be a minimum of 25 years of age and not more than 35 years of age as on 01-12-2017
- iv. Must be prepared to sign a bond for Rs. 50,000
- v. Must have secured at least 55% marks in the selection test

However, if the candidate satisfies all other requisites except:

- A. The point (i), and if the candidate is an Electronics Engineers with a minimum of 65% marks, then he would be referred to the General Manager - IT.
- B. The point (iv), and if the candidate has a working experience of a minimum of 5 years as a Software Manager, then he would be referred to the Vice President

In the questions given below, detailed information about a few candidates is provided. Go through the information carefully in each situation and select the most suitable options on the basis of the information and the terms and conditions mentioned above. The situations provided are as per the company norms with effect from 01-12-2017.

Q.39

Amla Sunder is an IT Engineer who has acquired 60% marks at graduation and the selection test. He has a working experience of 3 years as a Software Engineer after the completion of his engineering degree. He has completed 27 years of age. He is also ready to sign the bond of Rs. 50,000 as mentioned by the company.

1 The candidate is to be referred to the Vice President 2 The candidate is to be referred to the General Manager - IT 3 The candidate must be selected 4 The candidate must be rejected Solution: **■** Bookmark Correct Answer: 3

Justification: The candidate Amla Sunder satisfies all the 5 conditions specified to apply for the post, hence he must be selected. He is an IT engineer who has acquired 60% marks at graduation. He has a working experience in the field of IT for 3 years and is ready to sign the bond.

Answer key/Solution

Aamdaam Company is planning to hire system analysts. The conditions for candidates to apply for the post are:

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- iv. Must be prepared to sign a bond for Rs. 50,000
- v. Must have secured at least 55% marks in the selection test

However, if the candidate satisfies all other requisites except:

- A. The point (i), and if the candidate is an Electronics Engineers with a minimum of 65% marks, then he would be referred to the General Manager IT.
- B. The point (iv), and if the candidate has a working experience of a minimum of 5 years as a Software Manager, then he would be referred to the Vice President

In the questions given below, detailed information about a few candidates is provided. Go through the information carefully in each situation and select the most suitable options on the basis of the information and the terms and conditions mentioned above. The situations provided are as per the company norms with effect from 01-12-2017.

### Q.40

Manglu Reddy is a Computer Engineer graduate and after that working as a Software Manager for the last 7 years. He has secured 62 percent marks at graduation and 67 percentage marks in the company's selection test. His date of birth as mentioned in the application is 05-12- 1988. He is not prepared to sign the bond for Rs. 50,000.

- 1 The candidate is to be referred to the Vice President
  2 The candidate is to be referred to the General Manager IT
- 3 The candidate must be selected
- 4 The candidate must be rejected

### Solution:

**Correct Answer: 1** 

Justification: Manglu Reddy satisfies condition (A) instead of (iv), therefore, he must be referred to the Vice President. He has a working experience of a minimum of 5 years as a Software Manager, but he is not willing to sign the bond as stated by the company. Therefore, he must be referred to the Vice President.

FeedBack

**■** Bookmark

Answer key/Solution

Aamdaam Company is planning to hire system analysts. The conditions for candidates to apply for the post are:

- i. Must be an engineering graduate with specialization in Computer/IT and must have obtained at least 60% marks
- ii. Must have working experience in the field of IT for a minimum of 2 years after obtaining required qualification
- iii. Must be a minimum of 25 years of age and not more than 35 years of age as on 01-12-2017
- iv. Must be prepared to sign a bond for Rs. 50,000
- v. Must have secured at least 55% marks in the selection test

However, if the candidate satisfies all other requisites except:

- A. The point (i), and if the candidate is an Electronics Engineers with a minimum of 65% marks, then he would be referred to the General Manager IT.
- B. The point (iv), and if the candidate has a working experience of a minimum of 5 years as a Software Manager, then he would be referred to the Vice President

In the questions given below, detailed information about a few candidates is provided. Go through the information carefully in each situation and select the most suitable options on the basis of the information and the terms and conditions mentioned above. The situations provided are as per the company norms with effect from 01-12-2017.

### Q.41

Ranga Swamy is an Electronics Engineer. He completed his graduation in June 2014 at the age of 22 years. Ever since, he is working for a software company as a programmer. He scored 66% marks in the selection and is ready to sign the bond as mentioned by the company.

1 O The candidate is to be referred to the Vice President	
2 O The candidate must be selected	
3 ○ The candidate must be rejected	
4 O Insufficient data to come to any conclusion	
Solution:  Correct Answer: 4  Justification: The percentage of marks scored by Ranga in graduation has not been mentioned. According to the given conditions, a candidate must	■ Bookmark  Answer key/Solution
necessarily satisfy all of them. Therefore, data is not sufficient to come to any	

FeedBack

conclusion.

Aamdaam Company is planning to hire system analysts. The conditions for candidates to apply for the post are:

- i. Must be an engineering graduate with specialization in Computer/IT and must have obtained at least 60% marks
- ii. Must have working experience in the field of IT for a minimum of 2 years after obtaining required qualification
- iii. Must be a minimum of 25 years of age and not more than 35 years of age as on 01-12-2017
- iv. Must be prepared to sign a bond for Rs. 50,000
- v. Must have secured at least 55% marks in the selection test

However, if the candidate satisfies all other requisites except:

- A. The point (i), and if the candidate is an Electronics Engineers with a minimum of 65% marks, then he would be referred to the General Manager IT.
- B. The point (iv), and if the candidate has a working experience of a minimum of 5 years as a Software Manager, then he would be referred to the Vice President

In the questions given below, detailed information about a few candidates is provided. Go through the information carefully in each situation and select the most suitable options on the basis of the information and the terms and conditions mentioned above. The situations provided are as per the company norms with effect from 01-12-2017.

Q.42

Bimla Rani is an engineer who scored 72% marks in electronics engineering. She has recently completed 27 years of age. She scored 59% marks in the selection test and is ready to sign the bond.

- 1 The candidate is to be referred to the Vice President
- 2 The candidate is to be referred to the General Manager IT
- 3 The candidate must be selected
- 4 The candidate must be rejected

### Solution:

**Correct Answer: 4** 

Justification: According to the given condition, the candidate must be an engineering graduate with specialization in Computer/IT and must have obtained at least 60% marks and she must have working experience in the field of IT for a minimum of 2 years. In the given situation, Bimla is an Electronics Engineer with no work experience, so she must be rejected.

FeedBack



Answer key/Solution

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

A Hockey tournament was played, for both the men's team and the women's team, in 2017 in which Australia (Aus), India (Ind), South Africa (SA) and New Zealand (NZ) took part. Men's team of a country played against only men's team of other countries, and the same was true for women's team. Australian

teams were involved in all the matches that were played.

Matches played by an Australian team were in triplets, in which their first match was played against India, then next against South Africa and the third against New Zealand. Once the first triplet was over the process was repeated with the same order of teams in the next triplet and so on. In every match, each team scored either 3 goals or 4 goals.

The net goals scored, in a triplet, by Australian men's team against Ind, SA and NZ respectively, was represented by a string 'xyz', where x is the number of goals scored by the Australian men's team against Indian men's team, y is the number of goals scored by the Australian men's team against South African men's team and z is the number of goals scored by the Australian men's team against New Zealand men's team.

For example, If the Australian men's team scored 3, 4 and 3 goals against Indian, South African and New Zealand men's team respectively in the same triplet, then the net goals scored becomes 343, with frequency 1. If this same string for net goals scored got repeated, then its frequency became equal to the number of repetitions of that same string.

Similarly, the net goals scored, in a triplet, by Australian women's team against Ind, SA and NZ respectively, was represented by a string 'pqr', in the same manner as described for Australian men's team.

A unique thing happened in the tournament i.e.,

The frequency of string being 'bcd' of the net goals scored by the Australian men's team = The frequency of string being 'bdc' of the net goals scored by the Australian women's team

Number of ma	Against South Africa		
scored	3 goals	4 goals	
Against India	3 goals		3
Against india	4 goals		4

Number of ma	_	st New land	
scored	3 goals	4 goals	
Against	3 goals	3	
South Africa	4 goals	4	3

Table 1 Table 2

The table 1 above shows the final frequency of the strings of the net goals scored by the Australian men against their Indian and South African counterparts based on the number of goals scored. For example, the frequency of '34\_' is 3, as the number of goals scored by Australian men's team against India and South Africa was 3 and 4 respectively in 3 matches. The blank represents the goals scored by the Australian men's team against New Zealand men's team.

Similarly, table 2 shows the final frequency of the strings of the net goals scored by the Australian women against their South African and New Zealand counterparts based on the number of goals scored. For example, the frequency of '\_33' is 3, as the number of goals scored by Australian women's team against South Africa and New Zealand was 3 and 3 respectively in 3 matches. The blank represents the goals scored by the Australian women's team against the Indian women's team.

### Q.43

The number of matches in which the Australian women's team scored 3 goals against the South African Women's team was

 , ,	

2 0 14

3 0 7

### 4 Cannot be Determined

Solution:

**Correct Answer: 3** 

**■** Bookmark

Answer key/Solution

For questions 43 to 46: From the table 1, we can clearly see that the number of goals scored by Australian men's team against India and South Africa was 3 and 4 in 3 matches, whereas the number of goals scored against both teams were 4 each in 4 matches.

Hence, we can conclude as:

	Ind	SA	NZ	Frequency
Number of goals	3	3		
scored by	3	4		3
Australian men's	4	3		
team against	4	4		4

Similarly from Table 2, we can conclude as:

	Ind	SA	NZ	Frequency
Number of goals		3	3	3
scored by		3	4	
Australian w omen's		4	3	4
team against		4	4	3

It is given that the frequency of each string being 'bcd' of the net goals scored by the Australian men's team = The frequency of each string being 'bdc' of the net goals scored by the Australian women's team.

(A) In the last row of the first table provided in the solution, the number of goals scored by Australian men's team against India and SA are 4 and 4 respectively and frequency is also 4. So, the number of goals scored against NZ team can be either 3 or 4.

Let it be 4, so string becomes 444 with frequency 4 which implies that there will be a string being \_ 44 of the net goals scored by Australian women's team. So, in the second table, we can clearly see that in the last row, the string is \_ 44, but its frequency given is 3 not 4. Hence in the last row of the first table, the string will be 443 with frequency 4. So, in the second table, in the 2nd row, string will be 434, with same frequency 4.

(B) Similarly, in the second row of the first table, string being 34\_ with frequency 3. If it is 343 with frequency 3, then in the second table the string should be 334, with frequency 3 but there is no such string possible. Hence, we can say that in the second row of the first table, the string would be 344 with frequency 3. So, in the second table, in the the last row, string would become 344 having frequency 3.

The two tables till now are:

Number of goals	Ind	SA	NZ	Frequency
scored by	3	3		
Australian men's	3	4	4	3
team against	4	3		
team against	4	4	3	4

Number of goals	Ind	SA	NZ	Frequency
scored by		3	3	3
Australian w omen's team against	4	3	4	4
		4	3	4
	3	4	4	3

(C) Now, the two possibilities arise from the first table, when the string in the first row can be either 3 3 3 or 3 3 4.
Case (a): When the string is 3 3 3 so, we can clearly see that in the second table, in the first row, the string will become 3 3 3 having frequency 3.

Hence, both strings will have same frequency 3. Now the only possibility for the remaining single string in both the first and second tables are 4 3  $\underline{4}$  and  $\underline{4}$  4 3 respectively with same frequencies 4.

So, the table according to case (a) will be

Number of goals scored by Australian men's team against	Ind	SA	NZ	Frequency
	3	3	3	3
	3	4	4	3
	4	3	4	4
	4	4	3	4

Number of goals scored by	Ind	SA	NZ	Frequency
	3	3	3	3
Australian w omen's	4	3	4	4
team against	4	4	3	4
	3	4	4	3

Case (b): When the string is 3 3  $\underline{4}$  in the first row of the first table, its frequency will become 4 as there will be only one string possible in the second table i.e.  $\underline{3}$  4 3 with frequency 4. So, the remaining single string in both the first and second tables will be 4 3  $\underline{3}$  and  $\underline{4}$  3 3 respectively with same frequencies 3. Hence, the table would be:

Number of goals	Ind	SA	NZ	Frequency
scored by Australian men's team against	3	3	4	4
	3	4	4	3
	4	3	3	3
	4	4	3	4

Number of goals	Ind	SA	NZ	Frequency
scored by	4	3	3	3
Australian w omen's	4	3	4	4
team against	3	4	3	4
team against	3	4	4	3

Hence, these are the final tables from both the cases (a) and (b).

From both the cases (a) and (b), we can say that the there will be total (4 + 3 = 7) matches in which the Australian women's team scored 3 goals against the South African women's team.

FeedBack

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

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scored	3 goals	4 goals	
Against India	3 goals		3
Against india	4 goals		4

Number of ma	_	st New land	
scored	3 goals	4 goals	
Against	3 goals	3	
South Africa	4 goals	4	3

Table 1 Table 2

The table 1 above shows the final frequency of the strings of the net goals scored by the Australian men against their Indian and South African counterparts based on the number of goals scored. For example, the frequency of '34\_' is 3, as the number of goals scored by Australian men's team against India and South Africa was 3 and 4 respectively in 3 matches. The blank represents the goals scored by the Australian men's team against New Zealand men's team.

Similarly, table 2 shows the final frequency of the strings of the net goals scored by the Australian women against their South African and New Zealand counterparts based on the number of goals scored. For example, the frequency of '\_33' is 3, as the number of goals scored by Australian women's team against South Africa and New Zealand was 3 and 3 respectively in 3 matches. The blank represents the goals scored by the Australian women's team against the Indian women's team.

## Q.44 The total number of matches played by the New Zealand men's team was

Solution:

**Correct Answer: 14** 

**■** Bookmark

Answer key/Solution

For questions 43 to 46: From the table 1, we can clearly see that the number of goals scored by Australian men's team against India and South Africa was 3 and 4 in 3 matches, whereas the number of goals scored against both teams were 4 each in 4 matches.

Hence, we can conclude as:

	Ind	SA	NZ	Frequency
Number of goals	3	3		
scored by	3	4		3
Australian men's	4	3		
team against	4	4		4

Similarly from Table 2, we can conclude as:

	Ind	SA	NZ	Frequency
Number of goals		3	3	3
scored by		3	4	
			-	

Australian w omen's	4	3	4
team against	4	4	3

It is given that the frequency of each string being 'bcd' of the net goals scored by the Australian men's team = The frequency of each string being 'bdc' of the net goals scored by the Australian women's team.

(A) In the last row of the first table provided in the solution, the number of goals scored by Australian men's team against India and SA are 4 and 4 respectively and frequency is also 4. So, the number of goals scored against NZ team can be either 3 or 4

Let it be 4, so string becomes 444 with frequency 4 which implies that there will be a string being \_ 44 of the net goals scored by Australian women's team. So, in the second table, we can clearly see that in the last row, the string is \_ 44, but its frequency given is 3 not 4. Hence in the last row of the first table, the string will be 443 with frequency 4. So, in the second table, in the 2nd row, string will be 434, with same frequency 4.

(B) Similarly, in the second row of the first table, string being 34\_ with frequency 3. If it is 343 with frequency 3, then in the second table the string should be 334, with frequency 3 but there is no such string possible. Hence, we can say that in the second row of the first table, the string would be 344 with frequency 3. So, in the second table, in the the last row, string would become 344 having frequency 3.

The two tables till now are:

Number of goals	Ind	SA	NZ	Frequency
scored by	3	3		
Australian men's	3	4	4	3
team against	4	3		
team against	4	4	3	4

Number of goals	Ind	SA	NZ	Frequency
scored by		3	3	3
Australian w omen's	4	3	4	4
team against		4	3	4
teamagamat	3	4	4	3

(C) Now, the two possibilities arise from the first table, when the string in the first row can be either 3 3 3 or 3 3 4.
Case (a): When the string is 3 3 3 so, we can clearly see that in the second table, in the first row, the string will become 3 3 3 having frequency 3.

Hence, both strings will have same frequency 3. Now the only possibility for the remaining single string in both the first and second tables are 4 3  $\pm$  and  $\pm$  4 3 respectively with same frequencies 4.

So, the table according to case (a) will be

Number of goals	Ind	SA	NZ	Frequency
scored by	3	3	3	3
Australian men's	3	4	4	3
team against	4	3	4	4
team against	4	4	3	4

Number of goals	Ind	SA	NZ	Frequency
scored by	3	3	3	3
Australian w omen's	4	3	4	4
team against	4	4	3	4
teamagamat	3	4	4	3

Case (b): When the string is 3 3  $\underline{4}$  in the first row of the first table, its frequency will become 4 as there will be only one string possible in the second table i.e.  $\underline{3}$  4 3 with frequency 4. So, the remaining single string in both the first and second tables will be 4 3  $\underline{3}$  and  $\underline{4}$  3 3 respectively with same frequencies 3. Hence, the table would be:

Number of goals	Ind	SA	NZ	Frequency
scored by	3	3	4	4
Australian men's	3	4	4	3
team against	4	3	3	3
team against	4	4	3	4

Number of goals	Ind	SA	NZ	Frequency
scored by	4	3	3	3
Australian w omen's	4	3	4	4
team against	3	4	3	4
team against	3	4	4	3

Hence, these are the final tables from both the cases (a) and (b).

FeedBack

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

A Hockey tournament was played, for both the men's team and the women's team, in 2017 in which Australia (Aus), India (Ind), South Africa (SA) and New Zealand (NZ) took part. Men's team of a country played against only men's team of other countries, and the same was true for women's team. Australian teams were involved in all the matches that were played.

Matches played by an Australian team were in triplets, in which their first match was played against India, then next against South Africa and the third against New Zealand. Once the first triplet was over the process was repeated with the same order of teams in the next triplet and so on. In every match, each team scored either 3 goals or 4 goals.

The net goals scored, in a triplet, by Australian men's team against Ind, SA and NZ respectively, was represented by a string 'xyz', where x is the number of goals scored by the Australian men's team against Indian men's team, y is the number of goals scored by the Australian men's team against South African men's team and z is the number of goals scored by the Australian men's team against New Zealand men's team.

For example, If the Australian men's team scored 3, 4 and 3 goals against Indian, South African and New Zealand men's team respectively in the same triplet, then the net goals scored becomes 343, with frequency 1. If this same string for net goals scored got repeated, then its frequency became equal to the number of repetitions of that same string.

Similarly, the net goals scored, in a triplet, by Australian women's team against Ind, SA and NZ respectively, was represented by a string 'pqr', in the same manner as described for Australian men's team.

A unique thing happened in the tournament i.e.,

The frequency of string being 'bcd' of the net goals scored by the Australian men's team = The frequency of string being 'bdc' of the net goals scored by the Australian women's team

Number of matches in which Australia scored		-	t South ica
		3 goals	4 goals
Against India	3 goals		3
Against India	4 goals		4

Number of ma which Aus	_	st New land	
scored		3 goals	4 goals
Against	Against 3 goals		
South Africa	4 goals	4	3

Table 1 Table 2

The table 1 above shows the final frequency of the strings of the net goals scored by the Australian men against their Indian and South African counterparts based on the number of goals scored. For example, the frequency of '34\_' is 3, as the number of goals scored by Australian men's team against India and South Africa was 3 and 4 respectively in 3 matches. The blank represents the goals scored by the Australian men's team against New Zealand men's team.

Similarly, table 2 shows the final frequency of the strings of the net goals scored by the Australian women against their South African and New Zealand counterparts based on the number of goals scored. For example, the frequency of '\_33' is 3, as the number of goals scored by Australian women's team against South Africa and New Zealand was 3 and 3 respectively in 3 matches. The blank represents the goals scored by the Australian women's team against the Indian women's team.

### 0.45

The number of matches in which the Australian men's team scored 3 goals against New Zealand's men's team was

1 0 7

2 0 6

3 08

4 Cannot be determined

Solution:

**Correct Answer: 1** 

**■** Bookmark

Answer key/Solution

For questions 43 to 46: From the table 1, we can clearly see that the number of goals scored by Australian men's team against India and South Africa was 3 and 4 in 3 matches, whereas the number of goals scored against both teams were 4 each in 4 matches.

Hence, we can conclude as:

	Ind	SA	NZ	Frequency
Number of goals	3	3		
scored by	3	4		3
Australian men's	4	3		
team against	4	4		4

Similarly from Table 2, we can conclude as:

	Ind	SA	NZ	Frequency
Number of goals		3	3	3
scored by		3	4	
Australian w omen's		4	3	4
team against		4	4	3

It is given that the frequency of each string being 'bcd' of the net goals scored by the Australian men's team = The frequency of each string being 'bdc' of the net goals scored by the Australian women's team.

(A) In the last row of the first table provided in the solution, the number of goals scored by Australian men's team against India and SA are 4 and 4 respectively and frequency is also 4. So, the number of goals scored against NZ team can be either 3 or 4.

Let it be 4, so string becomes 444 with frequency 4 which implies that there will be a string being \_ 44 of the net goals scored by Australian women's team. So, in the second table, we can clearly see that in the last row, the string is \_ 44, but its frequency given is 3 not 4. Hence in the last row of the first table, the string will be 443 with frequency 4. So, in the second table, in the 2nd row, string will be 434, with same frequency 4.

(B) Similarly, in the second row of the first table, string being 34\_ with frequency 3. If it is 343 with frequency 3, then in the second table the string should be 334, with frequency 3 but there is no such string possible. Hence, we can say that in the second row of the first table, the string would be 344 with frequency 3. So, in the second table, in the the last row, string would become 344 having frequency 3.

The two tables till now are:

Number of goals	Ind	SA	NZ	Frequency
scored by	3	3		
Australian men's	3	4	4	3
team against	4	3		
team against	4	4	3	4

Number of goals	Ind	SA	NZ	Frequency
scored by		3	3	3
Australian w omen's	4	3	4	4
team against		4	3	4
team against	3	4	4	3

(C) Now, the two possibilities arise from the first table, when the string in the first row can be either 3 3 3 or 3 3 4.
Case (a): When the string is 3 3 so, we can clearly see that in the second table, in the first row, the string will become 3 3 3 having frequency 3.

Hence, both strings will have same frequency 3. Now the only possibility for the remaining single string in both the first and second tables are 4 3  $\pm$  and  $\pm$  4 3 respectively with same frequencies 4. So, the table according to case (a) will be

Number of goals	Ind	SA	NZ	Frequency
scored by	3	3	3	3
Australian men's	3	4	4	3
Australian mens	4	2	4	4

Number of goals	Ind	SA	NZ	Frequency
scored by	3	3	3	3
Australian w omen's	4	3	4	4
team against	4	4	3	4
teamagamat	3	4	4	3

Case (b): When the string is 3 3  $\underline{4}$  in the first row of the first table, its frequency will become 4 as there will be only one string possible in the second table i.e.  $\underline{3}$  4 3 with frequency 4. So, the remaining single string in both the first and second tables will be 4 3  $\underline{3}$  and  $\underline{4}$  3 3 respectively with same frequencies 3. Hence, the table would be:

Number of goals	Ind	SA	NZ	Frequency
scored by	3	3	4	4
Australian men's	3	4	4	3
team against	4	3	3	3
team ayamst	4	4	3	4

Number of goals	Ind	SA	NZ	Frequency
scored by	4	3	3	3
Australian w omen's	4	3	4	4
team against	3	4	3	4
team against	3	4	4	3

Hence, these are the final tables from both the cases (a) and (b).

Clearly, in both the cases (a) and (b), we can see that the number of matches in which the Australian men's team scored 3 goals against New Zealand's men's team was (3 + 4 = 7).

FeedBack

team against

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

A Hockey tournament was played, for both the men's team and the women's team, in 2017 in which Australia (Aus), India (Ind), South Africa (SA) and New Zealand (NZ) took part. Men's team of a country played against only men's team of other countries, and the same was true for women's team. Australian teams were involved in all the matches that were played.

Matches played by an Australian team were in triplets, in which their first match was played against India, then next against South Africa and the third against New Zealand. Once the first triplet was over the process was repeated with the same order of teams in the next triplet and so on. In every match, each team scored either 3 goals or 4 goals.

The net goals scored, in a triplet, by Australian men's team against Ind, SA and NZ respectively, was represented by a string 'xyz', where x is the number of goals scored by the Australian men's team against Indian men's team, y is the number of goals scored by the Australian men's team against South African men's team and z is the number of goals scored by the Australian men's team against New Zealand men's team.

For example, If the Australian men's team scored 3, 4 and 3 goals against Indian, South African and New Zealand men's team respectively in the same triplet, then the net goals scored becomes 343, with frequency 1. If this same string for net goals scored got repeated, then its frequency became equal to the number of repetitions of that same string.

Similarly, the net goals scored, in a triplet, by Australian women's team against Ind, SA and NZ respectively, was represented by a string 'pqr', in the same manner as described for Australian men's team.

A unique thing happened in the tournament i.e.,

The frequency of string being 'bcd' of the net goals scored by the Australian men's team = The frequency of string being 'bdc' of the net goals scored by the Australian women's team

Number of matches in which Australia scored		_	t South ica
		3 goals	4 goals
3 goals			3
Against India	4 goals		4

Number of ma	_	st New land	
scored		3 goals	4 goals
Against	Against 3 goals		
South Africa	4 goals	4	3

Table 1 Table 2

The table 1 above shows the final frequency of the strings of the net goals scored by the Australian men against their Indian and South African counterparts based on the number of goals scored. For example, the frequency of '34\_' is 3, as the number of goals scored by Australian men's team against India and South Africa was 3 and 4 respectively in 3 matches. The blank represents the goals scored by the Australian men's team against New Zealand men's team.

Similarly, table 2 shows the final frequency of the strings of the net goals scored by the Australian women against their South African and New Zealand counterparts based on the number of goals scored. For example, the frequency of '\_33' is 3, as the number of goals scored by Australian women's team against South Africa and New Zealand was 3 and 3 respectively in 3 matches. The blank represents the goals scored by the Australian women's team against the Indian women's team.

### Q.46

If the New Zealand women's team defeated Australian women's team in 4 matches, then what can be the maximum number of total goals scored by Australian women's team in all the matches played against New Zealand women's team?

1 0 56		
2 0 52		
3 <b>40</b>		

### 4 Cannot be determined

Solution:

**Correct Answer: 2** 

**■** Bookmark

Answer key/Solution

For questions 43 to 46: From the table 1, we can clearly see that the number of goals scored by Australian men's team against India and South Africa was 3 and 4 in 3 matches, whereas the number of goals scored against both teams were 4 each in 4 matches.

Hence, we can conclude as:

	Ind	SA	NZ	Frequency
Number of goals	3	3		
scored by	3	4		3
Australian men's	4	3		
team against	4	4		4

Similarly from Table 2, we can conclude as:

	Ind	SA	NZ	Frequency
Number of goals		3	3	3
scored by		3	4	
Australian w omen's		4	3	4
team against		4	4	3

It is given that the frequency of each string being 'bcd' of the net goals scored by the Australian men's team = The frequency of each string being 'bdc' of the net goals scored by the Australian women's team.

(A) In the last row of the first table provided in the solution, the number of goals scored by Australian men's team against India and SA are 4 and 4 respectively and frequency is also 4. So, the number of goals scored against NZ team can be either 3 or 4.

Let it be 4, so string becomes 444 with frequency 4 which implies that there will be a string being \_ 44 of the net goals scored by Australian women's team. So, in the second table, we can clearly see that in the last row, the string is \_ 44, but its frequency given is 3 not 4. Hence in the last row of the first table, the string will be 443 with frequency 4. So, in the second table, in the 2nd row, string will be 434, with same frequency 4.

(B) Similarly, in the second row of the first table, string being 34\_ with frequency 3. If it is 343 with frequency 3, then in the second table the string should be 344, with frequency 3 but there is no such string possible. Hence, we can say that in the second row of the first table, the string would be 344 with frequency 3. So, in the second table, in the the last row, string would become 344 having frequency 3.

The two tables till now are:

Number of goals	Ind	SA	NZ	Frequency
scored by	3	3		
Australian men's	3	4	4	3
team against	4	3		
team against	4	4	3	4

Number of goals	Ind	SA	NZ	Frequency
scored by		3	3	3
Australian w omen's	4	3	4	4
team against		4	3	4
team against	3	4	4	3

(C) Now, the two possibilities arise from the first table, when the string in the first row can be either 3 3 3 or 3 3 4.
Case (a): When the string is 3 3 so, we can clearly see that in the second table, in the first row, the string will become 3 3 3 having frequency 3.

Hence, both strings will have same frequency 3. Now the only possibility for the remaining single string in both the first and second tables are 4 3  $\pm$  and  $\pm$  4 3 respectively with same frequencies 4.

So, the table according to case (a) will be

Number of goals	Ind	SA	NZ	Frequency
scored by	3	3	3	3
Australian men's	3	4	4	3
	4	3	4	4
team against	4	4	3	4

Number of goals	Ind	SA	NZ	Frequency
scored by	3	3	3	3
Australian w omen's	4	3	4	4
team against	4	4	3	4
teamagamst	3	4	4	3

Case (b): When the string is 3 3  $\underline{4}$  in the first row of the first table, its frequency will become 4 as there will be only one string possible in the second table i.e.  $\underline{3}$  4 3 with frequency 4. So, the remaining single string in both the first and second tables will be 4 3  $\underline{3}$  and  $\underline{4}$  3 3 respectively with same frequencies 3. Hence, the table would be:

Number of goals	Ind	SA	NZ	Frequency
scored by	3	3	4	4
Australian men's team against	3	4	4	3
	4	3	3	3
	4	4	3	4

Number of goals	Ind	SA	NZ	Frequency
scored by	4	3	3	3
Australian w omen's	4	3	4	4
team against	3	4	3	4
teamagamat	3	4	4	3

Hence, these are the final tables from both the cases (a) and (b).

As New Zealand women's team defeated Australian women's team in 4 matches, this implies that in only 4 matches, New Zealand women's team scored 4 goals whereas Australian women's team scored 3 goals, this means that in rest of the matches, Australian women's team scored 4 goals against New Zealand women's team. So, the maximum number of total goals scored by Australian women's team in all the matches played against New Zealand women's team =  $3 \times 4 + 4 \times 3 + 4 \times 4 + 4 \times 3 = 12 + 12 + 16 + 12 = 52$ .

FeedBack

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

Nikhil, a celiac, wants to start a business of producing safe and healthy 'Gluten-free' products for kids. But before finalizing his plan, he wants to know its market i.e, the profit he can earn with this business. So, after some research, he collected some data of four famous and trusted companies namely A, B, C and D, already well settled in this business. The number of products produced by each company on every six days is equal. He has a table which gives the average values of the daily sales (in Rs.) of the four companies for six consecutive days of a particular week. The selling price of each product remains same for each company on all six days. The table is as shown below:

	Α	В	С	D
Monday	100	100	100	100
Tuesday	97	125	107	102
Wednesday	108	105	87	121
Thursday	115	95	112	105
Friday	91	110	92	120
Saturday	120	120	120	94

### 0.47

If the sales (in Rs.) of all the four companies were equal on Thursday of that particular week, then what was the ratio of the sales (in Rs.) of company B to that of company D on Monday of that week?

1 0 1:1

2 **21:19** 

3 9 19:21

### 4 Cannot be determined

### Solution:

**Correct Answer: 2** 

**■** Bookmark

Answer key/Solution

Suppose the common factor of multiplication for company A is 'a', that for company B is 'b', that for company C is 'c' and that for company D is 'd'.

Given that: 95b = 105d or (b/d) = 21/19.

Required ratio = 
$$\frac{100b}{100d} = \frac{b}{d} = \frac{21}{19}$$

FeedBack

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

Nikhil, a celiac, wants to start a business of producing safe and healthy 'Gluten-free' products for kids. But before finalizing his plan, he wants to know its market i.e, the profit he can earn with this business. So, after some research, he collected some data of four famous and trusted companies namely A, B, C and D, already well settled in this business. The number of products produced by each company on every six days is equal. He has a table which gives the average values of the daily sales (in Rs.) of the four companies for six consecutive days of a particular week. The selling price of each product remains same for each company on all six days. The table is as shown below:

	Α	В	С	D
Monday	100	100	100	100
Tuesday	97	125	107	102
Wednesday	108	105	87	121
Thursday	115	95	112	105
Friday	91	110	92	120
Saturday	120	120	120	94

### 0.48

If the sales of company B on Friday, of that week, was Rs.13,200, then what was the average sales per day (in Rs.) of company B for the given period?

1 0 13,100

2 14,400

### 4 Cannot be determined

Solution:

**Correct Answer: 1** 

**■** Bookmark

Answer key/Solution

Suppose the common factor of multiplication for company A is 'a', that for company B is 'b', that for company C is 'c' and that for company D is 'd'.

Given that: 110b = 13200 or b = 120.

Average sales for company B = 
$$\frac{100b + 125b + 105b + 95b + 110b + 120b}{6} = \frac{655}{6} \times 120 = 13,100.$$

FeedBack

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

Nikhil, a celiac, wants to start a business of producing safe and healthy 'Gluten-free' products for kids. But before finalizing his plan, he wants to know its market i.e, the profit he can earn with this business. So, after some research, he collected some data of four famous and trusted companies namely A, B, C and D, already well settled in this business. The number of products produced by each company on every six days is equal. He has a table which gives the average values of the daily sales (in Rs.) of the four companies for six consecutive days of a particular week. The selling price of each product remains same for each company on all six days. The table is as shown below:

	Α	В	С	D
Monday	100	100	100	100
Tuesday	97	125	107	102
Wednesday	108	105	87	121
Thursday	115	95	112	105
Friday	91	110	92	120
Saturday	120	120	120	94

### 0.49

If the sales (in Rs.) of company A was equal to that of company B on Wednesday of that particular week and the sales (in Rs.) of company C was equal to that of company D on Saturday, then what was the ratio of the sales (in Rs.) of company A to that of company D on Tuesday?

1 0 1:1

2 97:102

3 **102:97** 

4 Cannot be determined

Solution:

**Correct Answer: 4** 

**■** Bookmark

Answer key/Solution

Suppose the common factor of multiplication for company A is 'a', that for company B is 'b', that for company C is 'c' and that for company D is 'd'.

As no direct comparison between the sales of companies A and D can be established therefore the value of the required ration can't be determined.

FeedBack

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

Nikhil, a celiac, wants to start a business of producing safe and healthy 'Gluten-free' products for kids. But before finalizing his plan, he wants to know its market i.e, the profit he can earn with this business. So, after some research, he collected some data of four famous and trusted companies namely A, B, C and D, already well settled in this business. The number of products produced by each company on every six days is equal. He has a table which gives the average values of the daily sales (in Rs.) of the four companies for six consecutive days of a particular week. The selling price of each product remains same for each company on all six days. The table is as shown below:

	Α	В	С	D
Monday	100	100	100	100
Tuesday	97	125	107	102
Wednesday	108	105	87	121
Thursday	115	95	112	105
Friday	91	110	92	120
Saturday	120	120	120	94

### Q.50

If the sales (in Rs.) of companies A and B were equal on Tuesday of that particular week, the sales (in Rs.) of companies B and D were equal on Wednesday, the sales (in Rs.) of companies A and C were equal on Thursday and the sales of company D on Friday was Rs. 2,28,144, then what was the sales (in Rs.) of company C on Saturday?

**Correct Answer: 347875** 

**■** Bookmark

Answer key/Solution

Suppose the common factor of multiplication for company A is 'a', that for company B is 'b', that for company C is 'c' and that for company D is 'd'.

Given that: 97a = 125b; 105b = 121d and 115a = 112c.

So, 
$$\frac{a}{b} = \frac{125}{97}$$
,  $\frac{b}{d} = \frac{121}{105}$  and  $\frac{a}{c} = \frac{112}{115}$ .

Or, 
$$\frac{b}{a} = \frac{97}{125}$$
,  $\frac{d}{b} = \frac{105}{121}$  and  $\frac{a}{c} = \frac{112}{115}$ 

Or, 
$$\frac{b}{a} \times \frac{d}{b} \times \frac{a}{c} = \frac{97}{125} \times \frac{105}{121} \times \frac{112}{115}$$
 or  $\frac{d}{c} = \frac{228144}{347875}$  or  $c = \frac{347875}{228144} \times d$ .

It is also given that 120d = 2,28,144 or  $d = \frac{228144}{120}$ 

We have to find the sales of company C on Saturday.

$$120c = 120 \times \frac{347875}{228144} \times d = 120 \times \frac{347875}{228144} \times \frac{228144}{120} = 347875.$$

Hence, the correct answer is 3,47,875

FeedBack

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

In AA sports academy, there are 200 students. A survey was conducted among these students to know about their likings for the 3 sports - Cricket, Football and Tennis - and the 3 sports superstars - Maradona, Warne and Agassi.

Each student likes at least one of the three sports superstars and at least one of the 3 sports. Also, it is known that 130 students like Maradona, 80 students like Warne and 50 students like Agassi. Also, 130 students like cricket, 100 students like football and 70 students like tennis.

Q.51

If there were total 20 students who like exactly two sports, then how many students like all the 3 sports?

**Correct Answer: 40** 

**■** Bookmark

Answer key/Solution

200 students → 130 students like Maradona, 80 students like warne & 50 students like Agassi.

Two distributions

200 students → 130 students like cricket, 100 students like football & 70 students like Tenis.

Let C → Cricket

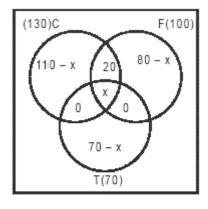
F → Football

T → Tennis

M → Maradona

W → Warne

A → Agassi



$$130 + (80 - x) + (70 - x) = 200 \Rightarrow x = 40$$

We can take any region of exactly two to be 20, (all 3) region would be 40 in every case.

FeedBack

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

In AA sports academy, there are 200 students. A survey was conducted among these students to know about their likings for the 3 sports - Cricket, Football and Tennis - and the 3 sports superstars - Maradona, Warne and Agassi.

Each student likes at least one of the three sports superstars and at least one of the 3 sports. Also, it is known that 130 students like Maradona, 80 students like Warne and 50 students like Agassi. Also, 130 students like cricket, 100 students like football and 70 students like tennis.

Q.52

What can be the maximum number of students who like Maradona and Warne both as sports superstars, and also like cricket and football both as sports?

1 0 60

2 0 100

3 0 80

**Correct Answer: 1** 

**■** Bookmark

Answer key/Solution

200 students → 130 students like Maradona,

80 students like warne & 50 students like Agassi.

Two distributions

200 students → 130 students like cricket,

100 students like football & 70 students like Tenis.

Let C → Cricket

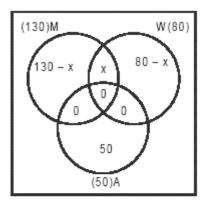
F → Football

T → Tennis

M → Maradona

W → Warne

A → Agassi



Let x be the number of students who like both Maradona and Warne.

For maximum (x), region common to all 3 should be zero.

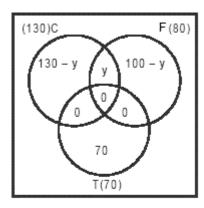
130 + (80 - x) + 50 = 200

Maximum(x) = 60

Number of students, who like Maradona & warne both, can be at maximum 60.

Let y be the number of students who like both Cricket and Football.

For maximum y, the region common to all 3 should be zero i.e.



$$130 + (100 - y) + 70 = 200$$

Maximum number of students who like both cricket and football = 100

Therefore, Maximum number of students who like both (maradona & warne) and both (Cricket & Football) can be 60.

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

In AA sports academy, there are 200 students. A survey was conducted among these students to know about their likings for the 3 sports - Cricket, Football and Tennis - and the 3 sports superstars - Maradona, Warne and Agassi.

Each student likes at least one of the three sports superstars and at least one of the 3 sports. Also, it is known that 130 students like Maradona, 80 students like Warne and 50 students like Agassi. Also, 130 students like cricket, 100 students like football and 70 students like tennis.

# Q.53

If the students who like all the 3 sports is maximum possible and all the students who like only football also like Maradona, then what can be the maximum number of students who like both Maradona as well as cricket?

cricket?	
1 0 130	
2 0 10	
3 0 80	
4 0 60	
Solution: Correct Answer : 3	<b>■</b> Bookmark
	م Answer key/Solution

200 students → 130 students like Maradona, 80 students like warne & 50 students like Agassi.

Two distributions

200 students → 130 students like cricket, 100 students like football & 70 students like Tenis.

Let C → Cricket

F → Football

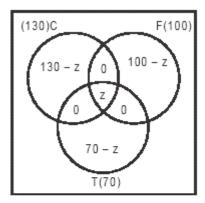
T → Tennis

M → Maradona

W → Warne

A → Agassi

For number of students, who like all the 3 sports to be maximum, the number of students who like exactly 2 sports should be minimum possible i.e. zero.



$$130 + (100 - z) + (70 - z) = 200$$

 $\Rightarrow$  z = 50

Now, all those students who like only football and they also like Maradona is 50.

Total students who like Maradona is 130.

So, now, the remaining students who like Maradona = 130 - 50 = 80.

And the number of students who likes cricket is 130. So, the maximum number of students who likes Maradona as well as cricket can be 80.

FeedBack

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

In AA sports academy, there are 200 students. A survey was conducted among these students to know about their likings for the 3 sports - Cricket, Football and Tennis - and the 3 sports superstars - Maradona, Warne and Agassi.

Each student likes at least one of the three sports superstars and at least one of the 3 sports. Also, it is known that 130 students like Maradona, 80 students like Warne and 50 students like Agassi.

Also, 130 students like cricket, 100 students like football and 70 students like tennis.

#### Q.54

What can be the maximum number of students who like all the 3 sports and also all the 3 sports superstars?

1 0 50

2 0 30

4 0 70

Solution:

**Correct Answer: 2** 

**■** Bookmark

Answer key/Solution

200 students ightarrow 130 students like Maradona,

80 students like warne & 50 students like Agassi.

Two distributions

200 students → 130 students like cricket,

100 students like football & 70 students like Tenis.

Let C → Cricket

F → Football

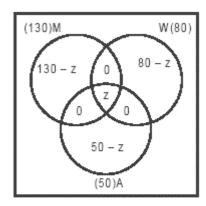
T → Tennis

M → Maradona

W → Warne

A → Agassi

Maximum number of students who like all 3 sports = 50 (Refer solution to previous question)



130 + (80 - z) + (50 - z) = 200

30 = z, therefore, maximum number of students who like all the 3 sports superstars = 30 Hence, max number of students who like all 3 sports and all 3 sport superstars is 30.

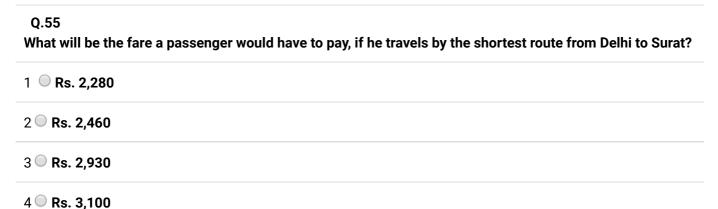
Direction for questions 55 to 58: Answer the questions on the basis of the information given below.

A low-cost domestic airline company connects 10 cities of India - Delhi, Guwahati, Raipur, Kolkata, Agartala, Pune, Goa, Gwalior, Dehradun and Surat. The tables given below represent the distance between the air stations connecting two cities, and the price charged by the airline company for the distance between them.

	Distance to be covered (in km)										
	Guwahati	Raipur	Kolkata	Agartala	Pune	Goa	Gwalior	Surat	Dehradun		
Delhi	560	790	850	1245	1345	1350	1950				
Guwahati		1650					1750	2300	2100		
Raipur			460		410	910					
Kolkata				540	625	640	950	1650			
Agartala					1250	970	850				
Pune						900	875	970			
Goa								830	510		
Gwalior								400	790		

	Fare (in Rs.)										
	Guwahati	Raipur	Kolkata	Agartala	Pune	Goa	Gwalior	Surat	Dehradun		
Delhi	670	1350	1250	1600	1700	2450	1850				
Guwahati		2000					1900	2275	2450		
Raipur			450		430	1100					
Kolkata				590	700	750	1250	2450			
Agartala					1700	1150	875				
Pune						1050	950	1150			
Goa								890	550		
Gwalior								425	970		

Consider that travelling is strictly allowed only between these ten mentioned stations from a departure air station to an arrival air station. The passengers would not travel by a course when there are more than two halts in the intermediate air stations.



**Correct Answer: 3** 

**■** Bookmark

Answer key/Solution

According to the given information,

The table given below depicts all possible routes and their total fare from Delhi to Surat as follows:

Route	Distance (in km)	Fare (in Rs.)
Delhi – Guw ahati - Surat	2860	2945
Delhi – Kolkata – Surat	2500	3700
Delhi – Pune – Surat	2315	2850
Delhi – Goa – Surat	2180	3340
Delhi – Gwalior – Surat	2350	2275
Delhi – Guw ahati – Gw alior – Surat	2710	2995
Delhi – Guw ahati – Dehradun - Surat	3120	3660
Delhi – Raipur – Kolkata - Surat	2900	4250
Delhi – Raipur – Pune - Surat	2170	2930
Delhi – Raipur – Goa - Surat	2530	3340
Delhi – Kolkata – Pune - Surat	2445	3100
Delhi – Kolkata – Goa - Surat	2320	2890
Delhi – Kolkata – Gwalior - Surat	2200	2925
Delhi – Agartala – Pune - Surat	3465	4450
Delhi – Agartala – Goa - Surat	3045	3640
Delhi – Agartala – Gw alior - Surat	2495	2900
Delhi – Pune – Goa - Surat	3075	3640
Delhi – Pune – Dehradun - Surat	2680	3190
Delhi – Goa – Dehradun - Surat	2320	3540
Delhi – Gw alior – Dehradun - Surat	3200	3360

Consider the table given above it can be observed that the shortest route from Delhi to Surat will be,  $Delhi \rightarrow Raipur \rightarrow Pune \rightarrow Surat$ 

Now, add the fare charged between each intermediate air stations to know the total cheapest fare.

=Rs.1,350+Rs.430+Rs.1,150=Rs.2,930

Hence, the cheapest fare, a passenger would have to pay if he travels by the shortest route from Delhi to Surat is Rs. 2,930.

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

A low-cost domestic airline company connects 10 cities of India - Delhi, Guwahati, Raipur, Kolkata, Agartala, Pune, Goa, Gwalior, Dehradun and Surat. The tables given below represent the distance between the air stations connecting two cities, and the price charged by the airline company for the distance between them.

	Distance to be covered (in km)										
	Guwahati	Raipur	Kolkata	Agartala	Pune	Goa	Gwalior	Surat	Dehradun		
Delhi	560	790	850	1245	1345	1350	1950				
Guwahati		1650					1750	2300	2100		
Raipur			460		410	910					
Kolkata				540	625	640	950	1650			
Agartala					1250	970	850				
Pune						900	875	970			
Goa								830	510		
Gwalior								400	790		

	Fare (in Rs.)										
	Guwahati	Raipur	Kolkata	Agartala	Pune	Goa	Gwalior	Surat	Dehradun		
Delhi	670	1350	1250	1600	1700	2450	1850				
Guwahati		2000					1900	2275	2450		
Raipur			450		430	1100					
Kolkata				590	700	750	1250	2450			
Agartala					1700	1150	875				
Pune						1050	950	1150			
Goa								890	550		
Gwalior								425	970		

Consider that travelling is strictly allowed only between these ten mentioned stations from a departure air station to an arrival air station. The passengers would not travel by a course when there are more than two halts in the intermediate air stations.

#### Q.56

The airline is planning to launch a direct flight between Delhi and Surat. Its marketing team has found that all its current users who travel between Delhi and Surat would use this new flight if its fare would further be reduced by 5% from the minimum price paid by them currently for travelling between these two stations.

Find the approximate changed fare that the company should charge for this newly introduced direct flight.

1 Rs. 1,890

2 Rs. 2,050

3 Rs. 2,161

4 Rs. 2,645

Solution:

**Correct Answer: 3** 

**■** Bookmark

♠ Answer key/Solution

According to the given information,

The table given below depicts all possible routes and their total fare from Delhi to Surat as follows:

Route	Distance (in km)	Fare (in Rs.)
Delhi – Guw ahati - Surat	2860	2945
Delhi – Kolkata – Surat	2500	3700
Delhi – Pune – Surat	2315	2850
Delhi – Goa – Surat	2180	3340
Delhi – Gwalior – Surat	2350	2275
Delhi – Guw ahati – Gw alior – Surat	2710	2995
Delhi – Guw ahati – Dehradun - Surat	3120	3660
Delhi – Raipur – Kolkata - Surat	2900	4250
Delhi – Raipur – Pune - Surat	2170	2930
Delhi – Raipur – Goa - Surat	2530	3340
Delhi – Kolkata – Pune - Surat	2445	3100
Delhi – Kolkata – Goa - Surat	2320	2890
Delhi – Kolkata – Gwalior - Surat	2200	2925
Delhi – Agartala – Pune - Surat	3465	4450
Delhi – Agartala – Goa - Surat	3045	3640
Delhi – Agartala – Gw alior - Surat	2495	2900
Delhi – Pune – Goa - Surat	3075	3640
Delhi – Pune – Dehradun - Surat	2680	3190
Delhi – Goa – Dehradun - Surat	2320	3540
Delhi – Gw alior – Dehradun - Surat	3200	3360

Now, according to question,

The minimum fare paid by the passengers travelling between the routes Delhi to Surat currently is,

= Rs. 2,275 (Delhi → Gwalior → Surat)

So, the change in the fare will be,

= (Rs. 2,275 × 0.95) = Rs. 2,161.25

Hence, the approximate change that the company should implement for the newly introduced direct flight is Rs. 2,161.

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

A low-cost domestic airline company connects 10 cities of India - Delhi, Guwahati, Raipur, Kolkata, Agartala, Pune, Goa, Gwalior, Dehradun and Surat. The tables given below represent the distance between the air stations connecting two cities, and the price charged by the airline company for the distance between them.

	Distance to be covered (in km)										
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Delhi	560	790	850	1245	1345	1350	1950				
Guwahati		1650					1750	2300	2100		
Raipur			460		410	910					
Kolkata				540	625	640	950	1650			
Agartala					1250	970	850				
Pune						900	875	970			
Goa								830	510		
Gwalior								400	790		

	Fare (in Rs.)										
	Guwahati	Raipur	Kolkata	Agartala	Pune	Goa	Gwalior	Surat	Dehradun		
Delhi	670	1350	1250	1600	1700	2450	1850				
Guwahati		2000					1900	2275	2450		
Raipur			450		430	1100					
Kolkata				590	700	750	1250	2450			
Agartala					1700	1150	875				
Pune						1050	950	1150			
Goa								890	550		
Gwalior								425	970		

Consider that travelling is strictly allowed only between these ten mentioned stations from a departure air station to an arrival air station. The passengers would not travel by a course when there are more than two halts in the intermediate air stations.

# Q.57

If the air stations at Raipur, Kolkata and Gwalior were shutdown by the government for some security reasons, then find the minimum fare that must have been paid by a person for travelling from Delhi to Surat.

1	Rs.	2,850
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2 Rs. 3,190

3 Rs. 2,945

# 4 Rs. 2,657

Solution:

**Correct Answer: 1** 

**■** Bookmark

Answer key/Solution

According to the given information,

The table given below depicts all possible routes and their total fare from Delhi to Surat as follows:

Route	Distance (in km)	Fare (in Rs.)
Delhi – Guw ahati - Surat	2860	2945
Delhi – Kolkata – Surat	2500	3700
Delhi – Pune – Surat	2315	2850
Delhi – Goa – Surat	2180	3340
Delhi – Gw alior – Surat	2350	2275
Delhi – Guw ahati – Gw alior – Surat	2710	2995
Delhi – Guw ahati – Dehradun - Surat	3120	3660
Delhi – Raipur – Kolkata - Surat	2900	4250
Delhi – Raipur – Pune - Surat	2170	2930
Delhi – Raipur – Goa - Surat	2530	3340
Delhi – Kolkata – Pune - Surat	2445	3100
Delhi – Kolkata – Goa - Surat	2320	2890
Delhi – Kolkata – Gwalior - Surat	2200	2925
Delhi – Agartala – Pune - Surat	3465	4450
Delhi – Agartala – Goa - Surat	3045	3640
Delhi – Agartala – Gw alior - Surat	2495	2900
Delhi – Pune – Goa - Surat	3075	3640
Delhi – Pune – Dehradun - Surat	2680	3190
Delhi – Goa – Dehradun - Surat	2320	3540
Delhi – Gw alior – Dehradun - Surat	3200	3360

If the air stations at Raipur, Kolkata and Gwalior are shutdown, then the route that would be the cheapest for the person traveling from Delhi to Surat will be,

Delhi → Pune → Surat

From the table, the fare for this journey is Rs. 2,850.

Therefore, the cheapest fare to be paid by a person traveling from Delhi to Surat is Rs. 2,850 .

Hence, option (1) is correct.

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

A low-cost domestic airline company connects 10 cities of India - Delhi, Guwahati, Raipur, Kolkata, Agartala, Pune, Goa, Gwalior, Dehradun and Surat. The tables given below represent the distance between the air stations connecting two cities, and the price charged by the airline company for the distance between them.

	Distance to be covered (in km)										
	Guwahati	Raipur	Kolkata	Agartala	Pune	Goa	Gwalior	Surat	Dehradun		
Delhi	560	790	850	1245	1345	1350	1950				
Guwahati		1650					1750	2300	2100		
Raipur			460		410	910					
Kolkata				540	625	640	950	1650			
Agartala					1250	970	850				
Pune						900	875	970			
Goa								830	510		
Gwalior								400	790		

	Fare (in Rs.)								
	Guwahati	Raipur	Kolkata	Agartala	Pune	Goa	Gwalior	Surat	Dehradun
Delhi	670	1350	1250	1600	1700	2450	1850		
Guwahati		2000					1900	2275	2450
Raipur			450		430	1100			
Kolkata				590	700	750	1250	2450	
Agartala					1700	1150	875		
Pune						1050	950	1150	
Goa								890	550
Gwalior								425	970

Consider that travelling is strictly allowed only between these ten mentioned stations from a departure air station to an arrival air station. The passengers would not travel by a course when there are more than two halts in the intermediate air stations.

# Q.58

If the passenger travels from Delhi to Dehradun via the shortest route and the fare charged to the passenger is decreased to Rs. 2500 due to some mobile app discount, then what is the percentage change in the value of the fare charged to him with respect to the original fare?

$$1 \circ 5\frac{35}{53}\%$$

$$^{2}$$
  $_{16}\frac{2}{3}$ %

**Correct Answer: 2** 

**■** Bookmark

♠ Answer key/Solution

According to the given information,

The table given below depicts all possible routes and their total fare from Delhi to Surat as follows:

Route	Distance (in km)	Fare (in Rs.)
Delhi – Guw ahati - Surat	2860	2945
Delhi – Kolkata – Surat	2500	3700
Delhi – Pune – Surat	2315	2850
Delhi – Goa – Surat	2180	3340
Delhi – Gwalior – Surat	2350	2275
Delhi – Guw ahati – Gw alior – Surat	2710	2995
Delhi – Guw ahati – Dehradun - Surat	3120	3660
Delhi – Raipur – Kolkata - Surat	2900	4250
Delhi – Raipur – Pune - Surat	2170	2930
Delhi – Raipur – Goa - Surat	2530	3340
Delhi – Kolkata – Pune - Surat	2445	3100
Delhi – Kolkata – Goa - Surat	2320	2890
Delhi – Kolkata – Gwalior - Surat	2200	2925
Delhi – Agartala – Pune - Surat	3465	4450
Delhi – Agartala – Goa - Surat	3045	3640
Delhi – Agartala – Gw alior - Surat	2495	2900
Delhi – Pune – Goa - Surat	3075	3640
Delhi – Pune – Dehradun - Surat	2680	3190
Delhi – Goa – Dehradun - Surat	2320	3540
Delhi – Gw alior – Dehradun - Surat	3200	3360

The distance of the shortest route from Delhi to Dehradun via Goa is 1860 km, and the fare charged will be Rs. 3000. If it is decreased to Rs. 2500, then the percentage change in the value of the fare charged is

$$\frac{3000 - 2500}{3000} \times 100 = 16\frac{2}{3}\%$$

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

In a quiz competition, 35 employees are selected from four different companies – A, B, C and D. Each of these employees likes one of the four subjects – History, Sports, Science and Politics. Further, the following is known:

- (i) The total number of employees who like Politics is equal to the total number of employees who like Sports, which in turn is equal to thrice the number of employees who like Science.
- (ii) The number of employees from each of the three companies A, B and D is twice the number of employees from company C.
- (iii) There are four employees from company D who likes Sports.
- (iv) From each of the four companies, at least one employee and at most four employees are short listed for each of the four subjects.

Q.59 Which of the following can be the number of employees fro	om company A who likes history?
1 0 1	
2 <b>2</b>	
3 ○ 3	
4 ○ All are possible	
Solution: Correct Answer : 4	<b>■</b> Bookmark
	م Answer key/Solution

From (ii), we can say that the number of employees selected from companies A, B, C and D are 10, 10, 5 and 10 respectively. (As the total number of employees is 35).

Let the number of employees who likes Science be x.

From (i), the number of employees who like Politics and Sports will be 3x each.

Now, the only possible value of x is 4 as the value of x more than 4 or less than 4 will not satisfy the value of the number of employees who like History.

Hence, the number of employees who like Science is 4, i.e. one employee is selected from each company who likes Science.

The number of employees who like Politics and Sports will be 12 each and the number employees who like History will be 7. From (iv), from each of the companies, the number of employees being n, where  $1 \le n \le 4$  are shortlisted for each of the four subjects.

	Α	В	С	D	TOTAL
HISTORY	1	2	2	2	7
SPORTS	4	3	1	4	12
SCIENCE	1	1	1	1	4
POLITICS	4	4	1	3	12
TOTAL	10	10	5	10	35

	Α	В	С	D	TOTAL
HISTORY	2	1	1	3	7
SPORTS	3	4	1	4	12
SCIENCE	1	1	1	1	4
POLITICS	4	4	2	2	12
TOTAL	10	10	5	10	35

	Α	В	С	D	TOTAL
HISTORY	3	2	1	1	7
SPORTS	4	3	1	4	12
SCIENCE	1	1	1	1	4
POLITICS	2	4	2	4	12
TOTAL	10	10	5	10	35

Clearly, 1, 2 and 3 all are possible values for the number of employees from Company A who likes History.

FeedBack

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

In a quiz competition, 35 employees are selected from four different companies – A, B, C and D. Each of these employees likes one of the four subjects – History, Sports, Science and Politics. Further, the following is known:

- (i) The total number of employees who like Politics is equal to the total number of employees who like Sports, which in turn is equal to thrice the number of employees who like Science.
- (ii) The number of employees from each of the three companies A, B and D is twice the number of employees from company C.
- (iii) There are four employees from company D who likes Sports.
- (iv) From each of the four companies, at least one employee and at most four employees are short listed for each of the four subjects.

#### 0.60

If the number of employees selected from company A, who like Politics is equal to the number of employees selected from company B who likes History, then how many employees are selected from company D, who like History?

2 0 2

3 O 3

# 4 Cannot be determined

Solution:

**Correct Answer: 1** 

**■** Bookmark

Answer key/Solution

From (ii), we can say that the number of employees selected from companies A, B, C and D are 10, 10, 5 and 10 respectively. (As the total number of employees is 35).

Let the number of employees who likes Science be x.

From (i), the number of employees who like Politics and Sports will be 3x each.

Now, the only possible value of x is 4 as the value of x more than 4 or less than 4 will not satisfy the value of the number of employees who like History.

Hence, the number of employees who like Science is 4, i.e. one employee is selected from each company who likes Science.

The number of employees who like Politics and Sports will be 12 each and the number employees who like History will be 7. From (iv), from each of the companies, the number of employees being n, where  $1 \le n \le 4$  are shortlisted for each of the four subjects.

	Α	В	С	D	TOTAL
HISTORY	3	2	1	1	7
SPORTS	4	3	1	4	12
SCIENCE	1	1	1	1	4
POLITICS	2	4	2	4	12
TOTAL	10	10	5	10	35

#### and

	Α	В	С	D	TOTAL
HISTORY	2	3	1	1	7
SPORTS	4	2	2	4	12
SCIENCE	1	1	1	1	4
POLITICS	3	4	1	4	12
TOTAL	10	10	5	10	35

Clearly, from both the tables, we can say that the number of employees selected from Company D, who likes History is 1.

FeedBack

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

In a quiz competition, 35 employees are selected from four different companies – A, B, C and D. Each of these employees likes one of the four subjects – History, Sports, Science and Politics. Further, the following is known:

- (i) The total number of employees who like Politics is equal to the total number of employees who like Sports, which in turn is equal to thrice the number of employees who like Science.
- (ii) The number of employees from each of the three companies A, B and D is twice the number of employees from company C.
- (iii) There are four employees from company D who likes Sports.
- (iv) From each of the four companies, at least one employee and at most four employees are short listed for each of the four subjects.

#### 0.61

# Which of the following statements is definitely true?

- 1 There are more than ten employees who like History.
- 2 The difference between the number of employees who like Politics of company A and company D is one.
- 3 The difference between the number of employees who like History and Politics from company B is one.
- 4 None of these.

Solution:

**Correct Answer: 4** 

**■** Bookmark

Answer key/Solution

From (ii), we can say that the number of employees selected from companies A, B, C and D are 10, 10, 5 and 10 respectively. (As the total number of employees is 35).

Let the number of employees who likes Science be x.

From (i), the number of employees who like Politics and Sports will be 3x each.

Now, the only possible value of x is 4 as the value of x more than 4 or less than 4 will not satisfy the value of the number of employees who like History.

Hence, the number of employees who like Science is 4, i.e. one employee is selected from each company who likes Science.

The number of employees who like Politics and Sports will be 12 each and the number employees who like History will be 7. From (iv), from each of the companies, the number of employees being n, where  $1 \le n \le 4$  are shortlisted for each of the four subjects.

Option (1) is incorrect as there are only 7 employees who like History.

Option (2) is not definitely true.

	Α	В	С	D	TOTAL
HISTORY	2	1	1	3	7
SPORTS	3	4	1	4	12
SCIENCE	1	1	1	1	4
POLITICS	4	4	2	2	12
TOTAL	10	10	5	10	35

Here, the difference between the number of employees who like Politics of Company A and Company D is two.

Option (3) is also not definitely true.

	Α	В	С	D	TOTAL
HISTORY	1	2	2	2	7
SPORTS	4	3	1	4	12
SCIENCE	1	1	1	1	4
POLITICS	4	4	1	3	12
TOTAL	10	10	5	10	35

From this table, we can clearly see that the difference between the number of employees who like History and Politics from Company B is two.

Hence, option (4) is the correct answer.

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

In a quiz competition, 35 employees are selected from four different companies – A, B, C and D. Each of these employees likes one of the four subjects – History, Sports, Science and Politics. Further, the following is known:

- (i) The total number of employees who like Politics is equal to the total number of employees who like Sports, which in turn is equal to thrice the number of employees who like Science.
- (ii) The number of employees from each of the three companies A, B and D is twice the number of employees from company C.
- (iii) There are four employees from company D who likes Sports.
- (iv) From each of the four companies, at least one employee and at most four employees are short listed for each of the four subjects.

# Q.62 At most how many employees from company D were selected who likes History?

Solution:
Correct Answer : 3

Bookmark

Answer key/Solution

From (ii), we can say that the number of employees selected from companies A, B, C and D are 10, 10, 5 and 10 respectively. (As the total number of employees is 35).

Let the number of employees who likes Science be x.

From (i), the number of employees who like Politics and Sports will be 3x each.

Now, the only possible value of x is 4 as the value of x more than 4 or less than 4 will not satisfy the value of the number of employees who like History.

Hence, the number of employees who like Science is 4, i.e. one employee is selected from each company who likes Science.

The number of employees who like Politics and Sports will be 12 each and the number employees who like History will be 7. From (iv), from each of the companies, the number of employees being n, where  $1 \le n \le 4$  are shortlisted for each of the four subjects.

	Α	В	С	D	TOTAL
HISTORY	3	2	1	1	7
SPORTS	4	3	1	4	12
SCIENCE	1	1	1	1	4
POLITICS	2	4	2	4	12
TOTAL	10	10	5	10	35

	Α	В	С	D	TOTAL
HISTORY	1	2	2	2	7
SPORTS	4	3	1	4	12
SCIENCE	1	1	1	1	4
POLITICS	4	4	1	3	12
TOTAL	10	10	5	10	35

	Α	В	С	D	TOTAL
HISTORY	2	1	1	3	7
SPORTS	3	4	1	4	12
SCIENCE	1	1	1	1	4
POLITICS	4	4	2	2	12
TOTAL	10	10	5	10	35

Clearly, atmost 3 employees from Comapny D were selected who likes History.

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

IFBS, a management college, introduced five new credit courses – Gandhian Ideology (GI), Basic Management (MT), Modern language (ML), Politics (PL), and Sociology (SG). Seven students – Amit, Bohra, Divya, Firoz, Geeta, Harman and Savita - of a batch chose either two or three courses for their two years programme. Also, the factor, on basis of which, they prefer one course over the another was the faculty teaching those courses. Name of the faculties for these 5 courses, given by the college, were – Mr. Subramaniam (Mr.S), Rajesh Thakur (RT), Shiv Prakash Tripathi (SPT), Arundhati Bose (AB), Gautam Prasad (GP) - not necessarily in the same order. It is known that,4 students had chosen GI, 3 had chosen MT, 4 had chosen ML, 4 had chosen PL and 3 had chosen SG.

Some additional information about the choice of course of these students is also known.

- 1. Amit and Divya had exactly two courses in common, which were neither SG nor MT, and one of those common courses was taught by Mr.S.
- 2. Exactly three students chose only two courses and one of them was Harman. Also, none of these three students was Savita, whose exactly two courses were common with Divya, who chose a course which was taught by AB.
- 3. Divya and Geeta both had chosen three courses, out of which, exactly two were common for both, one of which was ML, taught by SPT.
- 4. Bohra chose MT, which was neither taught by GP nor it was the course chosen by Savita.
- 5. Firoz and Geeta had exactly two courses in common, one of which was taught by RT.
- 6. Geeta and Harman had exactly one course in common which was taught by Mr.S. Similarly, the same is true for two more pairs which were (Amit and Bohra), and (Savita and Harman).
- 7. Amit didn't choose ML and SG, Geeta didn't choose PL and Firoz didn't choose SG.
- 8. Savita chose PL but it was not taught by Mr.S.

Q.63 How many students chose the subject taught by RT?	
1 © 5	
2 <b>4</b>	
3 O <b>3</b>	
4 Cannot be determined	
Solution: Correct Answer : 3	<b>■</b> Bookmark
	& Answer key/Solution

By statement 1, Amit and divya both selected neither SG nor MT and neither of these two courses were taught by Mr. S. By statement 2, Harman and two other students choose two subjects and savita and three other students choose three subjects. Also, Savita and divya have two courses in common out of GI, ML, and PL, and one of these courses is taught by AB. By statement 3, Geeta and Divya choose three courses out of which two are common one of which is ML, taught by SPT. By statement 4, Bohra chose MT but Savita don't and MT was not taught by GP.

	GI (4)	MT (3)	ML (4)	PL (4)	SG (3)
Amit		×			×
Bohra		√			
Divya (3)	√	×	√	√	√
Firoz					
Geeta (3)			√		
Harman (2)					
Savita (3)		×			√

By statement 4, Bohra chose MT but Savita don't and MT was not taught by GP. Faculty table.

Course	Faculty
GI	Mr. S/AB
MT	RT
ML	SPT
PL	Mr. S/AB
SG	GP

By statement 5, Firoz and Geeta have exactly two courses in common, one of which is MT, as it is taught by RT. By statement 7, Amit didn't choose ML and SG, Geeta didn't choose PL and Firoz didn't choose SG. By statement 8, Savita choose PL and it was not taught by Mr. S, therefore Mr. S taught GI and AB taught PL, and by statement 6, Geeta and Harman had exactly one course in common which was taught by Mr. S i.e. GI.

Similarly exactly one course is common for the pairs (Amit and Bohra) and (Savita and Harman). By all the information the final table will look like:

	GI (4)	MT (3)	ML (4)	PL (4)	SG (3)
Amit (2)	√	×	×	√	×
Bohra (3)	×	√	×	√	√
Divya (3)	√	×	√	√	×
Firoz (2)	×	√	√	×	×
Geeta (3)	√	√	√	×	×
Harman (2)	√	×	<b>V</b>	×	√
Savita (3)	×	×	<b>V</b>	√	√

and

Course	Faculty
GI	Mr. S
MT	RT
ML	SPT
PL	AB
SG	GP

RT taught MT, and MT was chosen by 3 students.

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

IFBS, a management college, introduced five new credit courses – Gandhian Ideology (GI), Basic Management (MT), Modern language (ML), Politics (PL), and Sociology (SG). Seven students – Amit, Bohra, Divya, Firoz, Geeta, Harman and Savita - of a batch chose either two or three courses for their two years programme. Also, the factor, on basis of which, they prefer one course over the another was the faculty teaching those courses. Name of the faculties for these 5 courses, given by the college, were – Mr. Subramaniam (Mr.S), Rajesh Thakur (RT), Shiv Prakash Tripathi (SPT), Arundhati Bose (AB), Gautam Prasad (GP) - not necessarily in the same order. It is known that,4 students had chosen GI, 3 had chosen MT, 4 had chosen ML, 4 had chosen PL and 3 had chosen SG.

Some additional information about the choice of course of these students is also known.

- 1. Amit and Divya had exactly two courses in common, which were neither SG nor MT, and one of those common courses was taught by Mr.S.
- 2. Exactly three students chose only two courses and one of them was Harman. Also, none of these three students was Savita, whose exactly two courses were common with Divya, who chose a course which was taught by AB.
- 3. Divya and Geeta both had chosen three courses, out of which, exactly two were common for both, one of which was ML, taught by SPT.
- 4. Bohra chose MT, which was neither taught by GP nor it was the course chosen by Savita.
- 5. Firoz and Geeta had exactly two courses in common, one of which was taught by RT.
- 6. Geeta and Harman had exactly one course in common which was taught by Mr.S. Similarly, the same is true for two more pairs which were (Amit and Bohra), and (Savita and Harman).
- 7. Amit didn't choose ML and SG, Geeta didn't choose PL and Firoz didn't choose SG.
- 8. Savita chose PL but it was not taught by Mr.S.

Q.64 What were the name of the students, who chose the course taught by SPT?	
1	
2 O Divya, Firoz, Geeta, Savita	
3 O Firoz, Geeta and Savita	
4 ○ Divya, Geeta and Harman	
Solution: Correct Answer : 2	<b>■</b> Bookmark
	م Answer key/Solution

By statement 1, Amit and divya both selected neither SG nor MT and neither of these two courses were taught by Mr. S. By statement 2, Harman and two other students choose two subjects and savita and three other students choose three subjects. Also, Savita and divya have two courses in common out of GI, ML, and PL, and one of these courses is taught by AB. By statement 3, Geeta and Divya choose three courses out of which two are common one of which is ML, taught by SPT. By statement 4, Bohra chose MT but Savita don't and MT was not taught by GP.

	GI (4)	MT (3)	ML (4)	PL (4)	SG (3)
Amit		×			×
Bohra		√			
Divya (3)	√	×	√	√	√
Firoz					
Geeta (3)			√		
Harman (2)					
Savita (3)		×			√

By statement 4, Bohra chose MT but Savita don't and MT was not taught by GP. Faculty table.

Course	Faculty
GI	Mr. S/AB
MT	RT
ML	SPT
PL	Mr. S/AB
SG	GP

By statement 5, Firoz and Geeta have exactly two courses in common, one of which is MT, as it is taught by RT. By statement 7, Amit didn't choose ML and SG, Geeta didn't choose PL and Firoz didn't choose SG. By statement 8, Savita choose PL and it was not taught by Mr. S, therefore Mr. S taught GI and AB taught PL, and by statement 6, Geeta and Harman had exactly one course in common which was taught by Mr. S i.e. GI.

Similarly exactly one course is common for the pairs (Amit and Bohra) and (Savita and Harman). By all the information the final table will look like:

	GI (4)	MT (3)	ML (4)	PL (4)	SG (3)
Amit (2)	√	×	×	√	×
Bohra (3)	×	√	×	√	√
Divya (3)	√	×	√	√	×
Firoz (2)	×	√	√	×	×
Geeta (3)	√	√	√	×	×
Harman (2)	√	×	<b>V</b>	×	√
Savita (3)	×	×	<b>V</b>	√	√

and

Course	Faculty
Gl	Mr. S
MT	RT
ML	SPT
PL	AB
SG	GP

SPT taught ML, and ML was chosen by Divya, Firoz, Geeta and Savita

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

IFBS, a management college, introduced five new credit courses – Gandhian Ideology (GI), Basic Management (MT), Modern language (ML), Politics (PL), and Sociology (SG). Seven students – Amit, Bohra, Divya, Firoz, Geeta, Harman and Savita - of a batch chose either two or three courses for their two years programme. Also, the factor, on basis of which, they prefer one course over the another was the faculty teaching those courses. Name of the faculties for these 5 courses, given by the college, were – Mr. Subramaniam (Mr.S), Rajesh Thakur (RT), Shiv Prakash Tripathi (SPT), Arundhati Bose (AB), Gautam Prasad (GP) - not necessarily in the same order. It is known that,4 students had chosen GI, 3 had chosen MT, 4 had chosen ML, 4 had chosen PL and 3 had chosen SG.

Some additional information about the choice of course of these students is also known.

- 1. Amit and Divya had exactly two courses in common, which were neither SG nor MT, and one of those common courses was taught by Mr.S.
- 2. Exactly three students chose only two courses and one of them was Harman. Also, none of these three students was Savita, whose exactly two courses were common with Divya, who chose a course which was taught by AB.
- 3. Divya and Geeta both had chosen three courses, out of which, exactly two were common for both, one of which was ML, taught by SPT.
- 4. Bohra chose MT, which was neither taught by GP nor it was the course chosen by Savita.
- 5. Firoz and Geeta had exactly two courses in common, one of which was taught by RT.
- 6. Geeta and Harman had exactly one course in common which was taught by Mr.S. Similarly, the same is true for two more pairs which were (Amit and Bohra), and (Savita and Harman).
- 7. Amit didn't choose ML and SG, Geeta didn't choose PL and Firoz didn't choose SG.
- 8. Savita chose PL but it was not taught by Mr.S.

Q.65 Geeta chose the courses taught by	
1 Mr.S, GP,and SPT	
2 Mr.S, SPT,and AB	
3 O GP, RT,and AB	
4 ○ Mr.S, RT,and SPT	
Solution: Correct Answer : 4	<b>■</b> Bookmark
	م Answer key/Solution

By statement 1, Amit and divya both selected neither SG nor MT and neither of these two courses were taught by Mr. S. By statement 2, Harman and two other students choose two subjects and savita and three other students choose three subjects. Also, Savita and divya have two courses in common out of GI, ML, and PL, and one of these courses is taught by AB. By statement 3, Geeta and Divya choose three courses out of which two are common one of which is ML, taught by SPT. By statement 4, Bohra chose MT but Savita don't and MT was not taught by GP.

	GI (4)	MT (3)	ML (4)	PL (4)	SG (3)
Amit		×			×
Bohra		√			
Divya (3)	√	×	√	√	√
Firoz					
Geeta (3)			√		
Harman (2)					
Savita (3)		×			√

By statement 4, Bohra chose MT but Savita don't and MT was not taught by GP. Faculty table.

Course	Faculty
GI	Mr. S/AB
MT	RT
ML	SPT
PL	Mr. S/AB
SG	GP

By statement 5, Firoz and Geeta have exactly two courses in common, one of which is MT, as it is taught by RT. By statement 7, Amit didn't choose ML and SG, Geeta didn't choose PL and Firoz didn't choose SG. By statement 8, Savita choose PL and it was not taught by Mr. S, therefore Mr. S taught GI and AB taught PL, and by statement 6, Geeta and Harman had exactly one course in common which was taught by Mr. S i.e. GI.

Similarly exactly one course is common for the pairs (Amit and Bohra) and (Savita and Harman). By all the information the final table will look like:

	GI (4)	MT (3)	ML (4)	PL (4)	SG (3)
Amit (2)	√	×	×	√	×
Bohra (3)	×	√	×	√	√
Divya (3)	√	×	√	√	×
Firoz (2)	×	√	√	×	×
Geeta (3)	√	√	√	×	×
Harman (2)	√	×	√	×	√
Savita (3)	×	×	√	√	√

and

Course	Faculty
Gl	Mr. S
MT	RT
ML	SPT
PL	AB
SG	GP

Geeta chose the courses taught by Mr. S, RT, and SPT.

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

IFBS, a management college, introduced five new credit courses – Gandhian Ideology (GI), Basic Management (MT), Modern language (ML), Politics (PL), and Sociology (SG). Seven students – Amit, Bohra, Divya, Firoz, Geeta, Harman and Savita - of a batch chose either two or three courses for their two years programme. Also, the factor, on basis of which, they prefer one course over the another was the faculty teaching those courses. Name of the faculties for these 5 courses, given by the college, were – Mr. Subramaniam (Mr.S), Rajesh Thakur (RT), Shiv Prakash Tripathi (SPT), Arundhati Bose (AB), Gautam Prasad (GP) - not necessarily in the same order. It is known that,4 students had chosen GI, 3 had chosen MT, 4 had chosen ML, 4 had chosen PL and 3 had chosen SG.

Some additional information about the choice of course of these students is also known.

- 1. Amit and Divya had exactly two courses in common, which were neither SG nor MT, and one of those common courses was taught by Mr.S.
- 2. Exactly three students chose only two courses and one of them was Harman. Also, none of these three students was Savita, whose exactly two courses were common with Divya, who chose a course which was taught by AB.
- 3. Divya and Geeta both had chosen three courses, out of which, exactly two were common for both, one of which was ML, taught by SPT.
- 4. Bohra chose MT, which was neither taught by GP nor it was the course chosen by Savita.
- 5. Firoz and Geeta had exactly two courses in common, one of which was taught by RT.
- 6. Geeta and Harman had exactly one course in common which was taught by Mr.S. Similarly, the same is true for two more pairs which were (Amit and Bohra), and (Savita and Harman).
- 7. Amit didn't choose ML and SG, Geeta didn't choose PL and Firoz didn't choose SG.
- 8. Savita chose PL but it was not taught by Mr.S.

Q.66 Students, whose common subjects were only ML and PL, were	
1	
2 O Firoz and Geeta	
3 O Divya and Geeta	
4 O Firoz and Savita	
Solution: Correct Answer : 1	<b>■</b> Bookmark
	م Answer key/Solution

By statement 1, Amit and divya both selected neither SG nor MT and neither of these two courses were taught by Mr. S. By statement 2, Harman and two other students choose two subjects and savita and three other students choose three subjects. Also, Savita and divya have two courses in common out of GI, ML, and PL, and one of these courses is taught by AB. By statement 3, Geeta and Divya choose three courses out of which two are common one of which is ML, taught by SPT. By statement 4, Bohra chose MT but Savita don't and MT was not taught by GP.

	GI (4)	MT (3)	ML (4)	PL (4)	SG (3)
Amit		×			×
Bohra		√			
Divya (3)	√	×	√	√	√
Firoz					
Geeta (3)			√		
Harman (2)					
Savita (3)		×			√

By statement 4, Bohra chose MT but Savita don't and MT was not taught by GP. Faculty table.

Course	Faculty	
GI	Mr. S/AB	
MT	RT	
ML	SPT	
PL	Mr. S/AB	
SG	GP	

By statement 5, Firoz and Geeta have exactly two courses in common, one of which is MT, as it is taught by RT. By statement 7, Amit didn't chose ML and SG, Geeta didn't choose PL and Firoz didn't choose SG.

By statement 8, Savita choose PL and it was not taught by Mr. S, therefore Mr. S taught GI and AB taught PL, and by statement 6, Geeta and Harman had exactly one course in common which was taught by Mr. S i.e. GI.

Similarly exactly one course is common for the pairs (Amit and Bohra) and (Savita and Harman). By all the information the final table will look like:

	GI (4)	MT (3)	ML (4)	PL (4)	SG (3)
Amit (2)	√	×	×	√	×
Bohra (3)	×	√	×	√	√
Divya (3)	√	×	√	√	×
Firoz (2)	×	√	√	×	×
Geeta (3)	√	√	√	×	×
Harman (2)	√	×	<b>V</b>	×	√
Savita (3)	×	×	<b>V</b>	√	<b>V</b>

and

Course	Faculty
GI	Mr. S
MT	RT
ML	SPT
PL	AB
SG	GP

Students whose common subjects were only ML and PL were Divya and Savita.

# Sec 3

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What is the discount offered in the offer which reads 'buy 5 get 2 free'?

- 1 0 40%
- 2 66.66%
- 3 **28.57**%
- 4 0 42.84%

#### Solution:

# **Correct Answer: 3**

Buy 5 get 2 free means 2 articles are provided for free out of total 7 articles.

∴ Discount percentage = 
$$\frac{2}{7} \times 100 = 28.57\%$$
.

FeedBack

# **■** Bookmark

Answer key/Solution

# Q.68

If log 24 = 1.48 and log 54 = 1.56, then find log36.

- 1 3.04
- 2 **1.52**
- 3 **1.56**
- 4 0 1.62

# Solution:

**Correct Answer: 2** 

 $\log 24 = \log (2 \times 2 \times 2 \times 3) = 3 \log 2 + \log 3 = 1.48$ 

 $\log 54 = \log (2 \times 3 \times 3 \times 3) = \log 2 + 3 \log 3 = 1.56$ 

By simplifying these two equations, we get

 $4 \log 2 + 4 \log 3 = 3.04$ 

i.e, 2 log2 + 2 log 3 = 1.52

FeedBack

# **■** Bookmark

Answer key/Solution

#### Q.69

The cost price of three articles are in the ratio 3:4:5. The shopkeeper marks up the price of these three articles by 100%, 50% and 20% respectively, and then offers a discount of 20% on each article. Find his overall profit percentage.

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JUI	uu	vii	•

**Correct Answer: 20** 

**■** Bookmark

Answer key/Solution

Let the price of 3 Articles be Rs. 300, Rs. 400 and Rs. 500.

Marked price after markup of 100%, 50% and 20% respectively = Rs. 600, Rs. 600, Rs. 600

As discount offered is 20% constant value we can calculate it as  $1800 \times \frac{20}{100} = \text{Rs. } 360.$ 

So, Selling price is Rs. 1440.

Profit% = 
$$\frac{240}{1200} \times 100 = 20\%$$

FeedBack

# Q.70

If a:b=b:c=c:d=2:3, where a, b, c and d are integers, then what can be the value of (a+b+c+d)?

- 1 0 195
- 2 **210**
- 3 **120**
- 4 0 320

# Solution:

**Correct Answer: 1** 

a:b:c:d

2:3:4.5:6.75 = 8:12:18:27.

Sum = 65

So, answer will be 195.

The only multiple of 65, among the given options.

FeedBack

#### **■** Bookmark

Answer key/Solution

# Q.71

In an AP, 10th term is 11 and 11th term is 10. How many consecutive terms (from starting) should be considered so that the sum of all these terms comes out to be '0'?

1 33

2 **37** 

3 🔾 39	
4 🔾 41	
Solution: Correct Answer : 4	<b>■</b> Bookmark
$t_{10} = a + 9d = 11$ $t_{11} = a + 10d = 10$ $\Rightarrow a = 20; d = -1$	م Answer key/Solution
Sum = $\frac{n}{2}[2a + (n-1)d] = 0$	
∴ n = 41 FeedBack	
Q.72 If x and y are natural numbers, then $x^2 \times y + y^2 \times x$ is	
1 O always odd	
2 ○ always even	
3 ○ always prime	
4 ○ cannot be determined	
Solution: Correct Answer : 2	<b>■</b> Bookmark
	م Answer key/Solution
In this equation, $x^2y + y^2x$ if x and y are even then the equation will alway when x and y both are odd. When x and y are odd then, (xy) will be odd but (x + y) will be even. And FeedBack	
Q.73 A right circular cylinder of radius 4 cm and height 18 cm is melte figure of the minimum possible surface area. The recast figure is plane. Find the total surface area of one of these parts.	
1 Ο 288 π	
2 Ο 72 π	

4 0 108 π

# Solution:

# **Correct Answer: 4**

$$\pi(4)^2 \times 18 = \frac{4}{3}\pi r^3$$

$$r^3 = 4 \times 3 \times 18 = 2^3 \times 3^3 \implies r = 6$$

Required TSA =  $3 \pi r^2 = 3 \times \pi \times 6^2 = 108 \pi$ .

FeedBack

#### **■** Bookmark

Answer key/Solution

#### Q.74

Mandeep bought some turmeric powder containing five percent impurities in the form of saw dust. He then mixed pure turmeric powder to two kilograms of that impure turmeric in such a way that the proportion of impurity now became 4% of the total mixture. At what percent (approximate) should he mark up the price of this mixture to have an overall profit of 30%?

- 1 25%
- 2 26%
- 3 0 30%
- 4 0 20%

# **Solution:**

**Correct Answer: 1** 



Answer key/Solution

As after mixing the pure turmeric powder the percentage of saw dust becomes 4% and by marking up he wants to make overall gain of 30%, we can apply the successive change formula.

$$a+4+\frac{a\times 4}{100}=30$$

On solving we will get the value of a = 25 So, option (1) is the correct answer

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# Q.75

Consider the set  $S = \{1, 2, 3, ..., 1000\}$ . How many Arithmetic Progressions can be formed from the elements of S that starts with 1 and ends with 1000 and have at least 3 elements?

tn = a + (n - 1)d  

$$1000 = 1 + (n - 1) \times d$$
  
 $(n - 1) \times d = 999$   
d should be a factor of 999.  
 $999 = 3 \times 11 \times 37$   
Number of factors  $2 \times 2 \times 2 = 8$   
One of the factors is 999.

If we consider d = 999 then only two elements 1 and 1000 will come but as it should have atleast 3 elements, so total 7 factors is the correct answer.

FeedBack

#### 0.76

If the difference between the simple interest and the compound interest, compounded every four months, on a certain sum of money at the rate of 30% per annum for one year is Rs. 93, then find the sum (in Rs.).

# Solution:

# **Correct Answer: 3000**

Suppose sum = Rs.100 Given rate = 30% per annum ∴ rate for every four months

$$=\frac{30}{3}=10\% / 4 \text{ months}$$

$$CI = 100 \left[ \left( 1 + \frac{10}{100} \right)^3 - 1 \right] = 100 \left[ \frac{1331}{1000} - 1 \right]$$

CI = Rs.33.1

and SI year 1 year =  $100 \times \frac{30}{100} \times 1 = \text{Rs.}30$ 

$$\therefore \frac{3.1}{100} = \frac{93}{\text{Re al sum}}$$

Real sum = Rs.3000

FeedBack

# **■** Bookmark

Answer key/Solution

# Q.77

If a, b, c and d are distinct negative integers less than -2018 and  $\frac{a}{b} < \frac{c}{d}$ , then how many of the

following definitely lie(s) between  $\frac{a}{b}$  and  $\frac{c}{d}$ ?

(i) 
$$\frac{a \times b}{c \times d}$$

(ii) 
$$\frac{a+c}{b+c}$$

(iii) 
$$\frac{a \times c}{b \times c}$$

(iv) 
$$\frac{a-c}{b-d}$$

1 Only one of them 2 Only two of them 3 Only three of them 4 All four of them Solution: **■** Bookmark **Correct Answer: 1** Put random values, suppose a = -4040, b = -2020, c = -9090, d = -3030Answer key/Solution So,  $\frac{a}{b} < \frac{c}{d}$ . Clearly, only the value of  $\frac{a+c}{b+d}$  lies between  $\frac{a}{b}$  and  $\frac{c}{d}$ . FeedBack Q.78 What is the remainder when  $(9^1 + 9^2 + 9^3...+ 9^{121})$  is divided by 6? Solution: **■** Bookmark **Correct Answer: 3**  $9 \mod 6 \equiv 3, 9^2 \mod 6 \equiv 3, 9^3 \mod 6 \equiv 3......9^{121} \mod 6 \equiv 3$ Answer key/Solution  $\operatorname{rem}\left(\frac{9+9^2+9^3+\dots+9^{121}}{6}\right) = \operatorname{rem}\left(\frac{121\times 3}{6}\right) = 3$ FeedBack Q.79 There are two concentric circles, having center at O. AB is a chord for the larger circle which is tangent to the smaller one at point T. If AB = 24 cm and OT = 5 cm, then find the length (in cm) of the chord which is at a distance of 12 cm from the centre.

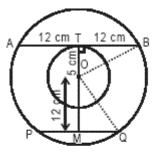
1 9 cm

2 0 10 cm

3 0 7 cm

4 13.5 cm

# **Correct Answer: 2**



**■** Bookmark

Answer key/Solution

In  $\Delta$ OTB, OB<sup>2</sup> = 12<sup>2</sup> + 5<sup>2</sup>

⇒ OB = 13 cm.

Let PQ be the chord which is 12 cm away from the centre.

So, in  $\Delta$ OMQ,

OQ = 13 cm (Radius of the bigger circle)

OM = 12 cm ⇒ MQ = 5 cm

So, length of chord PQ = 10 cm.

FeedBack

#### Q.80

P and Q married each other when their ages were in the ratio of 4:5. After 3 years of their marriage, they had a child. Two years after this, the average age of the family of the three was 19 years. What was the age of Q at the time of his/her marriage?

#### Solution:

#### **Correct Answer: 25**

Let the age of P and Q when they got married be 4x and 5x respectively. Now, according to the question,

$$\frac{5x + 5 + 2 + 4x + 5}{3} = 19$$

$$\Rightarrow$$
 9x + 12 = 57

$$\Rightarrow x = 5$$

... The age of Q at the time of his/her marriage was 5 × 5 = 25 years.

FeedBack

# **■** Bookmark

Answer key/Solution

#### Q.81

In an examination paper, there are 100 questions. For each correct answer 6 marks will be awarded, for each wrong answer 3 marks will be deducted and for each unattempted question 1 mark will be deducted. If a student scored 350 marks in that paper, then what could be the maximum number of questions not attempted by him?

1 28

2 0 37

3 O 30

4 0 19

Solution:

**Correct Answer: 1** 

**■** Bookmark

Answer key/Solution

Let the number of questions answered correctly = x, the number of questions answered wrongly = y, and the number of questions answered unattempted = z

$$x + y + z = 100$$

$$\& 6x - 3y - z = 350$$

...(2)

from (1) & (2) eliminating x, we get

$$z = \frac{250 - 9y}{7}$$

For max. (z), y should be min. Putting y = 6 we get z = 28

FeedBack

Q.82

Ram beats Shyam by 5 kms or 5 minutes in a race. Find the time taken (in minutes) by Ram to complete the race, if the distance between the starting point and the finishing point of the race is 90 km.

1 9 85

2 90

3 95

4 0 100

**Solution:** 

**Correct Answer: 1** 

**■** Bookmark

Answer key/Solution

As Ram beats Shyam by 5 kms, this implies that when Ram covers 90 kms, at that time Shyam covers 85 kms. Also, Ram beats Shyam by 5 minutes implies that if Ram takes x minutes to cover 90 km, then Shyam will take (x + 5) minutes.

⇒ From this, we can conclude that Shyam covers 5 km in 5 minutes.

∴ Shyam's speed = 
$$\frac{5}{5}$$
×60 = 60 km/hr.

So, time taken by Shyam to cover 90 km =  $\frac{90}{60}$  = 1.5 hours or 90 minutes.

i.e. 
$$x + 5 = 90$$

... Ram will take 85 minutes to complete the race.

# Q.83

For how many integral values of x, the value of  $f(x) = x^2 - x - 6$  is less than that of the equation 3y + x - 3 = 0?

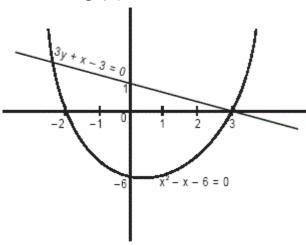
Solution:

**Correct Answer: 5** 

**■** Bookmark

Answer key/Solution

If we draw the graph,



So, from the graph we can clearly see at x = -2, -1, 0 1 and 2, the value of the equation  $x^2 - x - 6 = 0$  is less than that of the equation 3y + x - 3 = 0.

... The correct answer is 5.

FeedBack

# Q.84

Nikhil's speed is 30 m/s and Akash's speed is 50 m/s. Both of them started running at the same time from a same point along a circular track of length 3300 m. After how much time (in seconds) will they meet again at the starting point for the first time, if both are moving in opposite directions?

Solution:

**Correct Answer: 330** 

**■** Bookmark

Answer key/Solution

Nikhil's speed = 30 m/s Akash's speed = 50 m/s Their speed ratio = 3:5

⇒ At total 8 points, they meet in that circular track.

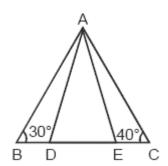
... The total distance covered when they meet again at the starting point for the first time will be 8 × 3300 m.

∴ Required time taken = 
$$\frac{8 \times 3300}{80}$$
 = 330 seconds.

Q.85 The number of positive integral solutions for the equation $a + b + c + d + e = 30$	is
1 <b>25173</b>	
2 <b>23517</b>	
3 <b>25731</b>	
4 🔾 23751	
Solution: Correct Answer : 4	<b>■</b> Bookmark
Total integral solution of $X_1 + X_2 + \dots X_n = p$ is $^{p-1}C_{n-1}$ $\Rightarrow {}^{30-1}C_{g-1} = {}^{29}C_4 = 23751$ FeedBack	ه Answer key/Solution
Q.86 A natural number N when divided by 10 leaves a remainder R and quotient Q. The addition of the product QR and the $sum(Q + R)$ . If N is a multiple of 9 and is less many values can N assume?	<del>-</del>
1 0 110	
2 0 112	
3 🔾 999	
4 0 1000	
Solution: Correct Answer : 2	<b>■</b> Bookmark
10Q + R = QR + Q + R $9Q = QR$	ه Answer key/Solution
R = 9 The values of N can be of the form 9 × (10k + 1) k can be 0, 1, 2,111 hence number of different values of N = 112 Hence option (2)	
FeedBack	

# Q.87

In the figure shown below, AD = BD and AE = CE. Find  $\angle$ DAE.



1 0 **50°** 

2 **20°** 

3 0 30°

4 0 40°

#### Solution:

#### **Correct Answer: 4**

∠BAD = ∠ABD (AD = BD) ∴∠BAD = 30° ∠ACE = ∠EAC (AE = CE) ∴ ∠EAC = 40° ∠A + ∠B + ∠C = 180° 30° + ∠BAD + ∠DAE + ∠EAC + 40° = 180° ∠DAE = 40°

FeedBack

# **■** Bookmark

♠ Answer key/Solution

# Q.88

A team of 4 men and 3 women can finish a work in 8 days. The same work is done by a team of 2 men and 4 women in 10 days. Find the number of days taken by 3 men and 1 woman to finish the same work.

1 0 12

2 40/3

3 0 10/3

4 20

# **Correct Answer: 2**

$$\frac{4}{x} + \frac{3}{y} = \frac{1}{8}$$

$$\frac{2}{x} + \frac{4}{y} = \frac{1}{10}$$

Solve the two equations and get, x = 50

$$y = \frac{200}{3}$$

Days required by 3 men and 1 women =  $\frac{3}{x} + \frac{1}{y} = \frac{1}{40}$ 

Therefore,  $\frac{40}{3}$  days are required by 3 men and 1 woman to complete the work.

FeedBack

Q.89

Find the product of all the roots of the following equation: ||x - 2| - 4| = 4

#### Solution:

#### Correct Answer: -120

||x - 2| - 4| = 4 will be true when |x - 2| is either 8 or 0. |x - 2| = 0 will give x = 2.

|x - 2| = 8 will give x = 10 and x = -6

Hence the product is -120.

FeedBack

**■** Bookmark

**■** Bookmark

Answer key/Solution

Answer key/Solution

# Q.90

A certain number of taps can fill a tank in 7 hours. If there were 4 taps less, the tank would have been filled in 11 hours. Find the number of taps.

#### Solution:

#### **Correct Answer: 11**

Let there are total n taps.

.; n taps can fill a tank in 7 hours.

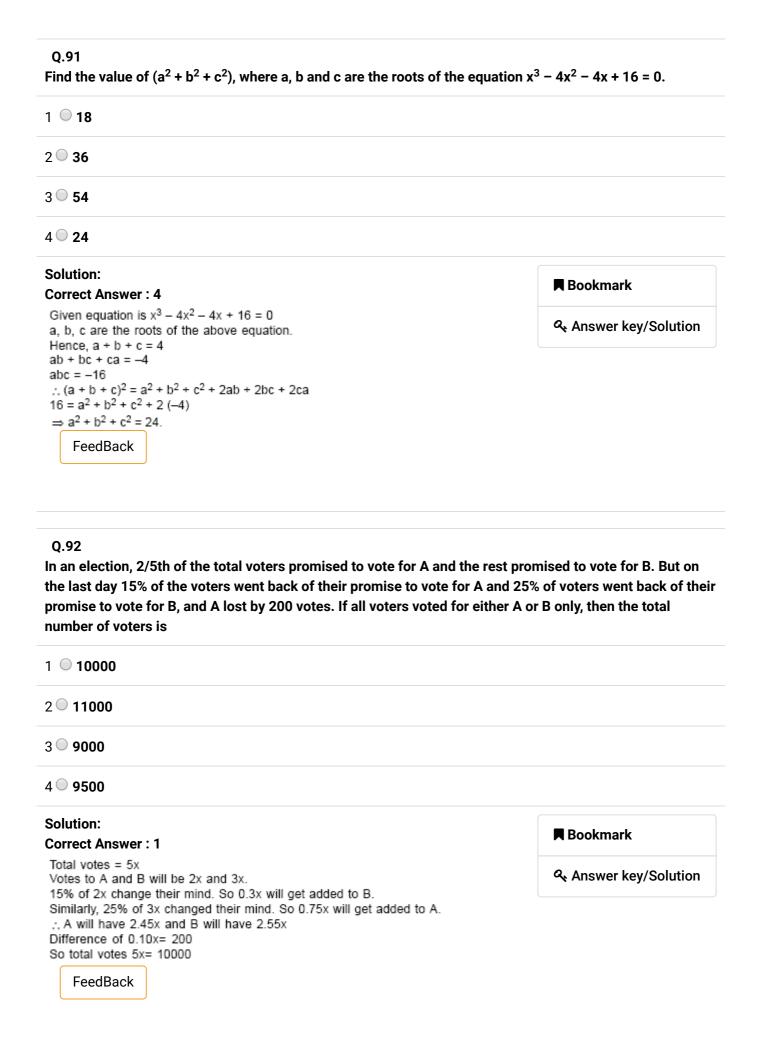
(n - 4) taps can fill a tank in 11 hours.

$$\Rightarrow$$
 7n = (n - 4) × 11

FeedBack

# **■** Bookmark

Answer key/Solution



X and Y together can do a piece of work in 12 days. Y and Z together can do the same piece of work in 16 days while Y alone can do it in 24 days. Which two, out of the three people, have the same efficiency?		
1 OX and Y		
2 ○ X and Z		
3 ○ Y and Z		
4 O Data insufficient		
Solution: Correct Answer : 1	<b>■</b> Bookmark	
Let the amount of work be LCM (12, 16, 24) = 48 units  X & Y will do 4 units/day  Y & Z will do 3 units/day  Y will do 2 units/day  ∴ X will also do 2 units/day and Z will do 1 unit/day	م Answer key/Solution	
Therefore X & Y have same efficiency.  FeedBack		
Q.94 If n is any positive integer, then n <sup>3</sup> – n is  1 • Always divisible by 12		
2 Never divisible by 12		
3 Always divisible by 6		
4 Never divisible by 6		
Solution: Correct Answer : 3	<b>■</b> Bookmark	
Take n = 2, 3 and so on It will always be divisible by 6.  FeedBack	4 Answer key/Solution	
0.05		
Q.95 While discussing about numbers with a friend, Ishu came across a 2-X. Once he interchanged the digits of the number, it became 60% more	_	

Q.93

**Correct Answer: 45** 

**■** Bookmark

Answer key/Solution

$$10a + b = \frac{60}{100}X \implies X = \frac{5}{3}(10a + b)$$

Also 
$$10b + a = \frac{160}{100}X \implies X = \frac{5}{8}(10b + a)$$

$$\frac{5}{3}(10a+b) = \frac{5}{8}(10b+a)$$

On solving we get the ratio of a and b as 2:7

as a and b are single digit numbers the only possible values are 2 and 7 from this we can calculate the value of X = 45.

FeedBack

0.96

M = |x - a| + |x - b|, where  $-15 \le a \le 5$  and  $-5 \le b \le 15$ .

How many integer values can 'x' take for which 'M' is minimum?

1 0 1

2 0 11

3 **21** 

4 0 31

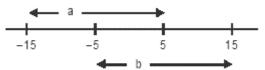
Solution:

**Correct Answer: 2** 

**■** Bookmark

Answer key/Solution

Plotting the values of a & b on number line:



when x = a = b then M is minimum and is equal to 0. Therefore the values which are common to both a & b i.e. from -5 to 5, are the possible values of x i.e 11 possible values for which 'M' is minimum.

FeedBack

Q.97

Five boxes numbered as 1,2,3,4 and 5 are kept in a row and they are to be filled with either a red or a blue ball, such that no two adjacent boxes can be filled with blue balls. How many such different arrangements are possible, given that all balls of a given color are exactly identical in all respects?

1 0 13		
2 0 8		
3 🔾 15		
4 🔾 22		
Solution: Correct Answer : 1	<b>■</b> Bookmark	
	م Answer key/Solution	
Let the five boxes are B <sub>1</sub> , B <sub>2</sub> , B <sub>3</sub> , B <sub>4</sub> and B <sub>5</sub> .  Now, these have to be filled with either a blue ball or a red ball such that no to blue balls.  So, Case 1: Where there are zero number of blue balls.  Red Red Red Red Red Red B <sub>5</sub> B <sub>4</sub> B <sub>5</sub> Case 2: When there are only 1 blue ball and rest are red then total 5 ways are or B <sub>2</sub> or B <sub>3</sub> or B <sub>4</sub> or B <sub>5</sub> .  Case 3: When there are two blue balls:  (a) Blue B <sub>1</sub> B <sub>2</sub> B <sub>3</sub> B <sub>4</sub> B <sub>5</sub> When one blue ball is in B1 then other one can be either in B <sub>3</sub> or B <sub>4</sub> or B <sub>5</sub> .  The other blue ball can be either in B <sub>4</sub> or B <sub>5</sub> .  (b) B <sub>1</sub> B <sub>2</sub> B <sub>3</sub> B <sub>4</sub> B <sub>5</sub> The other blue ball can be either in B <sub>4</sub> or B <sub>5</sub> .  (c) Blue Blue Only 1 way is possible  Hence, total 6 ways are possible when there are 2 blue balls and rest are Case 4: When there are three blue balls.  Blue Red Blue Red Blue Red Blue Only 1 way is possible  B <sub>1</sub> B <sub>2</sub> B <sub>3</sub> B <sub>4</sub> B <sub>5</sub> Hence, total 13 different arrangements are possible.  FeedBack	e possible i.e. it can be either in box B <sub>1</sub> Hence 3 ways are possible.	
Q.98 If roots of the quadratic equation ax <sup>2</sup> + bx + 1 = 0 are real and distinct	and a h holong to cot /1 2 3\ thou	
how many ordered pairs of (a, b) satisfy this condition?	, and a, b belong to set (1, 2, 3), the	
1 0 4		
2 <b>2</b>		
3 0 8		
4 ○ <b>6</b>		

**Correct Answer : 2** 

 $b^2 > 4a$  for b = 3, a = 1, 2.

... Only 2 ordered pairs of (a, b) i.e. (1, 3) and (2, 3) satisfy the given condition.

FeedBack

**■** Bookmark

Answer key/Solution

Q.99

A and B pick up a card from a well-shuffled deck of 52 cards one after the other replacing it every time till one gets a heart. If A begins the game, then what is the probability that the game ends with B?

- 1 2/7
- 2 0 4/7
- 3 0 3/7
- 4 0 1/4

Solution:

**Correct Answer: 3** 

**■** Bookmark

Answer key/Solution

Probability of drawing a heart is  $\frac{1}{4}$  & not drawing is  $\frac{3}{4}$ , we assume that A wins the game,

∴ A,  $\overline{ABA}$ ,  $\overline{ABABA}$ ,.......... A can pick heart in 1, 3, 5, 7 ... till 39 occasions, so the corresponding probability summation

is 
$$\frac{1}{4} + \left(\frac{3}{4}\right)^2 \times \frac{1}{4} + \left(\frac{3}{4}\right)^4 \times \frac{1}{4} + \dots$$

$$=\frac{1}{4}\left[\frac{1}{1-\frac{9}{16}}\right]=\frac{4}{7}$$

$$\therefore P(A wins) = \frac{4}{7}$$

$$\therefore P(B \text{ wins}) = \frac{3}{7}$$

FeedBack

Q.100

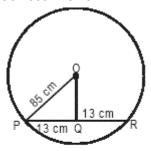
How far from the center of a circle, of diameter 170 cm, is the chord of length 26 cm?

1 9 85

2 0 84

3 081

**Correct Answer: 2** 



Diameter = 170 cm ∴ Radius = 85 cm In AOQP,  $OQ^2 = 85^2 - 13^2 = 7056$  $\Rightarrow$  OQ = 84 cm.

FeedBack

# **■** Bookmark

♠ Answer key/Solution