aspiration.ai

Mock CAT - 13 2020 (New Pattern)

Scorecard (procreview.jsp?sid=aaaRxVl2eGBwkbCSAn8ExSat Feb 20 11:03:14 IST 2021&qsetId=OqSQqjwwxx4=&qsetName=Mock CAT - 13 2020 (New Pattern))

Accuracy (AccSelectGraph.jsp?sid=aaaRxVl2eGBwkbCSAn8ExSat Feb 20 11:03:14 IST 2021&qsetId=OqSQqjwwxx4=&qsetName=Mock CAT - 13 2020 (New Pattern))

Qs Analysis (QsAnalysis.jsp?sid=aaaRxVl2eGBwkbCSAn8ExSat Feb 20 11:03:14 IST 2021&qsetId=OqSQqjwwxx4=&qsetName=Mock CAT - 13 2020 (New Pattern))

Booster Analysis (BoosterAnalysis.jsp?sid=aaaRxVl2eGBwkbCSAn8ExSat Feb 20 11:03:14 IST 2021&qsetId=OqSQqjwwxx4=&qsetName=Mock CAT - 13 2020 (New Pattern))

Video Attempt (VideoAnalysis.jsp?sid=aaaRxVl2eGBwkbCSAn8ExSat Feb 20 11:03:14 IST 2021&qsetId=OqSQqjwwxx4=&qsetName=Mock CAT - 13 2020 (New Pattern))

Solutions (Solution.jsp?sid=aaaRxVl2eGBwkbCSAn8ExSat Feb 20 11:03:14 IST 2021&qsetId=OqSQqjwwxx4=&qsetName=Mock CAT - 13 2020 (New Pattern))

Bookmarks (Bookmarks.jsp?sid=aaaRxVl2eGBwkbCSAn8ExSat Feb 20 11:03:14 IST 2021&qsetId=OqSQqjwwxx4=&qsetName=Mock CAT - 13 2020 (New Pattern))

VARC

DILR

QA

Sec 1

Directions for questions (1 to 3): The passage below is accompanied by a set of three questions. Choose the best answer to each question.

A fishing jetty would not require the kind of dredging that the MPT (Mormugao Port Trust) is currently undertaking. In September 2016, the National Green Tribunal (NGT) had halted the dredging activity that the Trust was then carrying out for the construction of a new berth because it had begun the work before it got the Environmental Clearance to do so. Moreover, the MPT had bypassed the compulsory public hearing, and the NGT also found discrepancies in the Environmental Impact Assessment Report, which the Bombay High Court upheld. A public hearing was finally held in February 2017, but 65% of the dredging had already been done by then.

A petroleum and oil jetty will mean greater industrial activity in the vicinity, more pollution and related health hazards, and displacement of the fishing community. Even the neighbouring Baina beach, another fishing hub, will be affected.

"If the beach ceases to exist, we will lose our way of life and our source of livelihood," says Custodia D'souza, a fisherman representing the Old Cross Canoe Owners Association. It will affect not only the local fishing community but also migrant communities who work in the Goan fishing industry due to lack of better opportunities back home. Overall, 2000 families in the area are engaged in fishing.

Residents also fear demolition and displacement. "Communities that have lived here for 200 years are being told by the MPT that their homes are going to be demolished," says Simoes. The Environmental Impact Assessment Report, however, maintains that there is no resettlement and rehabilitation plan since the project will be carried out on the existing port premises and no land will be acquired.

"The coast is nearly destroyed, Jindal is responsible for it," says Juze Roderigues, a 75-year-old from Khariwado.

Jindal Steel Works (JSW) accounts for the bulk of the operations being carried out at the Mormugao Port, and the company was banned from transporting coal for flouting the permit prescribed by the Goa State Pollution Control Board.

Q.1 [11594329]
The primary purpose of the passage is:

1 ○ **to highlight the importance of the NGT in fighting corrupt industrial bodies.**

2 ○ **to show how environmental changes can affect the local coastline**

3 ○ **to produce evidence to the fact that transportation of coal through water bodies is dangerous.**

4 ○ **to show the financial and environmental strain that can affect Goa's coasts and its local.**

✖

Solution:

Correct Answer : 4

Your Answer : 1

Genre: Ecology

Word Count# 330

This is a main idea question. The author's purpose behind writing this passage is to attract our attention to the problem that awaits the Goan coasts if the current financial and environmental problems continue and no action is taken.

Option 1 – This is both too narrow and also unnecessarily talks about 'industrial bodies'.

Option 2 – This is too broad. The paragraph talks about one particular coast.

Option 3 – This is too specific. And it doesn't deal with the main focus of the passage.

So, option 4 is the correct choice.

    ⚷ Answer key/Solution

[Bookmark]   [FeedBack]

Directions for questions (1 to 3): The passage below is accompanied by a set of three questions. Choose the best answer to each question.

A fishing jetty would not require the kind of dredging that the MPT (Mormugao Port Trust) is currently undertaking. In September 2016, the National Green Tribunal (NGT) had halted the dredging activity that the Trust was then carrying out for the construction of a new berth because it had begun the work before it got the Environmental Clearance to do so. Moreover, the MPT had bypassed the compulsory public hearing, and the NGT also found discrepancies in the Environmental Impact Assessment Report, which the Bombay High Court upheld. A public hearing was finally held in February 2017, but 65% of the dredging had already been done by then.

A petroleum and oil jetty will mean greater industrial activity in the vicinity, more pollution and related health hazards, and displacement of the fishing community. Even the neighbouring Baina beach, another fishing hub, will be affected.

"If the beach ceases to exist, we will lose our way of life and our source of livelihood," says Custodia D'souza, a fisherman representing the Old Cross Canoe Owners Association. It will affect not only the local fishing community but also migrant communities who work in the Goan fishing industry due to lack of better opportunities back home. Overall, 2000 families in the area are engaged in fishing.

Residents also fear demolition and displacement. "Communities that have lived here for 200 years are being told by the MPT that their homes are going to be demolished," says Simoes. The Environmental Impact Assessment Report, however, maintains that there is no resettlement and rehabilitation plan since the project will be carried out on the existing port premises and no land will be acquired.

"The coast is nearly destroyed, Jindal is responsible for it," says Juze Roderigues, a 75-year-old from Khariwado.

Jindal Steel Works (JSW) accounts for the bulk of the operations being carried out at the Mormugao Port, and the company was banned from transporting coal for flouting the permit prescribed by the Goa State Pollution Control Board.

Q.2 [11594329]

The passage mentions, 'A public hearing was finally held in February 2017, but 65% of the dredging had already been done by then.' to:

1 ○ **introduce the problem that threatens to affect the Goan fishermen.**

2 ○ **highlight how easy it is to bribe officials and get things done illegally.**

3 ○ **showcase how some locals looking to make easy money are very much working hand in hand with the industrial bigwigs.**

4 ○ **introduce, how, despite warnings, the MPT is determined to ruin the fishing community of Goa.**

☒

Solution:

🔍 **Answer key/Solution**

Correct Answer : 1
Your Answer : 4
Genre: Ecology
Word Count# 330
This particular line comes at the end of the first paragraph. The main aim of the author is to introduce the problem and lack of efficacy of the restriction on dredging.
Option 1 is correct because it talks about the main idea of the paragraph which is introduced by this paragraph.
Options 2 and 3 are factually irrelevant to the passage.
Option 4 – 'MPT is determined to ruin the fishing community of Goa' goes beyond the scope of the passage. The author doesn't blame only MPT for the problems affecting the Goan coastline.

Bookmark   FeedBack

Directions for questions (1 to 3): The passage below is accompanied by a set of three questions. Choose the best answer to each question.

A fishing jetty would not require the kind of dredging that the MPT (Mormugao Port Trust) is currently undertaking. In September 2016, the National Green Tribunal (NGT) had halted the dredging activity that the Trust was then carrying out for the construction of a new berth because it had begun the work before it got the Environmental Clearance to do so. Moreover, the MPT had bypassed the compulsory public hearing, and the NGT also found discrepancies in the Environmental Impact Assessment Report, which the Bombay High Court upheld. A public hearing was finally held in February 2017, but 65% of the dredging had already been done by then.

A petroleum and oil jetty will mean greater industrial activity in the vicinity, more pollution and related health hazards, and displacement of the fishing community. Even the neighbouring Baina beach, another fishing hub, will be affected.

"If the beach ceases to exist, we will lose our way of life and our source of livelihood," says Custodia D'souza, a fisherman representing the Old Cross Canoe Owners Association. It will affect not only the local fishing community but also migrant communities who work in the Goan fishing industry due to lack of better opportunities back home. Overall, 2000 families in the area are engaged in fishing.

Residents also fear demolition and displacement. "Communities that have lived here for 200 years are being told by the MPT that their homes are going to be demolished," says Simoes. The Environmental Impact Assessment Report, however, maintains that there is no resettlement and rehabilitation plan since the project will be carried out on the existing port premises and no land will be acquired.

"The coast is nearly destroyed, Jindal is responsible for it," says Juze Roderigues, a 75-year-old from Khariwado.

Jindal Steel Works (JSW) accounts for the bulk of the operations being carried out at the Mormugao Port, and the company was banned from transporting coal for flouting the permit prescribed by the Goa State Pollution Control Board.

Q.3 [11594329]
All of the following are true, except:

1 ○ a petroleum and oil complex near a coast will attract other pollutant factors.

2 ○ industrial encroachments in the Goan coastline will affect the migrant workers in the long run.

3 ○ residents of Goa are primarily afraid that the MPT will take away their land.

4 ○ Goan coastline is important for fishing communities.

✖

Solution:

Correct Answer : 3

Your Answer : 2

Genre: Ecology

Word Count# 330

Q Answer key/Solution

Option 1 – It is true according to the passage. Refer to the line - 'A petroleum and oil jetty will mean greater industrial activity in the vicinity, more pollution and related health hazards'.

Option 2 – It is true according to the passage. Refer to the line - 'It will affect not only the local fishing community but also migrant communities who work in the Goan fishing industry'.

Option 4 – It is true according to the passage. Refer to the line - 'Overall, 2000 families in the area are engaged in fishing.' Also, the passage mentions the fact that a lot of migrant workers settle here for better work opportunities.

Option 3 – It is not true according to the passage. The author doesn't mention displacement as the primary concern. He mentions loss of livelihood as the main concern of the community. Refer to the line – "If the beach ceases to exist, we will lose our way of life and our source of livelihood." Displacement is mentioned as a secondary concern.

Bookmark   FeedBack

Q.4 [11594329]

Directions for question 4: 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 author rightly points out that Marx's project of Capital remained incomplete, as he could not touch upon the question of state, foreign trade and the world market, and so the answer to the question relating to the stubborn resilience of capitalism in the form of neo-liberalism may not be directly traced to Marx.
2. What, however, requires to be analysed is how neo-liberalism legitimizes itself by securing the consent of the governed, thereby making it easy for the Right to score its victory.
3. He points out further that the main levers of neo-liberalism being speculative capital, new technology and usurpation of the peripheral zones of the world, the crisis it generates by intensification of mass discontent is almost insurmountable, the reason being the impossibility of the neo-liberal State to resort to the strategy of welfarism, as practised earlier.
4. In spite of bouts of crises, it is undeniable that capitalism has not collapsed; rather, it has established its credibility in the sense that, following the end of the Soviet era, no alternative system is in sight, at least in the immediate future.
5. So the question: is Capital still relevant?

Solution:

Correct Answer : 45132

Q Answer key/Solution

4 and 5 form a pair and 4 is the introductory sentence to the paragraph. 4 talks about a situation far from the ideal and 5, shows how, despite the scenario, the situation demands a more nuanced approach. 1 comes next as it mentions that as of now there are no alternatives to capitalism. 3 and 2 again form a pair and 2 is the concluding sentence.

Bookmark   FeedBack

Q.5 [11594329]

Directions for question 5: 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 an overweight person drinks 480ml of grape juice every day for three months, both the waistline and insulin resistance will increase remarkably.

2. Although it is quite unlike processed cane sugar, fructose can be as harmful if you make a habit of drinking juice on a regular basis.

3. You are supposed to savour the fruit bite by bite one serving at a time, the fibre helping you feel full.

4. Fruits have plenty of fructose, a close cousin of the more familiar glucose.

5. A juice overload also raises the level of uric acid in the blood, which leads to gout.

Solution:

Correct Answer : 42351

4 and 2 form a pair and 4 is clearly the opening sentence of the paragraph. 3 comes next as it mentions the proper and beneficial way of consuming fruits. 5 adds to the ideas mentioned in 3. 1 is the concluding sentence.

🔍 Answer key/Solution

[Bookmark]   [FeedBack]

Directions for questions (6 to 11): The passage below is accompanied by a set of six questions. Choose the best answer to each question.

You might think that losing over ten percentage points off your vote was a calamity. But the drubbing meted out by the voters of Bavaria to Germany's Christian Social Union (CSU) on October 14th, which saw it lose its majority after ruling Germany's largest state single-handedly for all but five of the past 52 years, turns out to have been only the second-nastiest beating administered that day. The Social Democrats (SPD) were battered into fifth place, lost half their support and now seem to have entered terminal decline. That is a consequence, most analysts agree, of deciding in March to enter into a second "grand coalition" (GroKo, in its German nickname), with Angela Merkel's Christian Democrats (CDU). There is a chance that the collapse of Mrs Merkel's government is only weeks away, with gloomy consequences for a continent grappling with Brexit, an incipient Italian-driven new euro crisis and an ever more cantankerous Russia.

The result in Bavaria was not all terrible news. The Greens, who have become an economically and politically sensible centre-left alternative to the SPD, with a much younger and more enthusiastic base of support, got a huge boost. The hard-right Alternative for Germany (AFD) did less well than many had feared, taking around 10% of the vote compared with the 16% or so they score in national opinion polls. But Bavaria's election is further confirmation that all three of the GroKo parties are in deep trouble.

Nationally, Mrs Merkel's CDU, like its Bavarian sister-party, the CSU, has lost a big chunk of its support to the AFD. This is a reaction to the chancellor's decision in 2015 to admit more than 1m asylum-seekers into Germany. Though it is also because of her willingness to use frugal Germans' cash to bail out prodigal southern members of the euro. For its part, the SPD is being deserted by its supporters in droves because once again it is propping up a chancellor they see as unacceptably conservative. The SPD now faces a bleak choice: to stay in a floundering, bickering alliance with a party its voters hate, or to leave—probably triggering an election in which it might do even worse than last time.

Nothing will happen before the end of the month. But the SPD might well jump if Hesse, a large state that votes on October 28th, delivers a similar verdict. That will lead to a new election, or possibly an attempt by Mrs Merkel to govern as a minority administration with the Greens. Little of note has been heard from her government on the national, European or global stage since it took office seven months ago and the drift is likely to continue. Even if the GroKo staggers on, the chancellor's days at the top seem numbered. Senior members of her party openly discuss the likelihood that she will be obliged to stand down as party leader (though not, yet, as chancellor) at the CDU congress in December. The idea, presumably, is to allow her probable successor, the CDU's general secretary, Annegret Kramp-Karrenbauer, a chance to raise her profile before taking over as chancellor in good time for the next election. But it seems unlikely to make much difference to the CDU's fortunes. Modern Germans have an understandable aversion to charismatic leaders, but Ms Kramp-Karrenbauer will test even them.

Q.6 [11594329]
The passage suggests that SPD may not have suffered a major loss in Bavaria if:

1 ◯ **they did not have an alliance with CDU.**

2 ◯ **they had entered a coalition with CSU.**

3 ◯ **the election results were in accordance with the opinion polls.**

4 ◯ **various events across Europe did not have a negative impact.**

✔

Solution:

Answer key/Solution

Correct Answer : 1

Your Answer : 1

Genre: Politics

Word Count# 552

The question asks what is implied by the author. In paragraph [1], the author states that the SPD's loss is the consequence of SPD's decision to enter into a coalition with CDU. *[That is a consequence, most analysts agree, of deciding in March to enter into a second "grand coalition" (GroKo, in its German nickname), with Angela Merkel's Christian Democrats (CDU).]*. In paragraph [3], the author explains that the supporters of SPD deserted the party because of the alliance with CDU. The author is therefore implying that the if SPD hadn't entered into a collation with CDU, they may not have suffered the loss. Hence (1) is the correct answer.

INCORRECT ANSWERS

Option 2 – CSU is the party that won the election in Bavara. However, the author does not discuss the consequence of an alliance with CSU.

Option 3 – The opinion polls mentioned in paragraph [2] only gives information about AFD and nothing about SPD.

Option 4 – The CDU's defeat to some extent was impacted by certain events in Europe. The impact it had on SPD is not mentioned in the passage.

Bookmark   FeedBack

Directions for questions (6 to 11): The passage below is accompanied by a set of six questions. Choose the best answer to each question.

You might think that losing over ten percentage points off your vote was a calamity. But the drubbing meted out by the voters of Bavaria to Germany's Christian Social Union (CSU) on October 14th, which saw it lose its majority after ruling Germany's largest state single-handedly for all but five of the past 52 years, turns out to have been only the second-nastiest beating administered that day. The Social Democrats (SPD) were battered into fifth place, lost half their support and now seem to have entered terminal decline. That is a consequence, most analysts agree, of deciding in March to enter into a second "grand coalition" (GroKo, in its German nickname), with Angela Merkel's Christian Democrats (CDU). There is a chance that the collapse of Mrs Merkel's government is only weeks away, with gloomy consequences for a continent grappling with Brexit, an incipient Italian-driven new euro crisis and an ever more cantankerous Russia.

The result in Bavaria was not all terrible news. The Greens, who have become an economically and politically sensible centre-left alternative to the SPD, with a much younger and more enthusiastic base of support, got a huge boost. The hard-right Alternative for Germany (AFD) did less well than many had feared, taking around 10% of the vote compared with the 16% or so they score in national opinion polls. But Bavaria's election is further confirmation that all three of the GroKo parties are in deep trouble.

Nationally, Mrs Merkel's CDU, like its Bavarian sister-party, the CSU, has lost a big chunk of its support to the AFD. This is a reaction to the chancellor's decision in 2015 to admit more than 1m asylum-seekers into Germany. Though it is also because of her willingness to use frugal Germans' cash to bail out prodigal southern members of the euro. For its part, the SPD is being deserted by its supporters in droves because once again it is propping up a chancellor they see as unacceptably conservative. The SPD now faces a bleak choice: to stay in a floundering, bickering alliance with a party its voters hate, or to leave—probably triggering an election in which it might do even worse than last time.

Nothing will happen before the end of the month. But the SPD might well jump if Hesse, a large state that votes on October 28th, delivers a similar verdict. That will lead to a new election, or possibly an attempt by Mrs Merkel to govern as a minority administration with the Greens. Little of note has been heard from her government on the national, European or global stage since it took office seven months ago and the drift is likely to continue. Even if the GroKo staggers on, the chancellor's days at the top seem numbered. Senior members of her party openly discuss the likelihood that she will be obliged to stand down as party leader (though not, yet, as chancellor) at the CDU congress in December. The idea, presumably, is to allow her probable successor, the CDU's general secretary, Annegret Kramp-Karrenbauer, a chance to raise her profile before taking over as chancellor in good time for the next election. But it seems unlikely to make much difference to the CDU's fortunes. Modern Germans have an understandable aversion to charismatic leaders, but Ms Kramp-Karrenbauer will test even them.

Q.7 [11594329]
The author apparently takes the view that CDU losing the election:

1 ○ **will be detrimental to Europe.**

2 ○ **is inconsequential to the future of Europe.**

3 ○ **will revitalise Europe.**

4 ○ **will result in a no-deal Brexit.**

✔

Solution:
Correct Answer : 1
Your Answer : 1
Genre: Politics
Word Count# 552

🔍 Answer key/Solution

This is an inference-based question. CDU is the party of Angela Merkel. To understand the view of the author, refer to the last sentence of paragraph [1] : *"There is a chance that the collapse of Mrs Merkel's government is only weeks away, with <u>gloomy consequences for a continent</u> grappling with Brexit, an incipient Italian-driven new euro crisis and an ever more cantankerous Russia."*

The author clearly states that the consequences is gloomy. From this one can infer that the author takes the view that CDU losing the election will be detrimental to Europe. Hence (1) is the correct answer.

INCORRECT ANSWERS
Option 2 – The author clearly states that the consequences are gloomy. Hence it is inaccurate to say that CDU's loss will not have any consequence.
Option 3 – This is opposite to what the author is stating.
Option 4 – The impact of the deal with Brexit is not mentioned by the author. S/he merely states that Europe is dealing with Brexit currently. The timing of the loss will have an impact. What specific impact it will have on the Brexit deal is not discussed by the author.

Bookmark   FeedBack

Directions for questions (6 to 11): The passage below is accompanied by a set of six questions. Choose the best answer to each question.

You might think that losing over ten percentage points off your vote was a calamity. But the drubbing meted out by the voters of Bavaria to Germany's Christian Social Union (CSU) on October 14th, which saw it lose its majority after ruling Germany's largest state single-handedly for all but five of the past 52 years, turns out to have been only the second-nastiest beating administered that day. The Social Democrats (SPD) were battered into fifth place, lost half their support and now seem to have entered terminal decline. That is a consequence, most analysts agree, of deciding in March to enter into a second "grand coalition" (GroKo, in its German nickname), with Angela Merkel's Christian Democrats (CDU). There is a chance that the collapse of Mrs Merkel's government is only weeks away, with gloomy consequences for a continent grappling with Brexit, an incipient Italian-driven new euro crisis and an ever more cantankerous Russia.

The result in Bavaria was not all terrible news. The Greens, who have become an economically and politically sensible centre-left alternative to the SPD, with a much younger and more enthusiastic base of support, got a huge boost. The hard-right Alternative for Germany (AFD) did less well than many had feared, taking around 10% of the vote compared with the 16% or so they score in national opinion polls. But Bavaria's election is further confirmation that all three of the GroKo parties are in deep trouble.

Nationally, Mrs Merkel's CDU, like its Bavarian sister-party, the CSU, has lost a big chunk of its support to the AFD. This is a reaction to the chancellor's decision in 2015 to admit more than 1m asylum-seekers into Germany. Though it is also because of her willingness to use frugal Germans' cash to bail out prodigal southern members of the euro. For its part, the SPD is being deserted by its supporters in droves because once again it is propping up a chancellor they see as unacceptably conservative. The SPD now faces a bleak choice: to stay in a floundering, bickering alliance with a party its voters hate, or to leave—probably triggering an election in which it might do even worse than last time.

Nothing will happen before the end of the month. But the SPD might well jump if Hesse, a large state that votes on October 28th, delivers a similar verdict. That will lead to a new election, or possibly an attempt by Mrs Merkel to govern as a minority administration with the Greens. Little of note has been heard from her government on the national, European or global stage since it took office seven months ago and the drift is likely to continue. Even if the GroKo staggers on, the chancellor's days at the top seem numbered. Senior members of her party openly discuss the likelihood that she will be obliged to stand down as party leader (though not, yet, as chancellor) at the CDU congress in December. The idea, presumably, is to allow her probable successor, the CDU's general secretary, Annegret Kramp-Karrenbauer, a chance to raise her profile before taking over as chancellor in good time for the next election. But it seems unlikely to make much difference to the CDU's fortunes. Modern Germans have an understandable aversion to charismatic leaders, but Ms Kramp-Karrenbauer will test even them.

Q.8 [11594329]
Modern Germans are the least likely to vote for candidates:

1 ○ who are highly rational and deliberate in their style.

2 ○ who uses their authority to demand high performance.

3 ○ who takes a more participative role in the decision-making process.

2/20/2021

Mock Analysis

4 ⃝ **who rely on charm and persuasiveness.**

✔

Solution:

Correct Answer : 4

Your Answer : 4

Genre: Politics

Word Count# 552

🔍 **Answer key/Solution**

In the last sentence, the author states : *"Modern Germans have an understandable aversion to charismatic leader,…".* **Modern Germans do not like charismatic leaders. To answer this question, one needs to know who a charismatic leader is. "Charismatic" means "exercising a compelling charm which inspires devotion in others.". Answer choice (4) comes closest to the meaning of charismatic leader.**

INCORRECT ANSWERS:

Option 1 – This would be opposite to a charismatic leader. Charismatic leaders are those who use their personality more than rational decision style.

Option 2 – This would be an authoritarian leader who uses her/his authority.

Option 3 – This would be a democratic leadership style instead of a charismatic leadership style.

Bookmark   FeedBack

https://www.aspiration.link/MBA/sis/Solution.jsp?sid=aaaRxVI2eGBwkbCSAn8ExSat Feb 20 11:03:04 IST 2021&qsetId=OqSQqjwwxx4=&qsetName…   13/75

Directions for questions (6 to 11): The passage below is accompanied by a set of six questions. Choose the best answer to each question.

You might think that losing over ten percentage points off your vote was a calamity. But the drubbing meted out by the voters of Bavaria to Germany's Christian Social Union (CSU) on October 14th, which saw it lose its majority after ruling Germany's largest state single-handedly for all but five of the past 52 years, turns out to have been only the second-nastiest beating administered that day. The Social Democrats (SPD) were battered into fifth place, lost half their support and now seem to have entered terminal decline. That is a consequence, most analysts agree, of deciding in March to enter into a second "grand coalition" (GroKo, in its German nickname), with Angela Merkel's Christian Democrats (CDU). There is a chance that the collapse of Mrs Merkel's government is only weeks away, with gloomy consequences for a continent grappling with Brexit, an incipient Italian-driven new euro crisis and an ever more cantankerous Russia.

The result in Bavaria was not all terrible news. The Greens, who have become an economically and politically sensible centre-left alternative to the SPD, with a much younger and more enthusiastic base of support, got a huge boost. The hard-right Alternative for Germany (AFD) did less well than many had feared, taking around 10% of the vote compared with the 16% or so they score in national opinion polls. But Bavaria's election is further confirmation that all three of the GroKo parties are in deep trouble.

Nationally, Mrs Merkel's CDU, like its Bavarian sister-party, the CSU, has lost a big chunk of its support to the AFD. This is a reaction to the chancellor's decision in 2015 to admit more than 1m asylum-seekers into Germany. Though it is also because of her willingness to use frugal Germans' cash to bail out prodigal southern members of the euro. For its part, the SPD is being deserted by its supporters in droves because once again it is propping up a chancellor they see as unacceptably conservative. The SPD now faces a bleak choice: to stay in a floundering, bickering alliance with a party its voters hate, or to leave—probably triggering an election in which it might do even worse than last time.

Nothing will happen before the end of the month. But the SPD might well jump if Hesse, a large state that votes on October 28th, delivers a similar verdict. That will lead to a new election, or possibly an attempt by Mrs Merkel to govern as a minority administration with the Greens. Little of note has been heard from her government on the national, European or global stage since it took office seven months ago and the drift is likely to continue. Even if the GroKo staggers on, the chancellor's days at the top seem numbered. Senior members of her party openly discuss the likelihood that she will be obliged to stand down as party leader (though not, yet, as chancellor) at the CDU congress in December. The idea, presumably, is to allow her probable successor, the CDU's general secretary, Annegret Kramp-Karrenbauer, a chance to raise her profile before taking over as chancellor in good time for the next election. But it seems unlikely to make much difference to the CDU's fortunes. Modern Germans have an understandable aversion to charismatic leaders, but Ms Kramp-Karrenbauer will test even them.

Q.9 [11594329]
From the tone of the passage, the author would be:

1 ◯ **less likely to endorse CDU.**

2 ◯ **more likely to endorse the Greens.**

3 ◯ **more likely to endorse AFD.**

4 ◯ **less likely to endorse SPD.**

✕

Solution:
Correct Answer : 2
Your Answer : 1
Genre: Politics
Word Count# 552
To answer this question, one need to understand the attitude the author has towards the political parties from what is written in the passage.

🔍 **Answer key/Solution**

Refer to: *"The result in Bavaria was not all terrible news. The Greens, who have become an economically and politically sensible centre-left alternative to the SPD..."*

The author states that the result is not all terrible news – that is a statement of opinion as against a statement of fact. The author goes on to say that the Greens is a 'sensible' alternative. So, the author is likely to endorse the Greens. Hence 2 is correct.

INCORRECT OPTIONS
Option 1 – CDU is Angela Merkel's party. The author talks about the gloomy consequence if there is a loss suffered by CDU. Hence s/he is more likely to endorse CDU.
Option 3 – In paragraph [2], the author states that there was some positive news. One: The Greens becoming a sensible alternative to SPD and two: AFD not gaining as much as the poll said it would. From the tone, author is less likely to endorse AFD.
Option 4 – From the passage it can be inferred that the loss suffered by SPD is a 'terrible' news. So, the author is more likely to endorse SPD.

Bookmark   FeedBack

Directions for questions (6 to 11): The passage below is accompanied by a set of six questions. Choose the best answer to each question.

You might think that losing over ten percentage points off your vote was a calamity. But the drubbing meted out by the voters of Bavaria to Germany's Christian Social Union (CSU) on October 14th, which saw it lose its majority after ruling Germany's largest state single-handedly for all but five of the past 52 years, turns out to have been only the second-nastiest beating administered that day. The Social Democrats (SPD) were battered into fifth place, lost half their support and now seem to have entered terminal decline. That is a consequence, most analysts agree, of deciding in March to enter into a second "grand coalition" (GroKo, in its German nickname), with Angela Merkel's Christian Democrats (CDU). There is a chance that the collapse of Mrs Merkel's government is only weeks away, with gloomy consequences for a continent grappling with Brexit, an incipient Italian-driven new euro crisis and an ever more cantankerous Russia.

The result in Bavaria was not all terrible news. The Greens, who have become an economically and politically sensible centre-left alternative to the SPD, with a much younger and more enthusiastic base of support, got a huge boost. The hard-right Alternative for Germany (AFD) did less well than many had feared, taking around 10% of the vote compared with the 16% or so they score in national opinion polls. But Bavaria's election is further confirmation that all three of the GroKo parties are in deep trouble.

Nationally, Mrs Merkel's CDU, like its Bavarian sister-party, the CSU, has lost a big chunk of its support to the AFD. This is a reaction to the chancellor's decision in 2015 to admit more than 1m asylum-seekers into Germany. Though it is also because of her willingness to use frugal Germans' cash to bail out prodigal southern members of the euro. For its part, the SPD is being deserted by its supporters in droves because once again it is propping up a chancellor they see as unacceptably conservative. The SPD now faces a bleak choice: to stay in a floundering, bickering alliance with a party its voters hate, or to leave—probably triggering an election in which it might do even worse than last time.

Nothing will happen before the end of the month. But the SPD might well jump if Hesse, a large state that votes on October 28th, delivers a similar verdict. That will lead to a new election, or possibly an attempt by Mrs Merkel to govern as a minority administration with the Greens. Little of note has been heard from her government on the national, European or global stage since it took office seven months ago and the drift is likely to continue. Even if the GroKo staggers on, the chancellor's days at the top seem numbered. Senior members of her party openly discuss the likelihood that she will be obliged to stand down as party leader (though not, yet, as chancellor) at the CDU congress in December. The idea, presumably, is to allow her probable successor, the CDU's general secretary, Annegret Kramp-Karrenbauer, a chance to raise her profile before taking over as chancellor in good time for the next election. But it seems unlikely to make much difference to the CDU's fortunes. Modern Germans have an understandable aversion to charismatic leaders, but Ms Kramp-Karrenbauer will test even them.

Q.10 [11594329]
Each of the following is a reason for CDU losing its supporters to AFD EXCEPT:

1 ○ the Chancellor's decision to admit asylum seekers.

2 ○ the Chancellor's decision to bail out southern members of the Euro.

3 ○ The Chancellor's popularity had a significant decline among German voters.

4 ○ **all of the above are reasons for CDU losing its supporters to AFD.**

✔

Solution:

Correct Answer : 3
Your Answer : 3
Genre: Politics
Word Count# 552
This is fact-based questions. (1) and (2) and (3) can be found in paragraph [3] : *"Nationally, Mrs Merkel's CDU, like its Bavarian sister-party, the CSU, has lost a big chunk of its support to the AFD. This is a reaction to the chancellor's decision in 2015 to admit more than 1m asylum-seekers into Germany. Though it is also because of her willingness to use frugal Germans' cash to bail out prodigal southern members of the euro."*

However, the decline in the popularity of the Chancellor is specific to SPD supporters. The popularity of Chancellors across all German voters is unknown. Hence 3 is the correct answer.

INCORRECT ANSWERS:
Options 1 and 2 – as explained above
Option 4 – since 3 is correct

Bookmark   FeedBack

Directions for questions (6 to 11): The passage below is accompanied by a set of six questions. Choose the best answer to each question.

You might think that losing over ten percentage points off your vote was a calamity. But the drubbing meted out by the voters of Bavaria to Germany's Christian Social Union (CSU) on October 14th, which saw it lose its majority after ruling Germany's largest state single-handedly for all but five of the past 52 years, turns out to have been only the second-nastiest beating administered that day. The Social Democrats (SPD) were battered into fifth place, lost half their support and now seem to have entered terminal decline. That is a consequence, most analysts agree, of deciding in March to enter into a second "grand coalition" (GroKo, in its German nickname), with Angela Merkel's Christian Democrats (CDU). There is a chance that the collapse of Mrs Merkel's government is only weeks away, with gloomy consequences for a continent grappling with Brexit, an incipient Italian-driven new euro crisis and an ever more cantankerous Russia.

The result in Bavaria was not all terrible news. The Greens, who have become an economically and politically sensible centre-left alternative to the SPD, with a much younger and more enthusiastic base of support, got a huge boost. The hard-right Alternative for Germany (AFD) did less well than many had feared, taking around 10% of the vote compared with the 16% or so they score in national opinion polls. But Bavaria's election is further confirmation that all three of the GroKo parties are in deep trouble.

Nationally, Mrs Merkel's CDU, like its Bavarian sister-party, the CSU, has lost a big chunk of its support to the AFD. This is a reaction to the chancellor's decision in 2015 to admit more than 1m asylum-seekers into Germany. Though it is also because of her willingness to use frugal Germans' cash to bail out prodigal southern members of the euro. For its part, the SPD is being deserted by its supporters in droves because once again it is propping up a chancellor they see as unacceptably conservative. The SPD now faces a bleak choice: to stay in a floundering, bickering alliance with a party its voters hate, or to leave—probably triggering an election in which it might do even worse than last time.

Nothing will happen before the end of the month. But the SPD might well jump if Hesse, a large state that votes on October 28th, delivers a similar verdict. That will lead to a new election, or possibly an attempt by Mrs Merkel to govern as a minority administration with the Greens. Little of note has been heard from her government on the national, European or global stage since it took office seven months ago and the drift is likely to continue. Even if the GroKo staggers on, the chancellor's days at the top seem numbered. Senior members of her party openly discuss the likelihood that she will be obliged to stand down as party leader (though not, yet, as chancellor) at the CDU congress in December. The idea, presumably, is to allow her probable successor, the CDU's general secretary, Annegret Kramp-Karrenbauer, a chance to raise her profile before taking over as chancellor in good time for the next election. But it seems unlikely to make much difference to the CDU's fortunes. Modern Germans have an understandable aversion to charismatic leaders, but Ms Kramp-Karrenbauer will test even them.

Q.11 [11594329]
The overall tone of the passage is:

1 ○ **unbiased analysis.**

2 ○ **polite cynicism.**

3 ○ **subtle pessimism.**

4 ◯ **excessive denial.**

✔

Solution: 🔍 Answer key/Solution
Correct Answer : 3
Your Answer : 3
Genre: Politics
Word Count# 552
If you read through the passage you could find many 'statement of opinion' of the author.

• Paragraph [1] : *"There is a chance that the collapse of Mrs Merkel's government is only weeks away, with <u>gloomy consequences</u>…"*
• Paragraph [2] : *"The result in Bavaria was <u>not all terrible news.</u>"*
The author therefore is not merely doing an analysis of the situation but also making her/her opinion about the election results. And throughout the passage it paints a dark picture about the future. However, the author does not explicitly state that future is bad. Therefore, the best answer is subtle pessimism.

INCORRECT ANSWERS:
Option 1 – This is not an unbiased analysis. The author clearly opines on the election result.
Option 2 – Cynicism is *"an inclination to believe that people are motivated purely by self-interest"*. **The overall tone of the passage is not one of cynicism.**
Option 4 – Denial is *"the action of denying something."* **The author is not denying anything. S/he is discussing the consequence of an election result.**

| Bookmark | FeedBack |

Q.12 [11594329]
Directions for question 12: 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. And not just for women, but for anyone who might previously have struggled to be heard in public life.
2. But the growing willingness of women to opt in even when tradition allows them to duck out suggests a wider cultural shift.
3. A wedding is one of the few times even those genuinely terrified of public speaking can't decently get out of, a time-honoured trial of nerves for the self-conscious.
4. Some people are wary of being the person who loves the sound of their own voice, but I think that has become quite old-fashioned now.
5. To have a voice, to speak up rather than sit there mute, feels increasingly charged and significant.

Solution:

Correct Answer : 4

The correct order is 3251. However, we don't need to arrange the remaining sentences to identify the odd one. 1, 2, 3, and 5 talk about people who are afraid of public speaking and how they are overcoming those fears. 4 talks about people who are normally confident of public speaking. It simply says that such people may be wary of being perceived as self-centred. So, 4 is the odd sentence.

     Answer key/Solution

Bookmark   FeedBack

Q.13 [11594329]

Directions for question 13: 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. Sometimes it would be nice to have 24 hours available to finish the workload of the day.
2. The brain activity recordings also reveal variation in sleep intensity: "Males that slept the least had the deepest sleep", says co-author Niels Rattenborg who conducts sleep research at Seewiesen.
3. This holds true both for humans and other animals.
4. Daily sleep is therefore thought to be essential for regenerating the brain and maintaining performance.
5. However, the drive for sleep inevitably compromises our performance or even causes us to fall asleep under dangerous situations, such as driving a car.

Solution:

Correct Answer : 2

     Answer key/Solution

The correct order is 1543. However, we don't need to find the exact order of the other sentences. Sentence 2 is the odd one out as it doesn't match the generic theme of the paragraph. The paragraph talks about sleep and its importance for both animals and humans.

Sentence 2 does talk about sleep but it refers to a specific experiment. It uses the word 'also' which doesn't have an antecedent in the paragraph. It might be part of the passage but it will come in some other paragraph once the experiment and its significance is introduced.

Bookmark   FeedBack

Q.14 [11594329]

Directions for question 14: Five sentences related to a topic are given below. Four of them can be put together to form a meaningful and coherent short paragraph. Identify the odd one out.

1. The findings, if true, would provide the first direct observational evidence for cosmic inflation, a theory that posits that the universe expanded exponentially during the first fractions of a second of its existence.
2. Some or all of the signals originally attributed to gravity were due to effects of local dust.
3. Earlier this year the BICEP2 team reported that they had detected gravitational waves from the Big Bang.
4. The BICEP2 evidence was based on the way that microwave radiation from the edge of the universe is polarized.
5. But now other cosmologists say the much-heralded claim may have been premature.

Solution:

Correct Answer : 2

� **Answer key/Solution**

The correct order is 3514. Sentence 3 opens the paragraph by talking about the findings of the BICEP2 team. Sentence 5 contradicts it mildly by stating how the other cosmologists are now challenging 'the much-heralded claim'. 1 follows next with 'the findings' which refers to both 3 and 5. Sentence 4 comes next with further explanation of the BICEP2 findings. 2 looks like a sentence that belongs to the paragraph. However it talks about 'Gravity' in general and the other sentences talk about gravitational waves. Secondly, the tone of the sentence is very certain whereas all the other sentences maintain a cautious tone. Thirdly, it talks about 'the signals' which is alien to the paragraph. It might come later in the passage but we need a 'transition' sentence in between.

Bookmark   FeedBack

Directions for questions (15 to 20): The passage below is accompanied by a set of six questions. Choose the best answer to each question.

"Dark" is a fascinatingly modern word. Our worries about the internet are embodied by the dark web, that byword for criminality, abuse and nastiness that repeatedly bursts into the news. Fears about what the online world is doing to politics are focused on dark ads, untraceable to the people and parties who place them. And in a different kind of darkness in the real world, as well as dark kitchens, there are dark supermarkets and dark stores: the vast spaces we collapse into the increasingly meaningless category of "distribution centres", where a mixture of largely low-paid workers and ever-more sophisticated systems of machinery prepare and pack the stuff we buy online.

In the book Hired, James Bloodworth describes the reality of working at Amazon's vast distribution centre in Rugeley, Staffordshire. "The top floor on which I worked was a gloomy place, with the only natural light coming in through small rectangular windows located far above on the high ceiling," he writes. "Most of the light was provided by grey steel lamps the shape of rugby balls and about the same size. These were dotted about the ceilings on every floor and cast a peculiar yellow glow about the place. During the course of the night … many of the motion-sensitive lights would malfunction, meaning a dozen or so workers would be left scuttling around in the dark on the top floor of a warehouse at three o'clock in the morning. Who, when they purchase an iPhone charger or an Adele album with a click on Amazon's website, imagines anything like this?"

There are clear echoes here of things always seemingly in-built within capitalism: William Blake's "dark satanic mills", pitch-black coalmines, the nocturnal privations of shift work. Light and dark have always been signifiers for the quality of work and what it can do to people's psyches. What seems remarkable is that in a post-industrial economy, replete with ideas of employment as a means of personal fulfillment, that dichotomy is returning, at speed.

What lurks in those ever-increasing shadows? Last week, researchers at three British universities published the latest results of a five-yearly government-funded skills and employment survey, which highlights exactly the kind of issues the dark economy embodies. Almost a third of those surveyed said they had to work at very high speeds "all" or "almost all" of the time. The share of people who have "a lot of discretion over how they do their job" has crashed from 62% in 1992 to 38% now. Meanwhile 55% of men and 47% of women reported that they either "always" or "often" left work exhausted.

This is no way to run an economy, let alone a society. At the absolute grassroots, it is great to see it being fiercely contested, as evidenced by last week's one-day strike by people working for a range of catering firms – including not just McDonald's, Wetherspoons and TGI Fridays, but the delivery services Uber Eats and Deliveroo. The responsibility for their predicament lies not just with corporations who insist on people working at a breakneck pace for impossibly low wages and often living like moles, but those of us who so blithely click and consume. Maybe it is time not just that the darkness receded in workplaces up and down the country, but that the light went on in our own heads.

Q.15 [11594329]
All of the following statements are false except:

1 ○ dark kitchens are basically used to sell food door to door.

2 ○ Amazon's distribution centres are well ventilated.

3 ○ in today's world all consumables are packed and distributed through dubious machineries.

4 ○ the consumers are not guilt-free when it comes to the exploitation of the wage workers.

✔

Solution:

Correct Answer : 4

Answer key/Solution

Your Answer : 4

Genre: Economics

Word Count# 555

Option 1 is incorrect as they are primarily used so that people can order food online. However, nothing specific has been mentioned about them in the paragraph.

Option 2 is incorrect as it contradicts the quotation from the book Hired used in the passage. Refer to the line, "The top floor on which I worked was a gloomy place, with the only natural light coming in through small rectangular windows located far above on the high ceiling".

Option 3 goes beyond the scope of the passage. There is no date regarding 'all consumables...' in the passage.

Option 4 is the correct answer. Refer to the line: "The responsibility for their predicament lies not just with corporations who insist on people working at a breakneck pace for impossibly low wages and often living like moles, but those of us who so blithely click and consume."

Bookmark   FeedBack

Directions for questions (15 to 20): The passage below is accompanied by a set of six questions. Choose the best answer to each question.

"Dark" is a fascinatingly modern word. Our worries about the internet are embodied by the dark web, that byword for criminality, abuse and nastiness that repeatedly bursts into the news. Fears about what the online world is doing to politics are focused on dark ads, untraceable to the people and parties who place them. And in a different kind of darkness in the real world, as well as dark kitchens, there are dark supermarkets and dark stores: the vast spaces we collapse into the increasingly meaningless category of "distribution centres", where a mixture of largely low-paid workers and ever-more sophisticated systems of machinery prepare and pack the stuff we buy online.

In the book Hired, James Bloodworth describes the reality of working at Amazon's vast distribution centre in Rugeley, Staffordshire. "The top floor on which I worked was a gloomy place, with the only natural light coming in through small rectangular windows located far above on the high ceiling," he writes. "Most of the light was provided by grey steel lamps the shape of rugby balls and about the same size. These were dotted about the ceilings on every floor and cast a peculiar yellow glow about the place. During the course of the night … many of the motion-sensitive lights would malfunction, meaning a dozen or so workers would be left scuttling around in the dark on the top floor of a warehouse at three o'clock in the morning. Who, when they purchase an iPhone charger or an Adele album with a click on Amazon's website, imagines anything like this?"

There are clear echoes here of things always seemingly in-built within capitalism: William Blake's "dark satanic mills", pitch-black coalmines, the nocturnal privations of shift work. Light and dark have always been signifiers for the quality of work and what it can do to people's psyches. What seems remarkable is that in a post-industrial economy, replete with ideas of employment as a means of personal fulfillment, that dichotomy is returning, at speed.

What lurks in those ever-increasing shadows? Last week, researchers at three British universities published the latest results of a five-yearly government-funded skills and employment survey, which highlights exactly the kind of issues the dark economy embodies. Almost a third of those surveyed said they had to work at very high speeds "all" or "almost all" of the time. The share of people who have "a lot of discretion over how they do their job" has crashed from 62% in 1992 to 38% now. Meanwhile 55% of men and 47% of women reported that they either "always" or "often" left work exhausted.

This is no way to run an economy, let alone a society. At the absolute grassroots, it is great to see it being fiercely contested, as evidenced by last week's one-day strike by people working for a range of catering firms – including not just McDonald's, Wetherspoons and TGI Fridays, but the delivery services Uber Eats and Deliveroo. The responsibility for their predicament lies not just with corporations who insist on people working at a breakneck pace for impossibly low wages and often living like moles, but those of us who so blithely click and consume. Maybe it is time not just that the darkness receded in workplaces up and down the country, but that the light went on in our own heads.

Q.16 [11594329]
Based on this passage, the author will definitely agree with which one the following?

1 ○ The current culture of work affects the psyche of the workers.

2 ○ William Blake was a champion for workers' rights.

3 ○ **Distribution centres evade categories.**

4 ○ **Majority of women today feel a sense of fatigue and displeasure with the nature of their jobs.**

✕

Solution:

Correct Answer : 1

Your Answer : 2

Genre: Economics

Word Count# 555

⚲ Answer key/Solution

Option 2 cannot be verified from the given data. The author cites an example of Blake's writing. But it can't be surely stated that the author considers Blake as a labour right champion.

The author says that the distribution centres fall into meaningless categories. Hence option 3 is incorrect.

Option 4 is incorrect. The penultimate paragraph states that '47% of women' feel exhausted after work. So, 'majority' is not something that can be inferred from this. The author may or may not agree with this.

Option 1 is the correct answer since in the passage it is mentioned that, 'Light and dark have always been signifiers for the quality of work and what it can do to people's psyches. What seems remarkable is that in a post-industrial economy, replete with ideas of employment as a means of personal fulfillment, that dichotomy is returning, at speed.' So, the author will surely agree with the idea of 'affecting' the psyche. It is not an extreme option as 'affect' is not necessarily an extreme form of 'evil consequences'.

Bookmark   FeedBack

Directions for questions (15 to 20): The passage below is accompanied by a set of six questions. Choose the best answer to each question.

"Dark" is a fascinatingly modern word. Our worries about the internet are embodied by the dark web, that byword for criminality, abuse and nastiness that repeatedly bursts into the news. Fears about what the online world is doing to politics are focused on dark ads, untraceable to the people and parties who place them. And in a different kind of darkness in the real world, as well as dark kitchens, there are dark supermarkets and dark stores: the vast spaces we collapse into the increasingly meaningless category of "distribution centres", where a mixture of largely low-paid workers and ever-more sophisticated systems of machinery prepare and pack the stuff we buy online.

In the book Hired, James Bloodworth describes the reality of working at Amazon's vast distribution centre in Rugeley, Staffordshire. "The top floor on which I worked was a gloomy place, with the only natural light coming in through small rectangular windows located far above on the high ceiling," he writes. "Most of the light was provided by grey steel lamps the shape of rugby balls and about the same size. These were dotted about the ceilings on every floor and cast a peculiar yellow glow about the place. During the course of the night … many of the motion-sensitive lights would malfunction, meaning a dozen or so workers would be left scuttling around in the dark on the top floor of a warehouse at three o'clock in the morning. Who, when they purchase an iPhone charger or an Adele album with a click on Amazon's website, imagines anything like this?"

There are clear echoes here of things always seemingly in-built within capitalism: William Blake's "dark satanic mills", pitch-black coalmines, the nocturnal privations of shift work. Light and dark have always been signifiers for the quality of work and what it can do to people's psyches. What seems remarkable is that in a post-industrial economy, replete with ideas of employment as a means of personal fulfillment, that dichotomy is returning, at speed.

What lurks in those ever-increasing shadows? Last week, researchers at three British universities published the latest results of a five-yearly government-funded skills and employment survey, which highlights exactly the kind of issues the dark economy embodies. Almost a third of those surveyed said they had to work at very high speeds "all" or "almost all" of the time. The share of people who have "a lot of discretion over how they do their job" has crashed from 62% in 1992 to 38% now. Meanwhile 55% of men and 47% of women reported that they either "always" or "often" left work exhausted.

This is no way to run an economy, let alone a society. At the absolute grassroots, it is great to see it being fiercely contested, as evidenced by last week's one-day strike by people working for a range of catering firms – including not just McDonald's, Wetherspoons and TGI Fridays, but the delivery services Uber Eats and Deliveroo. The responsibility for their predicament lies not just with corporations who insist on people working at a breakneck pace for impossibly low wages and often living like moles, but those of us who so blithely click and consume. Maybe it is time not just that the darkness receded in workplaces up and down the country, but that the light went on in our own heads.

Q.17 [11594329]
Which of the following statements can be inferred from the passage?

1 ○ People buying high-end products imagine well-lit work spaces for the online workers.

2 ○ Dark and disturbing advertisements by unwanted politicians have pushed the world into a crisis.

3 ○ **Dark economy has forced workers to focus more on quantity and less on quality.**

4 ○ **Industry as we understood is extinct.**

✔

Solution:

Correct Answer : 3

Your Answer : 3

Genre: Economics

Word Count# 555

🔑 **Answer key/Solution**

Option 1 – It can't be inferred as what people buying high-end products imagine has not been mentioned in the passage. The line, "Who, when they purchase an iPhone charger or an Adele album with a click on Amazon's website, imagines anything like this?" is mentioned in a rhetoric manner. It can't be taken literally.

Option 2 – This is totally out of context.

Option 3 – It is the correct answer since it is mentioned in the passage that the survey found that the workers 'work at very high speeds "all" or "almost all" of the time. The share of people who have "a lot of discretion over how they do their job" has crashed from 62% in 1992 to 38% now.' So, this option can be inferred.

Option 4 – It is incorrect since 'post-industry' do not mean the end of industry.

Bookmark   FeedBack

Directions for questions (15 to 20): The passage below is accompanied by a set of six questions. Choose the best answer to each question.

"Dark" is a fascinatingly modern word. Our worries about the internet are embodied by the dark web, that byword for criminality, abuse and nastiness that repeatedly bursts into the news. Fears about what the online world is doing to politics are focused on dark ads, untraceable to the people and parties who place them. And in a different kind of darkness in the real world, as well as dark kitchens, there are dark supermarkets and dark stores: the vast spaces we collapse into the increasingly meaningless category of "distribution centres", where a mixture of largely low-paid workers and ever-more sophisticated systems of machinery prepare and pack the stuff we buy online.

In the book Hired, James Bloodworth describes the reality of working at Amazon's vast distribution centre in Rugeley, Staffordshire. "The top floor on which I worked was a gloomy place, with the only natural light coming in through small rectangular windows located far above on the high ceiling," he writes. "Most of the light was provided by grey steel lamps the shape of rugby balls and about the same size. These were dotted about the ceilings on every floor and cast a peculiar yellow glow about the place. During the course of the night ... many of the motion-sensitive lights would malfunction, meaning a dozen or so workers would be left scuttling around in the dark on the top floor of a warehouse at three o'clock in the morning. Who, when they purchase an iPhone charger or an Adele album with a click on Amazon's website, imagines anything like this?"

There are clear echoes here of things always seemingly in-built within capitalism: William Blake's "dark satanic mills", pitch-black coalmines, the nocturnal privations of shift work. Light and dark have always been signifiers for the quality of work and what it can do to people's psyches. What seems remarkable is that in a post-industrial economy, replete with ideas of employment as a means of personal fulfillment, that dichotomy is returning, at speed.

What lurks in those ever-increasing shadows? Last week, researchers at three British universities published the latest results of a five-yearly government-funded skills and employment survey, which highlights exactly the kind of issues the dark economy embodies. Almost a third of those surveyed said they had to work at very high speeds "all" or "almost all" of the time. The share of people who have "a lot of discretion over how they do their job" has crashed from 62% in 1992 to 38% now. Meanwhile 55% of men and 47% of women reported that they either "always" or "often" left work exhausted.

This is no way to run an economy, let alone a society. At the absolute grassroots, it is great to see it being fiercely contested, as evidenced by last week's one-day strike by people working for a range of catering firms – including not just McDonald's, Wetherspoons and TGI Fridays, but the delivery services Uber Eats and Deliveroo. The responsibility for their predicament lies not just with corporations who insist on people working at a breakneck pace for impossibly low wages and often living like moles, but those of us who so blithely click and consume. Maybe it is time not just that the darkness receded in workplaces up and down the country, but that the light went on in our own heads.

Q.18 [11594329]
The author provides the example of William Blake to show that:

1 ○ dark kitchens are very much a British phenomenon.

2 ○ exploitation which took root at the early stage of capitalism is returning quickly.

3 ○ the passivity of the modern workers in accepting their fate is worrisome.

4 ○ the night shifts and privatisation of work spells a bad omen for the future of the world economy.

✔

Solution:

Correct Answer : 2

Q Answer key/Solution

Your Answer : 2

Genre: Economics

Word Count# 555

While mentioning Blake, the author emphasises on Blake's "dark satanic mills" quotation. The author opines that the exploitations are in-built mechanisms associated with capitalism and what used to take place earlier is returning with dangerous speed. This supports option 2.

Option 1 – There is no specific mention of 'dark kitchens' with reference to Britain.

Option 3 – It is contradicted by the last paragraph. Refer to the lines, "At the absolute grassroots, it is great to see it being fiercely contested, as evidenced by last week's one-day strike by people working for a range of catering firms – including not just McDonald's, Wetherspoons and TGI Fridays, but the delivery services Uber Eats and Deliveroo." So, the workers are anything but passive.

Option 4 – It is too extreme. 'Night shifts' have not been vilified by the author to extent of spelling doom for the world economy.

Bookmark   FeedBack

Directions for questions (15 to 20): The passage below is accompanied by a set of six questions. Choose the best answer to each question.

"Dark" is a fascinatingly modern word. Our worries about the internet are embodied by the dark web, that byword for criminality, abuse and nastiness that repeatedly bursts into the news. Fears about what the online world is doing to politics are focused on dark ads, untraceable to the people and parties who place them. And in a different kind of darkness in the real world, as well as dark kitchens, there are dark supermarkets and dark stores: the vast spaces we collapse into the increasingly meaningless category of "distribution centres", where a mixture of largely low-paid workers and ever-more sophisticated systems of machinery prepare and pack the stuff we buy online.

In the book Hired, James Bloodworth describes the reality of working at Amazon's vast distribution centre in Rugeley, Staffordshire. "The top floor on which I worked was a gloomy place, with the only natural light coming in through small rectangular windows located far above on the high ceiling," he writes. "Most of the light was provided by grey steel lamps the shape of rugby balls and about the same size. These were dotted about the ceilings on every floor and cast a peculiar yellow glow about the place. During the course of the night … many of the motion-sensitive lights would malfunction, meaning a dozen or so workers would be left scuttling around in the dark on the top floor of a warehouse at three o'clock in the morning. Who, when they purchase an iPhone charger or an Adele album with a click on Amazon's website, imagines anything like this?"

There are clear echoes here of things always seemingly in-built within capitalism: William Blake's "dark satanic mills", pitch-black coalmines, the nocturnal privations of shift work. Light and dark have always been signifiers for the quality of work and what it can do to people's psyches. What seems remarkable is that in a post-industrial economy, replete with ideas of employment as a means of personal fulfillment, that dichotomy is returning, at speed.

What lurks in those ever-increasing shadows? Last week, researchers at three British universities published the latest results of a five-yearly government-funded skills and employment survey, which highlights exactly the kind of issues the dark economy embodies. Almost a third of those surveyed said they had to work at very high speeds "all" or "almost all" of the time. The share of people who have "a lot of discretion over how they do their job" has crashed from 62% in 1992 to 38% now. Meanwhile 55% of men and 47% of women reported that they either "always" or "often" left work exhausted.

This is no way to run an economy, let alone a society. At the absolute grassroots, it is great to see it being fiercely contested, as evidenced by last week's one-day strike by people working for a range of catering firms – including not just McDonald's, Wetherspoons and TGI Fridays, but the delivery services Uber Eats and Deliveroo. The responsibility for their predicament lies not just with corporations who insist on people working at a breakneck pace for impossibly low wages and often living like moles, but those of us who so blithely click and consume. Maybe it is time not just that the darkness receded in workplaces up and down the country, but that the light went on in our own heads.

Q.19 [11594329]
Which of the following is not one of the complaints made by workers participating in the survey mentioned in the passage?

1 ○ The dark style of operations

2 ○ The pace of their work

3 ○ **Lack of ability to choose one's work style**

4 ○ **The exhaustion caused by their work**

✕

Solution:

Correct Answer : 1

Your Answer : 3

Genre: Economics

Word Count# 555

🔍 Answer key/Solution

Refer to the lines, "Last week, researchers at three British universities published the latest results of a five-yearly government-funded skills and employment survey, which highlights exactly the kind of issues the dark economy embodies. Almost a third of those surveyed said they had to work at very high speeds "all" or "almost all" of the time. The share of people who have "a lot of discretion over how they do their job" has crashed from 62% in 1992 to 38% now. Meanwhile 55% of men and 47% of women reported that they either "always" or "often" left work exhausted." This supports options 2, 3, and 4.

So, option 1 has not been mentioned with reference to the study. The author talks about 'issues related to dark economy'. So, option 1 is distorted.

Bookmark   FeedBack

Directions for questions (15 to 20): The passage below is accompanied by a set of six questions. Choose the best answer to each question.

"Dark" is a fascinatingly modern word. Our worries about the internet are embodied by the dark web, that byword for criminality, abuse and nastiness that repeatedly bursts into the news. Fears about what the online world is doing to politics are focused on dark ads, untraceable to the people and parties who place them. And in a different kind of darkness in the real world, as well as dark kitchens, there are dark supermarkets and dark stores: the vast spaces we collapse into the increasingly meaningless category of "distribution centres", where a mixture of largely low-paid workers and ever-more sophisticated systems of machinery prepare and pack the stuff we buy online.

In the book Hired, James Bloodworth describes the reality of working at Amazon's vast distribution centre in Rugeley, Staffordshire. "The top floor on which I worked was a gloomy place, with the only natural light coming in through small rectangular windows located far above on the high ceiling," he writes. "Most of the light was provided by grey steel lamps the shape of rugby balls and about the same size. These were dotted about the ceilings on every floor and cast a peculiar yellow glow about the place. During the course of the night ... many of the motion-sensitive lights would malfunction, meaning a dozen or so workers would be left scuttling around in the dark on the top floor of a warehouse at three o'clock in the morning. Who, when they purchase an iPhone charger or an Adele album with a click on Amazon's website, imagines anything like this?"

There are clear echoes here of things always seemingly in-built within capitalism: William Blake's "dark satanic mills", pitch-black coalmines, the nocturnal privations of shift work. Light and dark have always been signifiers for the quality of work and what it can do to people's psyches. What seems remarkable is that in a post-industrial economy, replete with ideas of employment as a means of personal fulfillment, that dichotomy is returning, at speed.

What lurks in those ever-increasing shadows? Last week, researchers at three British universities published the latest results of a five-yearly government-funded skills and employment survey, which highlights exactly the kind of issues the dark economy embodies. Almost a third of those surveyed said they had to work at very high speeds "all" or "almost all" of the time. The share of people who have "a lot of discretion over how they do their job" has crashed from 62% in 1992 to 38% now. Meanwhile 55% of men and 47% of women reported that they either "always" or "often" left work exhausted.

This is no way to run an economy, let alone a society. At the absolute grassroots, it is great to see it being fiercely contested, as evidenced by last week's one-day strike by people working for a range of catering firms – including not just McDonald's, Wetherspoons and TGI Fridays, but the delivery services Uber Eats and Deliveroo. The responsibility for their predicament lies not just with corporations who insist on people working at a breakneck pace for impossibly low wages and often living like moles, but those of us who so blithely click and consume. Maybe it is time not just that the darkness receded in workplaces up and down the country, but that the light went on in our own heads.

Q.20 [11594329]
The purpose of the passage is to:

1 ○ shut down distribution centres.

2 ○ show how certain styles of worker management are dangerous.

3 ○ **improve the conditions of workers across Britain.**

4 ○ **highlight some problems with the current labour conditions.**

✖

Solution:

Correct Answer : 4

Your Answer : 2

Genre: Economics

Word Count# 555

🔍 **Answer key/Solution**

The main aim of the author in the passage is to highlight how a certain kind of work culture is affecting the overall welfare of the workers and the sustainability of the economy. However, the author doesn't adopt an extremely negative tone. S/he is neutral and cautious while spelling out any remedy for the situation. Option 4 brings about this point correctly.

Option 1 – This is too extreme and it has not even been suggested by the author.

Option 2 – This is incomplete. The author does state that this kind of work style is dangerous. However, s/he is more focused on identifying the problem areas in the economy too. The word 'dangerous' makes this option slightly vague.

Option 3 – This is neither the main idea nor is it relevant. 'Britain' is not the focal point of the author.

Bookmark   FeedBack

Q.21 [11594329]

Directions for question 21: 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. Maybe the first task is to eradicate corruption from our social and political practice.

2. Trust, probity, the rule of law, freedom, justice and the eradication of poverty: these are basic things.

3. The first step in our renaissance has to be putting our house in order.

4. We all know that the terms of African independence were flawed at birth; Africa stepped on to the world stage with its hands tied, the contract of nations negotiated against its favour.

5. The roots of corruption are deep, but not so deep that one generation of stern prohibition of all corrupt practices can't stamp them out.

Solution:

Correct Answer : 4

The correct order is 3152. Sentence 4 introduces the topic of 'African independence'. It may or may not be the topic sentence of this paragraph. There is no transition sentence between 4 and 3 to show that the rest of the sentences actually talk about 'African independence'. So, even if the paragraph is about Africa, we will need some other sentences in between to make the context clear. Sentence 3 talks about the need for a course of action. The 'first step' in sentence 3 is further explained by sentence 1 ('may be the first task'). Sentence 5 continues explaining 'corruption' which is mentioned in sentence 1. Sentence 2 follows with 'basic things' which add to the preceding three sentences. Hence, sentence 4, with its broad scope, is the odd one out.

Bookmark   FeedBack

Q.22 [11594329]

Directions for question 22: The passage given below is followed by four summaries. Choose the option that best captures the author's position.

'Cool' does not only refer to a respected aspect of masculine display, it's also a symptom of *anomie,* confusion, anxiety, self-gratification and escapism, since being cool can push individuals towards passivity more than towards an active fulfillment of life's potential. Often "it is more important to be 'cool and down' with the peer group than to demonstrate academic achievement," write White & Cones (p.87). On the one hand, the message produced by a cool pose fascinates the world because of its inherent mysteriousness. The stylized way of offering resistance that insists more on appearance than on substance can turn cool people into untouchable objects of desire. On the other hand, to be cool can be seen as a decadent attitude leading to individual passivity and social decay.

1 ○ The notion of being cool is full of contradictions.

2 ○ Being cool can have positive manifestations in an individual and thus is perceived both positively and negatively.

3 ○ Being cool fascinates because of its mystery and repels because of its effects of individual passivity and social decay.

4 ○ Being cool can push an individual towards passivity and thus is viewed as not just as something fascinating but also as a decadent attitude.

Solution:

Correct Answer : 4

The attitude of the author towards 'cool' is largely negative, thus the focus is more on its negative aspects. 2 on the other hand talks about positive manifestations and is thus rejected. 3 is incomplete as it just captures the 'perception' towards cool and not its actual effects. 1 is too broad to be the summary. 4 captures both its effects and its perception.

Bookmark   FeedBack

Q.23 [11594329]

Directions for question 23: 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. Those who whip up hatred for their own cynical ends may not be directly responsible for what happens.

2. Bad people can be emboldened in ways speakers never intended.

3. But it's a reminder that politics is not a game; words have consequences.

4. What thinking person would not resolve to do better, be more careful in future?

5. This feeling that you can't start a fire without people getting burned only hardened last week, when a Brexit campaign demonising immigrants was followed by a flood of racist attacks.

Solution:

Correct Answer : 51324

There are two pairs in the paragraph.

1 and 3 is a mandatory pair. 'But' in 3 refers to 5 and 1.

3 and 2 is a mandatory pair. 2 takes the idea mentioned in 3 forward.

4 is the best closing sentence as it acts like a rhetoric question.

So, we need to find a place for 5. But in 1, 'their own cynical ends may not be directly responsible for what happens' actually refers to the definition given in 5.

Hence, 51324 is the right sequence.

Q Answer key/Solution

Bookmark   FeedBack

Sec 2

Directions for question 24 to 27: Answer the questions on the basis of the information given below.

Exactly 100 employees work in an office. A ten days activity was organised in which all employees played one of the games - Tennis, Basketball, Volleyball and Badminton in their break hour. On day one, 20, 30, 25 and 25 employees played Tennis, Basketball, Volleyball and Badminton respectively.

The following table provides the information about the shifting of employees from one sport to other from day 2 onwards.

	Day 2	Day 3	Day 4	Day 5	Day 6	Day 7	Day 8	Day 9	Day 10
Tennis to basketball	2	3	4	4	1	8	1	6	4
Tennis to Volleyball	1	5	6	6	5	4	4	4	2
Tennis to Badminton	3	0	3	3	6	5	5	3	3
Basketball to Tennis	4	6	2	1	2	2	2	8	4
Basketball to Volleyball	5	2	7	2	3	3	5	2	1
Basketball to Badminton	0	3	8	3	4	6	3	5	2
Volleyball to Basketball	5	4	1	4	2	1	6	1	3
Volleyball to Tennis	6	5	1	2	5	2	1	6	8
Volleyball to Badminton	2	3	2	3	7	4	4	3	6
Badminton to Tennis	3	1	3	4	3	8	2	5	3
Badminton to Volleyball	4	2	1	6	1	3	9	4	2
Badminton to basketball	2	3	5	7	5	5	3	2	1

Q.24 [11594329]
How many employees played Volleyball on 9th day?

1 ○ **32**

2 ○ **39**

3 ○ **27**

4 ○ **29**

Solution:

Correct Answer : 2

🔍 Answer key/Solution

On day 1, 25 people played Volleyball and on day two 5, 6 and 2 people shifted from volleyball to other sports while 1, 5 and 4people shifted from other sports to volleyball. So total no of people who played Volleyball on day 2 is (25-5-6-2+1+5+4) =22 people. This way we can calculate it for other days also.

	Day1	Day2	Day3	Day4	Day5	Day6	Day7	Day8	Day9	Day10
Tennis	20	27	31	24	18	16	11	6	12	18
Volleyball	25	22	19	29	34	29	32	39	39	27
Basketball	30	30	29	22	31	30	33	33	27	28
Badminton	25	21	21	25	17	25	24	22	22	27

39 people played Volleyball on 9th day.

[Bookmark]   [FeedBack]

Directions for question 24 to 27: Answer the questions on the basis of the information given below.

Exactly 100 employees work in an office. A ten days activity was organised in which all employees played one of the games - Tennis, Basketball, Volleyball and Badminton in their break hour. On day one, 20, 30, 25 and 25 employees played Tennis, Basketball, Volleyball and Badminton respectively.

The following table provides the information about the shifting of employees from one sport to other from day 2 onwards.

	Day 2	Day 3	Day 4	Day 5	Day 6	Day 7	Day 8	Day 9	Day 10
Tennis to basketball	2	3	4	4	1	8	1	6	4
Tennis to Volleyball	1	5	6	6	5	4	4	4	2
Tennis to Badminton	3	0	3	3	6	5	5	3	3
Basketball to Tennis	4	6	2	1	2	2	2	8	4
Basketball to Volleyball	5	2	7	2	3	3	5	2	1
Basketball to Badminton	0	3	8	3	4	6	3	5	2
Volleyball to Basketball	5	4	1	4	2	1	6	1	3
Volleyball to Tennis	6	5	1	2	5	2	1	6	8
Volleyball to Badminton	2	3	2	3	7	4	4	3	6
Badminton to Tennis	3	1	3	4	3	8	2	5	3
Badminton to Volleyball	4	2	1	6	1	3	9	4	2
Badminton to basketball	2	3	5	7	5	5	3	2	1

Q.25 [11594329]
Find the difference between the maximum number of employees playing any sport and the minimum number of employees playing any sport on the given 10 days.

1 ○ **33**

2 ○ **18**

3 ○ **25**

4 ○ **29**

Solution:
Correct Answer : 1

🔍 Answer key/Solution

On day 1, 25 people played Volleyball and on day two 5, 6 and 2 people shifted from volleyball to other sports while 1, 5 and 4 people shifted from other sports to volleyball. So total no of people who played Volleyball on day 2 is (25-5-6-2+1+5+4) =22 people. This way we can calculate it for other days also.

	Day1	Day2	Day3	Day4	Day5	Day6	Day7	Day8	Day9	Day10
Tennis	20	27	31	24	18	16	11	6	12	18
Volleyball	25	22	19	29	34	29	32	39	39	27
Basketball	30	30	29	22	31	30	33	33	27	28
Badminton	25	21	21	25	17	25	24	22	22	27

39 − 6 = 33

Bookmark   FeedBack

Directions for question 24 to 27: Answer the questions on the basis of the information given below.

Exactly 100 employees work in an office. A ten days activity was organised in which all employees played one of the games - Tennis, Basketball, Volleyball and Badminton in their break hour. On day one, 20, 30, 25 and 25 employees played Tennis, Basketball, Volleyball and Badminton respectively.

The following table provides the information about the shifting of employees from one sport to other from day 2 onwards.

	Day 2	Day 3	Day 4	Day 5	Day 6	Day 7	Day 8	Day 9	Day 10
Tennis to basketball	2	3	4	4	1	8	1	6	4
Tennis to Volleyball	1	5	6	6	5	4	4	4	2
Tennis to Badminton	3	0	3	3	6	5	5	3	3
Basketball to Tennis	4	6	2	1	2	2	2	8	4
Basketball to Volleyball	5	2	7	2	3	3	5	2	1
Basketball to Badminton	0	3	8	3	4	6	3	5	2
Volleyball to Basketball	5	4	1	4	2	1	6	1	3
Volleyball to Tennis	6	5	1	2	5	2	1	6	8
Volleyball to Badminton	2	3	2	3	7	4	4	3	6
Badminton to Tennis	3	1	3	4	3	8	2	5	3
Badminton to Volleyball	4	2	1	6	1	3	9	4	2
Badminton to basketball	2	3	5	7	5	5	3	2	1

Q.26 [11594329]

For how many days did at least 20 employees play each of the four sports?

Solution:

Correct Answer : 3

🔍 Answer key/Solution

On day 1, 25 people played Volleyball and on day two 5, 6 and 2 people shifted from volleyball to other sports while 1, 5 and 4 people shifted from other sports to volleyball. So total no of people who played Volleyball on day 2 is (25-5-6-2+1+5+4) =22 people. This way we can calculate it for other days also.

	Day1	Day2	Day3	Day4	Day5	Day6	Day7	Day8	Day9	Day10
Tennis	20	27	31	24	18	16	11	6	12	18
Volleyball	25	22	19	29	34	29	32	39	39	27
Basketball	30	30	29	22	31	30	33	33	27	28
Badminton	25	21	21	25	17	25	24	22	22	27

For 3 days each sports was played by at least 20 people.

Bookmark   FeedBack

Directions for question 24 to 27: Answer the questions on the basis of the information given below.

Exactly 100 employees work in an office. A ten days activity was organised in which all employees played one of the games - Tennis, Basketball, Volleyball and Badminton in their break hour. On day one, 20, 30, 25 and 25 employees played Tennis, Basketball, Volleyball and Badminton respectively.

The following table provides the information about the shifting of employees from one sport to other from day 2 onwards.

	Day 2	Day 3	Day 4	Day 5	Day 6	Day 7	Day 8	Day 9	Day 10
Tennis to basketball	2	3	4	4	1	8	1	6	4
Tennis to Volleyball	1	5	6	6	5	4	4	4	2
Tennis to Badminton	3	0	3	3	6	5	5	3	3
Basketball to Tennis	4	6	2	1	2	2	2	8	4
Basketball to Volleyball	5	2	7	2	3	3	5	2	1
Basketball to Badminton	0	3	8	3	4	6	3	5	2
Volleyball to Basketball	5	4	1	4	2	1	6	1	3
Volleyball to Tennis	6	5	1	2	5	2	1	6	8
Volleyball to Badminton	2	3	2	3	7	4	4	3	6
Badminton to Tennis	3	1	3	4	3	8	2	5	3
Badminton to Volleyball	4	2	1	6	1	3	9	4	2
Badminton to basketball	2	3	5	7	5	5	3	2	1

Q.27 [11594329]
Which of the following sports was played by the maximum number of employees in the ten days?

1 ○ **Tennis**

2 ○ **Volleyball**

3 ○ **Basketball**

4 ○ **Badminton**

Solution:

Correct Answer : 2

🔍 Answer key/Solution

On day 1, 25 people played Volleyball and on day two 5, 6 and 2 people shifted from volleyball to other sports while 1, 5 and 4 people shifted from other sports to volleyball. So total no of people who played Volleyball on day 2 is (25-5-6-2+1+5+4) =22 people. This way we can calculate it for other days also.

	Day1	Day2	Day3	Day4	Day5	Day6	Day7	Day8	Day9	Day10
Tennis	20	27	31	24	18	16	11	6	12	18
Volleyball	25	22	19	29	34	29	32	39	39	27
Basketball	30	30	29	22	31	30	33	33	27	28
Badminton	25	21	21	25	17	25	24	22	22	27

As the sum of values for all the 10 days is maximum for Volleyball. So it's for Volleyball.

Bookmark   FeedBack

Directions for questions 28 to 31: Answer the questions on the basis of the information given below.

Ten friends – A, B, C, D, E, F, G, H, I and J - decided to attend the state fair at ABC stadium. After attending the cultural programs in fair, they all decided to play some game. So they went to a shop from where each one of them purchased a ticket from the tickets numbered from 1 to 10. Somehow all of them managed to get the ticket having its number equivalent to the number of their initials i.e, A had ticket number 1, B had ticket number 2, C had ticket number 3 and so on.

Now, for the game, all of them kept their tickets on a table in such a way that ticket numbers were not visible and the tickets were shuffled. Then each one of them picked one ticket randomly from the table. When they all showed their ticket numbers it was found that the ticket number of the ticket picked by each friend from the table was maximum 1 away from his initially purchased ticket number, for example - C could have picked a ticket, numbered as 2, 3 or 4 only.

Q.28 [11594329]

If D got to pick his initial ticket again from the table i.e, ticket number 4, then maximum how many friends could not be having the same ticket as their initially purchased ticket?

✖

Solution:

🔍 **Answer key/Solution**

Correct Answer : 8

Your Answer : 4

If a person is having his initial ticket then let's call it 1 and if two people exchange then let's call it 2. The total should always be 10. E.g. 1211122 means A is having his initial ticket, B and C have exchanged their tickets, D, E and F are having their initial tickets, G and H exchanged their tickets and I and J exchanged their tickets.

If D is having his initial ticket then before him out of the three students either all 3 are having their initial tickets or 2 interchanged their tickets and 1 is having his initial ticket. Also after D there are 6 students out of whom maximum 3 pairs of students can exchange their tickets and hence at least 1 will be having his initial ticket.

	A	B	C	D	E	F	G	H	I	J
Initial Ticket Numbers	1	2	3	4	5	6	7	8	9	10
Case I:	2	1	3	4	6	5	8	7	10	9
Case II:	1	3	2	4	6	5	8	7	10	9

Therefore, in both cases, maximum 8 friends did not have the initial tickets again.

Bookmark   FeedBack

Directions for questions 28 to 31: Answer the questions on the basis of the information given below.

Ten friends – A, B, C, D, E, F, G, H, I and J - decided to attend the state fair at ABC stadium. After attending the cultural programs in fair, they all decided to play some game. So they went to a shop from where each one of them purchased a ticket from the tickets numbered from 1 to 10. Somehow all of them managed to get the ticket having its number equivalent to the number of their initials i.e, A had ticket number 1, B had ticket number 2, C had ticket number 3 and so on.
Now, for the game, all of them kept their tickets on a table in such a way that ticket numbers were not visible and the tickets were shuffled. Then each one of them picked one ticket randomly from the table. When they all showed their ticket numbers it was found that the ticket number of the ticket picked by each friend from the table was maximum 1 away from his initially purchased ticket number, for example - C could have picked a ticket, numbered as 2, 3 or 4 only.

Q.29 [11594329]
In how many ways can they take their tickets, such that exactly 4 students were not having the same ticket as their initially purchased ticket?

✖

Solution:

🔍 **Answer key/Solution**

Correct Answer : 28

Your Answer : 4

If a person is having his initial ticket then let's call it 1 and if two people exchange then let's call it 2. The total should always be 10. E.g. 1211122 means A is having his initial ticket, B and C have exchanged their tickets, D, E and F are having their initial tickets, G and H exchanged their tickets and I and J exchanged their tickets.

If exactly 4 students are not having their initial tickets then there must be two 2's and six 1's.
These two 2's and 6 1's can be arranged in $^8C_2$ i.e. 28 ways.

Bookmark   FeedBack

Directions for questions 28 to 31: Answer the questions on the basis of the information given below.

Ten friends − A, B, C, D, E, F, G, H, I and J - decided to attend the state fair at ABC stadium. After attending the cultural programs in fair, they all decided to play some game. So they went to a shop from where each one of them purchased a ticket from the tickets numbered from 1 to 10. Somehow all of them managed to get the ticket having its number equivalent to the number of their initials i.e, A had ticket number 1, B had ticket number 2, C had ticket number 3 and so on.
Now, for the game, all of them kept their tickets on a table in such a way that ticket numbers were not visible and the tickets were shuffled. Then each one of them picked one ticket randomly from the table. When they all showed their ticket numbers it was found that the ticket number of the ticket picked by each friend from the table was maximum 1 away from his initially purchased ticket number, for example - C could have picked a ticket, numbered as 2, 3 or 4 only.

Q.30 [11594329]
If the number of ways in which exactly 'n' students not having their initial tickets is maximum possible, then what is the value of n?

1 ○ **4**

2 ○ **6**

3 ○ **8**

4 ○ **2**

[✖]

Solution:

Correct Answer : 2

🔍 Answer key/Solution

Your Answer : 3

If a person is having his initial ticket then let's call it 1 and if two people exchange then let's call it 2. The total should always be 10. E.g. 1211122 means A is having his initial ticket, B and C have exchanged their tickets, D, E and F are having their initial tickets, G and H exchanged their tickets and I and J exchanged their tickets.

If 1 pair exchanged the tickets then number of ways is $^9C_1$ or 9 i.e. eight 1's and one 2.
Similarly, if 2 pairs exchanged the number of ways is $^8C_2$ i.e. 28.
If 3 pairs exchanged then number of ways is $^7C_3$ i.e. 35.
If 4 pairs exchanged then number of ways is $^6C_4$ i.e. 15.
If all 5 pairs exchanged then it is possible in only one way.
Also, if all are having their initial ticket then number of ways is 1.
Hence maximum number of ways is there when 3 pairs exchanged i.e. 6 people not having their initial tickets.

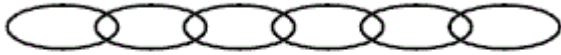[Bookmark]   [FeedBack]

Directions for questions 28 to 31: Answer the questions on the basis of the information given below.

Ten friends – A, B, C, D, E, F, G, H, I and J - decided to attend the state fair at ABC stadium. After attending the cultural programs in fair, they all decided to play some game. So they went to a shop from where each one of them purchased a ticket from the tickets numbered from 1 to 10. Somehow all of them managed to get the ticket having its number equivalent to the number of their initials i.e, A had ticket number 1, B had ticket number 2, C had ticket number 3 and so on.
Now, for the game, all of them kept their tickets on a table in such a way that ticket numbers were not visible and the tickets were shuffled. Then each one of them picked one ticket randomly from the table. When they all showed their ticket numbers it was found that the ticket number of the ticket picked by each friend from the table was maximum 1 away from his initially purchased ticket number, for example - C could have picked a ticket, numbered as 2, 3 or 4 only.

Q.31 [11594329]
What is the total number of ways such that at least one of the students is not having his initial ticket again?

1 ○ **86**

2 ○ **89**

3 ○ **88**

4 ○ **90**

Solution:
Correct Answer : 3

🔍 Answer key/Solution

If a person is having his initial ticket then let's call it 1 and if two people exchange then let's call it 2. The total should always be 10. E.g. 1211122 means A is having his initial ticket, B and C have exchanged their tickets, D, E and F are having their initial tickets, G and H exchanged their tickets and I and J exchanged their tickets.

As discussed in previous solution, total number of ways is 9 + 28 + 35 + 15 + 1 = 88.

Bookmark   FeedBack

Direction for questions 32 to 35: Answer the question on the basis of the information given below.

Ravi has a gold chain with N links, such that links are numbered from 1 to N. Ravi wants to cut the links into groups of one or more links, in such a way that he can pay salary to Ritika by paying any number of links she may ask for her work on contract basis. But since cutting a gold chain comes with the cost, he has to be very smart while cutting it. One cut means a link is cut at one place.

Original:
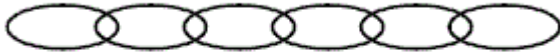
After one cut:

Q.32 [11594329]
If N = 865, then what is the minimum number of cuts that Ravi should make?

Solution:

Correct Answer : 6

🔍 Answer key/Solution

Let's first solve for 1 cut with one cut, he can get maximum of 3 pieces.
Let the largest number N that can be represented with 3 groups.
One of the links will definitely be 1 (the piece that is cut). Now, let's construct in such a way that all numbers can be attained.
As we already have 1, next number should be 2. Now, we can get 1, 2, 3 (1 + 2), hence the next number should be 4.
With 1, 2, 4 we can get a maximum of 7.
Now, let's analyze for 2 cuts with 2 cuts we get 5 groups out of which 2 groups will be 1 → 1, 1.
Since, we have two 1s, the next number should be 3.
As we can get numbers till 5, the next number should be 6.
Similarly, the next number should be 12. The maximum N = 23.
1, 1, 3, 6, 12
Now, let's analyze for 3 cuts.
With 3 cuts, we get 7 pieces out of which 3 groups are 1.
→ 1, 1, 1
Since we have three 1's the next number should be 4.
Similarly the other numbers can be calculated.
1, 1, 1, 4, 8, 16, 32
∴ N = 63.
We can see a pattern here → For 'n' cuts, there are $2n + 1$ groups, out of which there are n 1s and the rest of them start with $n + 1$s and subsequent terms are twice the previous terms.
1, 1, ... n terms, $(n + 1)$, $2(n + 1)$, $4(n + 1)$, ... $2^n(n + 1)$
Sum of these = $N = n + (n + 1)[2^{n-1} - 1] = (n + 1)[2^{n+1}] - n$.
Following table, gives the value of N, for different number of cuts:

Cuts	N
1	7
2	23
3	63
4	159
5	383
6	895
7	2047
8	4607

As per the above table.

Bookmark   FeedBack

Direction for questions 32 to 35: Answer the question on the basis of the information given below.

Ravi has a gold chain with N links, such that links are numbered from 1 to N. Ravi wants to cut the links into groups of one or more links, in such a way that he can pay salary to Ritika by paying any number of links she may ask for her work on contract basis. But since cutting a gold chain comes with the cost, he has to be very smart while cutting it. One cut means a link is cut at one place.

Original:

After one cut:

Q.33 [11594329]
If Ravi made 8 cuts, then what is the maximum possible value of N?

Solution:

Correct Answer : 4607

🔍 Answer key/Solution

Let's first solve for 1 cut with one cut, he can get maximum of 3 pieces.
Let the largest number N that can be represented with 3 groups.
One of the links will definitely be 1 (the piece that is cut). Now, let's construct in such a way that all numbers can be attained.
As we already have 1, next number should be 2. Now, we can get 1, 2, 3 (1 + 2), hence the next number should be 4.
With 1, 2, 4 we can get a maximum of 7.
Now, let's analyze for 2 cuts with 2 cuts we get 5 groups out of which 2 groups will be 1 → 1, 1.
Since, we have two 1s, the next number should be 3.
As we can get numbers till 5, the next number should be 6.
Similarly, the next number should be 12. The maximum N = 23.
1, 1, 3, 6, 12
Now, let's analyze for 3 cuts.
With 3 cuts, we get 7 pieces out of which 3 groups are 1.
→ 1, 1, 1
Since we have three 1's the next number should be 4.
Similarly the other numbers can be calculated.
1, 1, 1, 4, 8, 16, 32
∴ N = 63.
We can see a pattern here → For 'n' cuts, there are 2n + 1 groups, out of which there are n 1s and the rest of them start with n + 1s and subsequent terms are twice the previous terms.
1, 1, ... n terms, (n + 1), 2(n + 1), 4(n + 1), ... $2^n(n + 1)$
Sum of these = N = n + (n + 1)$[2^{n-1} - 1]$ = (n + 1) $[2^{n+1}]$ – n.
Following table, gives the value of N, for different number of cuts:

Cuts	N
1	7
2	23
3	63
4	159
5	383
6	895
7	2047
8	4607

As per the above table.

Bookmark   FeedBack

Direction for questions 32 to 35: Answer the question on the basis of the information given below.

Ravi has a gold chain with N links, such that links are numbered from 1 to N. Ravi wants to cut the links into groups of one or more links, in such a way that he can pay salary to Ritika by paying any number of links she may ask for her work on contract basis. But since cutting a gold chain comes with the cost, he has to be very smart while cutting it. One cut means a link is cut at one place.

Original:

After one cut:

Q.34 [11594329]

If N = 512, then what could be the maximum sum of the numbers written on the links of any piece of the chain after Ravi made cuts?

Solution:
Correct Answer : 98432

🔍 Answer key/Solution

Let's first solve for 1 cut with one cut, he can get maximum of 3 pieces.
Let the largest number N that can be represented with 3 groups.
One of the links will definitely be 1 (the piece that is cut). Now, let's construct in such a way that all numbers can be attained.
As we already have 1, next number should be 2. Now, we can get 1, 2, 3 (1 + 2), hence the next number should be 4.
With 1, 2, 4 we can get a maximum of 7.
Now, let's analyze for 2 cuts with 2 cuts we get 5 groups out of which 2 groups will be 1 → 1, 1.
Since, we have two 1s, the next number should be 3.
As we can get numbers till 5, the next number should be 6.
Similarly, the next number should be 12. The maximum N = 23.
1, 1, 3, 6, 12
Now, let's analyze for 3 cuts.
With 3 cuts, we get 7 pieces out of which 3 groups are 1.
→ 1, 1, 1
Since we have three 1's the next number should be 4.
Similarly the other numbers can be calculated.
1, 1, 1, 4, 8, 16, 32
∴ N = 63.
We can see a pattern here → For 'n' cuts, there are 2n + 1 groups, out of which there are n 1s and the rest of them start with n + 1s and subsequent terms are twice the previous terms.
1, 1, ... n terms, (n + 1), 2(n + 1), 4(n + 1), ... 2^n(n + 1)
Sum of these = N = n + (n + 1)$[2^{n-1} - 1]$ = (n + 1) $[2^{n+1}]$ − n.
Following table, gives the value of N, for different number of cuts:

Cuts	N
1	7
2	23
3	63
4	159
5	383
6	895
7	2047
8	4607

Now we need to maximize the sum of numbers in a single group. The number of links cannot be more than half the total number of links. The maximum links in a single group can be N/2.
The maximum number of links in a group, where N is 512 = 256.
Since, we need the maximum sum, that group should consists of higher numbers.
The numbers in this group will be 257 to 512.
∴ Sum = 257 + 258 + ... + 512
= 128(257 + 512) = 98432.

[Bookmark]   [FeedBack]

Direction for questions 32 to 35: Answer the question on the basis of the information given below.

Ravi has a gold chain with N links, such that links are numbered from 1 to N. Ravi wants to cut the links into groups of one or more links, in such a way that he can pay salary to Ritika by paying any number of links she may ask for her work on contract basis. But since cutting a gold chain comes with the cost, he has to be very smart while cutting it. One cut means a link is cut at one place.

Original:

After one cut:

Q.35 [11594329]

If Ravi has to make more than 5 cuts but less then 7 cuts, then what is the number of possible values that N can take?

Solution:

Correct Answer : 512

🔍 Answer key/Solution

Let's first solve for 1 cut with one cut, he can get maximum of 3 pieces.
Let the largest number N that can be represented with 3 groups.
One of the links will definitely be 1 (the piece that is cut). Now, let's construct in such a way that all numbers can be attained.
As we already have 1, next number should be 2. Now, we can get 1, 2, 3 (1 + 2), hence the next number should be 4.
With 1, 2, 4 we can get a maximum of 7.
Now, let's analyze for 2 cuts with 2 cuts we get 5 groups out of which 2 groups will be 1 → 1, 1.
Since, we have two 1s, the next number should be 3.
As we can get numbers till 5, the next number should be 6.
Similarly, the next number should be 12. The maximum N = 23.
1, 1, 3, 6, 12
Now, let's analyze for 3 cuts.
With 3 cuts, we get 7 pieces out of which 3 groups are 1.
→ 1, 1, 1
Since we have three 1's the next number should be 4.
Similarly the other numbers can be calculated.
1, 1, 1, 4, 8, 16, 32
∴ N = 63.
We can see a pattern here → For 'n' cuts, there are $2n + 1$ groups, out of which there are n 1s and the rest of them start with n + 1s and subsequent terms are twice the previous terms.
1, 1, ... n terms, $(n + 1)$, $2(n + 1)$, $4(n + 1)$, ... $2^n(n + 1)$
Sum of these = $N = n + (n + 1)[2^{n-1} - 1] = (n + 1)[2^{n+1}] - n$.
Following table, gives the value of N, for different number of cuts:

Cuts	N
1	7
2	23
3	63
4	159
5	383
6	895
7	2047
8	4607

As per the above table, all the values from 383 to 895 i.e. 512 values.

Bookmark   FeedBack

Direction for questions 36 to 39: Answer the questions on the basis of the information given below.

125 similar cubes of dimension 1 × 1 × 1 are arranged to form a bigger cubical box of dimension 5 × 5 × 5. From one corner of the top layer of this block, a cuboid of dimension 2 × 2 × 1 is removed. From the opposite corner of the same top layer, a cuboid of dimension 1 × 2 × 1 is removed. Then similarly, from the third and the fourth corners of that layer, cuboids having dimensions 1 × 3 × 1 and 4 × 1 × 1 are removed respectively. All exposed faces of the thus formed block are then coloured red. It is known that, while the dimensions are defined as l × b × h, l, b and h represents length, breadth and height of that cube or cuboid.

Q.36 [11594329]

How many small cubes are left in the bigger block?

1 ○ **108**

2 ○ **110**

3 ○ **112**

4 ○ **116**

Solution:

Correct Answer : 3

🔍 **Answer key/Solution**

Let the following diagram represents the top layer of the cube having dimension 5 × 5 × 5.

Now as the question says every time some smaller cube or cuboidal were removed from that top layer of the bigger block, we can see that the following steps represent the removing of these cuboids with the shaded cuboidals:

1	2	3	4
5	6	7	8
		9	10
		11	12
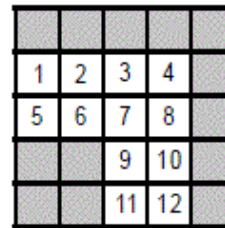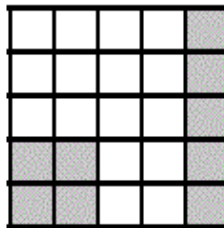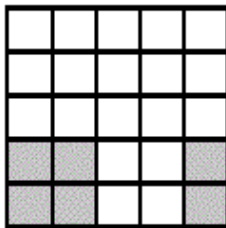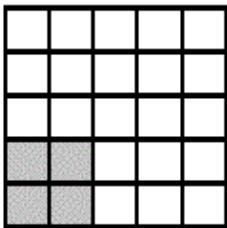
So, finally the top layer of the block left with the un-shaded cubes numbered from 1 to 12 only and the remaining four layers remain same as earlier and hence painted with red colour.

As the bigger block having dimension 5 × 5 × 5 has cubes of dimension 1 × 1 × 1 in it. So, total number of smaller cubes in the bigger block initially was 125. But now as we can see from the above figure, we have removed 13 smaller cubes. So, the remaining cubes in the bigger block = 125 - 13 = 112.

Bookmark   FeedBack

Direction for questions 36 to 39: Answer the questions on the basis of the information given below.

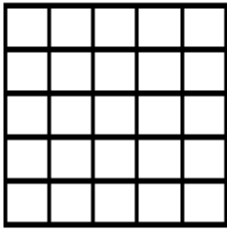**125 similar cubes of dimension 1 × 1 × 1 are arranged to form a bigger cubical box of dimension 5 × 5 × 5. From one corner of the top layer of this block, a cuboid of dimension 2 × 2 × 1 is removed. From the opposite corner of the same top layer, a cuboid of dimension 1 × 2 × 1 is removed. Then similarly, from the third and the fourth corners of that layer, cuboids having dimensions 1 × 3 × 1 and 4 × 1 × 1 are removed respectively. All exposed faces of the thus formed block are then coloured red. It is known that, while the dimensions are defined as l × b × h, l, b and h represents length, breadth and height of that cube or cuboid.**

Q.37 [11594329]
How many cubes do not have any face coloured in red?

1 ○ **38**

2 ○ **26**

3 ○ **25**

4 ○ **27**

Solution:

Correct Answer : 2

🔍 **Answer key/Solution**

Let the following diagram represents the top layer of the cube having dimension 5 × 5 × 5.

Now as the question says every time some smaller cube or cuboidal were removed from that top layer of the bigger block, we can see that the following steps represent the removing of these cuboids with the shaded cuboidals:

1	2	3	4
5	6	7	8
	9	10	
	11	12	
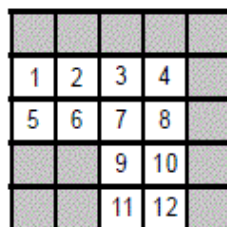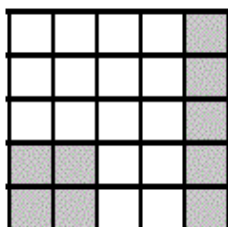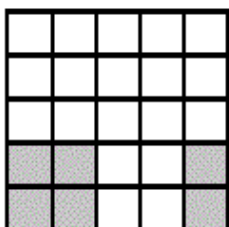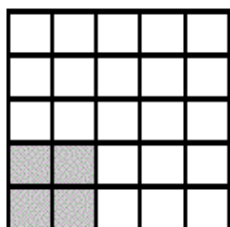
So, finally the top layer of the block left with the un-shaded cubes numbered from 1 to 12 only and the remaining four layers remain same as earlier and hence painted with red colour.

To find the cubes not having any coloured face, lets check in each layer starting from bottom most layer.
Bottom-most layer: at least one face of every cube is coloured.
Second layer from bottom: 9 cubes in the middle of the layer have no face coloured.
Third layer from bottom: 9 cubes in the middle, same as the layer below it.
Second layer from top : 8 cubes, which are exactly below cube numbered 2, 3, 4, 6, 7, 8, 9, 10, are only cubes having no face coloured.
Top layer: Has every cube with at least one coloured face.
So, the required number of cubes = 9 + 9 + 8 = 26.

[Bookmark]   [FeedBack]

Direction for questions 36 to 39: Answer the questions on the basis of the information given below.

**125 similar cubes of dimension 1 × 1 × 1 are arranged to form a bigger cubical box of dimension 5 × 5 × 5. From one corner of the top layer of this block, a cuboid of dimension 2 × 2 × 1 is removed. From the opposite corner of the same top layer, a cuboid of dimension 1 × 2 × 1 is removed. Then similarly, from the third and the fourth corners of that layer, cuboids having dimensions 1 × 3 × 1 and 4 × 1 × 1 are removed respectively. All exposed faces of the thus formed block are then coloured red. It is known that, while the dimensions are defined as l × b × h, l, b and h represents length, breadth and height of that cube or cuboid.**

Q.38 [11594329]
How many cubes have only two red coloured faces?

1 ○ **32**

2 ○ **34**

3 ○ **18**

4 ○ **29**

Solution:

Correct Answer : 2

🔍 **Answer key/Solution**

Let the following diagram represents the top layer of the cube having dimension 5 × 5 × 5.

Now as the question says every time some smaller cube or cuboidal were removed from that top layer of the bigger block, we can see that the following steps represent the removing of these cuboids with the shaded cuboidals:

1	2	3	4
5	6	7	8
		9	10
		11	12
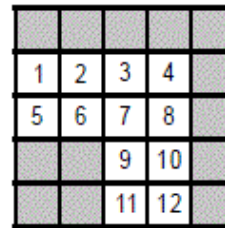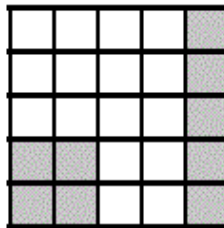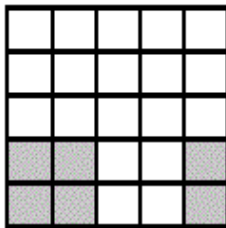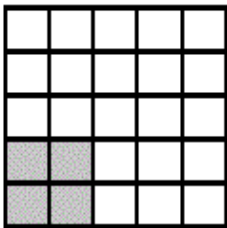
So, finally the top layer of the block left with the un-shaded cubes numbered from 1 to 12 only and the remaining four layers remain same as earlier and hence painted with red colour.

To find the cubes having exactly two red coloured faces:
Bottom-most layer : 12 cubes, 3 middle cubes on every edge, have two coloured faces.
Second layer from bottom: 4 cube has two coloured face, 4 corners of the layer.
Third layer from bottom: 4 cube having two coloured face.
Second layer from top: only 8 cubes having two coloured faces.
Top layer : 6 cubes, numbered as 2, 3, 6, 8, 9, 10, have two red coloured faces.
So, total required numbers = 12 + 4 + 4 + 8 + 6 = 34.

[Bookmark]   [FeedBack]

Direction for questions 36 to 39: Answer the questions on the basis of the information given below.

125 similar cubes of dimension 1 × 1 × 1 are arranged to form a bigger cubical box of dimension 5 × 5 × 5. From one corner of the top layer of this block, a cuboid of dimension 2 × 2 × 1 is removed. From the opposite corner of the same top layer, a cuboid of dimension 1 × 2 × 1 is removed. Then similarly, from the third and the fourth corners of that layer, cuboids having dimensions 1 × 3 × 1 and 4 × 1 × 1 are removed respectively. All exposed faces of the thus formed block are then coloured red. It is known that, while the dimensions are defined as l × b × h, l, b and h represents length, breadth and height of that cube or cuboid.

Q.39 [11594329]
How many smaller cubes, out of the cubes left in the top layer, have three red coloured faces?

Solution:

Correct Answer : 5

🔍 Answer key/Solution

Let the following diagram represents the top layer of the cube having dimension 5 × 5 × 5.
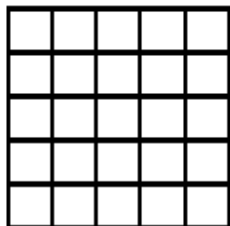
Now as the question says every time some smaller cube or cuboidal were removed from that top layer of the bigger block, we can see that the following steps represent the removing of these cuboids with the shaded cuboidals:
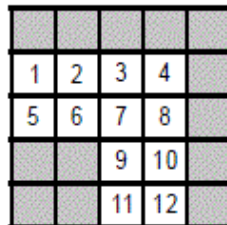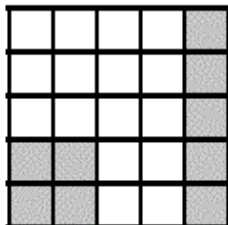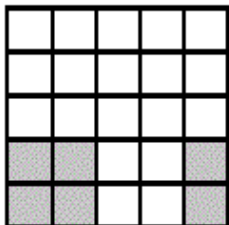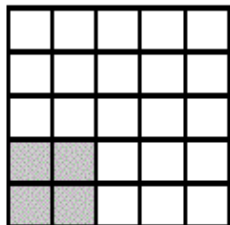
So, finally the top layer of the block left with the un-shaded cubes numbered from 1 to 12 only and the remaining four layers remain same as earlier and hence painted with red colour.

Three red coloured faces in top layer are those which have number 1, 4, 5, 11, 12. Hence, there are 5 such cubes in top layer.

Bookmark   FeedBack

Directions for question 40 to 43: Answer the questions on the basis of the information given below.

IPL, an annual T-20 Cricket event, recently completed its 10th season, in which 8 teams participated. RCB, a star-studded, one of the participating team, played a total of 150 matches in all the 10 seasons taken together. The average runs scored per match for all the 150 matches played by RCB is 175, with no more than 225 runs and no less than 135 runs in any match. Following table gives information about the number of matches played and the number of sixes hit by 3 of their star players - Kohli, Gayle and ABD.

Player	No. of matches played	Total no. of sixes hit
Kohli	140	280
Gayle	120	490
ABD	130	350

The above 3 players, played for RCB in each of the 10 seasons.
Further, it is known that :
(A) In every match,
(i) In which Gayle played, he did hit at least 1 six but did not hit more than 7 sixes,
(ii) In which ABD played, he did hit at least 1 six but did not hit more than 6 sixes, and
(iii) In which Kohli played, he did hit at least 1 six but did not hit more than 4 sixes;

(B) In no match involving RCB, did more than 15 sixes were hit.
(C) In every match of RCB, at least one of these 3 players played the match.

Q.40 [11594329]
What can be the maximum number of matches played by RCB, in which the total number of sixes hit in the match, is less than 6?
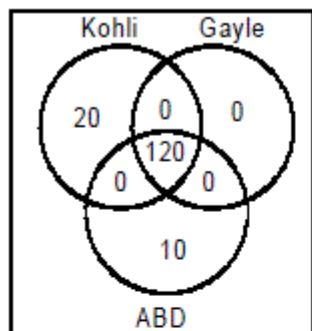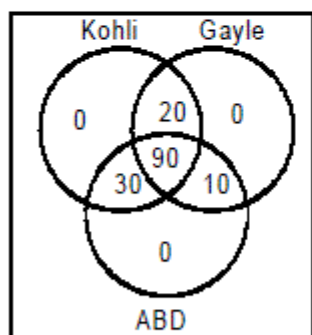
1 ○ **120**

2 ○ **90**

3 ○ **113**

4 ○ **101**

Solution:

Correct Answer : 3

🔍 Answer key/Solution

Using the coin distribution method, we get
Case I: Maximum number of matches in which all 3 played

Case II: Minimum number of matches in which all 3 played

Since we have to maximum the number of matches in which less than 6 sixes were hit, we assume that other than these 3 players no player did hit a six.
Let number of matches in which 5 sixes were hit = x
$\Rightarrow$ Number of matches in which more than 5 sixes were hit = (150 − x)
In order to maximum 'x', maximize the number of sixes hit in the (150 − x) matches, which can be 15 (Refer pt. B)
5x + 15(150 − x) = 1120 $\Rightarrow$ x = 113.

| Bookmark | | FeedBack |

Directions for question 40 to 43: Answer the questions on the basis of the information given below.

IPL, an annual T-20 Cricket event, recently completed its 10th season, in which 8 teams participated. RCB, a star-studded, one of the participating team, played a total of 150 matches in all the 10 seasons taken together. The average runs scored per match for all the 150 matches played by RCB is 175, with no more than 225 runs and no less than 135 runs in any match. Following table gives information about the number of matches played and the number of sixes hit by 3 of their star players - Kohli, Gayle and ABD.

Player	No. of matches played	Total no. of sixes hit
Kohli	140	280
Gayle	120	490
ABD	130	350

The above 3 players, played for RCB in each of the 10 seasons.
Further, it is known that :
(A) In every match,
(i) In which Gayle played, he did hit at least 1 six but did not hit more than 7 sixes,
(ii) In which ABD played, he did hit at least 1 six but did not hit more than 6 sixes, and
(iii) In which Kohli played, he did hit at least 1 six but did not hit more than 4 sixes;

(B) In no match involving RCB, did more than 15 sixes were hit.
(C) In every match of RCB, at least one of these 3 players played the match.

Q.41 [11594329]
Out of the 150 matches played by RCB, what can be the maximum value of the total runs scored by RCB in the 100 matches taken together?

---

1 ◯ **22500**
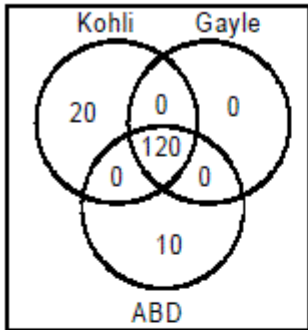
---

2 ◯ **19500**

---

3 ◯ **17500**

---

4 ◯ **21500**
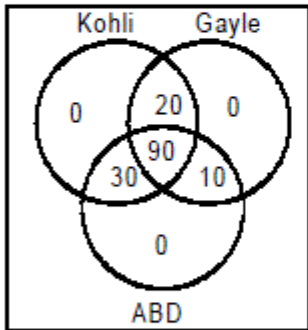
Solution:

Correct Answer : 2

Using the coin distribution method, we get

Case I: Maximum number of matches in which all 3 played

Case II: Minimum number of matches in which all 3 played

Let number of matches in which 225 runs were scored = x

And number of matches in which 135 runs were scored = (150 − x)

⇒ 225x + 135(150 − x) = 175 × 150 = 26250

x = 66.6

So, maximum value of x = 66

⇒ 225 × 66 + 135 × 84 = 26190

                        ↓   ↓

                 (150–66)   60 runs less than total runs, which is 26250.

There 60 runs can be given to any of the match in which 225 runs were not scored

So, maximum runs in 100 matches = 225 × 66 + 135 × 34 + 60 = 19500.

Bookmark   FeedBack

Directions for question 40 to 43: Answer the questions on the basis of the information given below.

IPL, an annual T-20 Cricket event, recently completed its 10th season, in which 8 teams participated. RCB, a star-studded, one of the participating team, played a total of 150 matches in all the 10 seasons taken together. The average runs scored per match for all the 150 matches played by RCB is 175, with no more than 225 runs and no less than 135 runs in any match. Following table gives information about the number of matches played and the number of sixes hit by 3 of their star players - Kohli, Gayle and ABD.

Player	No. of matches played	Total no. of sixes hit
Kohli	140	280
Gayle	120	490
ABD	130	350

The above 3 players, played for RCB in each of the 10 seasons.
Further, it is known that :
(A) In every match,
(i) In which Gayle played, he did hit at least 1 six but did not hit more than 7 sixes,
(ii) In which ABD played, he did hit at least 1 six but did not hit more than 6 sixes, and
(iii) In which Kohli played, he did hit at least 1 six but did not hit more than 4 sixes;

(B) In no match involving RCB, did more than 15 sixes were hit.
(C) In every match of RCB, at least one of these 3 players played the match.

Q.42 [11594329]
If the number of matches in which both Gayle and Kohli played is minimum possible, then what can be the maximum number of matches in which Kohli hit more sixes than Gayle ?(Consider only those matches in which both played.)
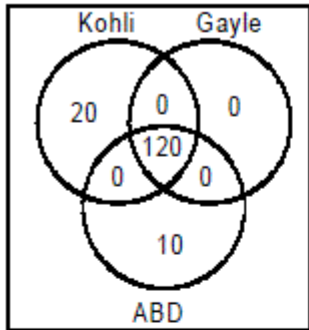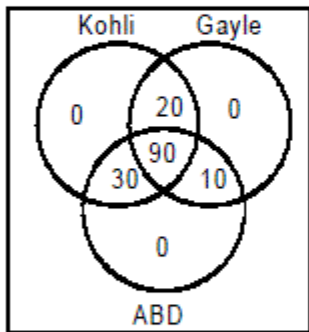
---

1 ○ **70**

2 ○ **90**

3 ○ **120**

4 ○ **110**

Solution:

Correct Answer : 1

🔍 Answer key/Solution

Using the coin distribution method, we get
Case I: Maximum number of matches in which all 3 played

Case II: Minimum number of matches in which all 3 played

Refer case II
Let number of matches in which Gayle hit 7 sixes = y
So, in these matches we should assume that Kohli hit only 1 six per match.
So, in the remaining (110 − y) matches, if number of sixes hit by Gayles per match is z, then number of sixes hit by Kohli per match should be (z + 1). (To maximum such matches for Kohli)

$7y + z(110 - y) = 420$ ... (1)
$1y + (z + 1)(110 - y) = 250$ ... (2)

In the 10 matches, in which only Gayle and ABD played, we assumed that the number of sixes hit by Gayle per match is 7 and in the 30 matches, in which only Kohli and ABD played, we assumed that the number of sixes hit by Kohli per match is 1.
Solving (1) and (2) we get
$y = 40$ and hence $110 - y = 70$.

Bookmark   FeedBack

Directions for question 40 to 43: Answer the questions on the basis of the information given below.

IPL, an annual T-20 Cricket event, recently completed its 10th season, in which 8 teams participated. RCB, a star-studded, one of the participating team, played a total of 150 matches in all the 10 seasons taken together. The average runs scored per match for all the 150 matches played by RCB is 175, with no more than 225 runs and no less than 135 runs in any match. Following table gives information about the number of matches played and the number of sixes hit by 3 of their star players - Kohli, Gayle and ABD.

Player	No. of matches played	Total no. of sixes hit
Kohli	140	280
Gayle	120	490
ABD	130	350

The above 3 players, played for RCB in each of the 10 seasons.
Further, it is known that :
(A) In every match,
(i) In which Gayle played, he did hit at least 1 six but did not hit more than 7 sixes,
(ii) In which ABD played, he did hit at least 1 six but did not hit more than 6 sixes, and
(iii) In which Kohli played, he did hit at least 1 six but did not hit more than 4 sixes;

(B) In no match involving RCB, did more than 15 sixes were hit.
(C) In every match of RCB, at least one of these 3 players played the match.

Q.43 [11594329]
If the number of matches in which all the 3 players played is maximum possible, then what can be the maximum value of the total number of sixes hit by the 3 batsmen in all such matches put together?
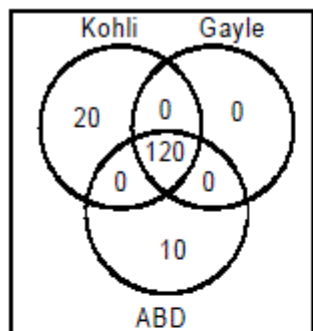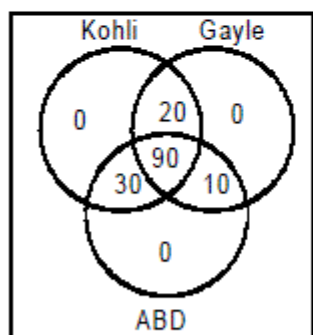
1 ◯ **990**

2 ◯ **1050**

3 ◯ **1090**

4 ◯ **Cannot be determined**

Solution:

Correct Answer : 3

🔍 Answer key/Solution

Using the coin distribution method, we get
Case I: Maximum number of matches in which all 3 played

```
        Kohli      Gayle
         20    0      0
            120
           0      0
           10
         ABD
```

Case II: Minimum number of matches in which all 3 played

```
        Kohli     Gayle
        0    20     0
            90
          30    10
            0
          ABD
```

Refer case I
Total sixes that were hit = 490 + 280 + 350 = 1120.
Out of 1120 sixes that were hit, a min. of 20 sixes were hit in the 20 matches in which only Kohli played and a minimum of 10 sixes were hit in the 10 matches in which only ABD played.
Hence, maximum number of sixes that were hit in the matches in which all 3 played = 1120 – 30 = 1090.

Bookmark   FeedBack

Sec 3

Q.44 [11594329]
"I am three times as old as you were when I was as old as you are now", said a mother to his son. If the sum of the present ages of the mother and the son is 120 years, then what is the present age (in years) of the mother?

✖

Solution:

Correct Answer : 72

Your Answer : 80

Present age : Mother x and Son y
When mother was y' years old
i.e. (x − y) years before, at that time son's age was y − (x − y) = (2y − x) years
∴ x = 3(2y − x)

$$\Rightarrow \frac{x}{y} = \frac{3}{2}$$

If x = 3k, y = 2k
∴ 3k + 2k = 120
⇒ k = 24
⇒ Present age of mother is 3 × 24 = 72 years.

🔍 **Answer key/Solution**

[Bookmark] [FeedBack]

Q.45 [11594329]

Two articles are sold, each at a price of Rs. 4950, one at 10% profit and other at 10% loss. Find the overall loss amount (in Rs.).

1 ○ **1000**

2 ○ **0**

3 ○ **100**

4 ○ **300**

[✔]

Solution:

Correct Answer : 3

Your Answer : 3

🔍 **Answer key/Solution**

S.P. of 1st article = SP of 2nd article = Rs. 4950
Profit = 10%

$$\therefore \text{C.P. of 1st article} = \frac{100}{110} \times 4950 = Rs.4500$$

There is loss on other article

$$\therefore \text{C.P. of 2nd article} = \frac{100}{90} \times 4950 = Rs.5500$$

∴ Total C.P. = 4500 + 5500 = Rs. 10000
∴ Total S.P. = 4950 × 2 = Rs. 9900
∴ Overall loss amount = Rs.(10000 − 9900) = Rs. 100.

[Bookmark] [FeedBack]

Q.46 [11594329]

If x, y and z are positive real numbers, then which of the following is true?

1 ○ $x^2 + y^2 + z^2 \geq xy + yz + zx$

2 ○ $(x + y)(y + z)(z + x) \geq 8xyz$

3 ○ $(1/x) + (x/xy) > 2/(x + y)$

4 ○ All of the above

Solution:

Correct Answer : 4

$AM \geq Gm \geq HM$
Option (1):

$$\frac{x^2 + y^2}{2} \geq \sqrt{x^2 y^2}$$

$\therefore x^2 + y^2 \geq 2xy$
Similarly, we have $x^2 + z^2 \geq 2zx$
$y^2 + z^2 \geq 2yz$
Adding these 3 identities
we get $2(x^2 + y^2 + z^2) \geq 2(xy + yz + zx)$
$\therefore x^2 + y^2 + z^2 \geq xy + yz + zx$
$\therefore$ (1) is true
Option (2):

$$\frac{x + y}{2} \geq \sqrt{xy}$$

$$x + y \geq 2\sqrt{xy}$$

$$\Rightarrow z + y \geq 2\sqrt{yz}$$

$$z + x \geq 2\sqrt{zx}$$

On multiplying these 3, we get $(x + y)(y + z)(z + x) \geq 8x \cdot y \cdot z$
$\therefore$ (2) is also true
Option (3):
$x^2 + y^2 > 0$

$$\frac{x + y}{xy} > \frac{2}{x + y}$$

i.e. $\dfrac{1}{x} + \dfrac{1}{y} > \dfrac{2}{x + y}$

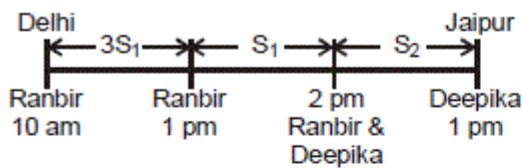$\therefore$ (3) is correct.
Hence, all of the above options are correct.

Bookmark   FeedBack

Q.47 [11594329]

Ranbir started travelling from Delhi to Jaipur at 10 am and Deepika started at 1 pm from Jaipur to Delhi. They met at 2 pm in between and reached their respective destination at the same time. At what time did they reach their destination?

1 ○ **3 pm**

2 ○ **4 pm**

3 ○ **5 pm**

4 ○ **6 pm**

✔

Solution:

Correct Answer : 2

Your Answer : 2

🔍 **Answer key/Solution**

Delhi — 3S₁ → Ranbir 1 pm — S₁ → 2 pm Ranbir & Deepika — S₂ → Deepika 1 pm — Jaipur

Ranbir 10 am

Let speed of Ranbir and Deepika be S_1 and S_2 respectively. After meeting at 2 pm, they will take equal time to reach their respective destination as they reached at the same time.

$$\frac{S_2}{S_1} = \frac{4S_1}{S_2}$$

$$\frac{S_2^2}{S_1^2} = \frac{4}{1} \Rightarrow \frac{S_2}{S_1} = \frac{2}{1}$$

Further, time taken to reach after 2 pm is 2 hrs. They will arrive at 4 pm.

Bookmark   FeedBack

Q.48 [11594329]

A, B, C, D and E takes 30 days, 20 days, 15 days, 12 days and 60 days respectively to do the same amount of work. They are divided into 2 groups such that one group took twice the amount of time taken by the other group, to do the same amount of work. How many such pairs of groups are possible?

1 ○ **1**

2 ○ **2**

3 ○ **3**

4 ○ **4**

✔

Solution:

Correct Answer : 3

Your Answer : 3

🔍 **Answer key/Solution**

Let work = LCM (30, 20, 15, 12, 60) units = 60 units
A → 2 units/day
B → 3 units/day
C → 4 units/day
D → 5 units/day
E → 1 unit/day
Total → 15 units/day
If one group takes twice the amount of time taken by the other group, that means the ratio of their efficiencies is 1 : 2 i.e

Group I	Group II
5 Units/day	**10 Units/day**
A & B	C, D & E
C & E	A, B, C & D
D	A, B, C and E

Ans : (3) ⃞3 pairs

[Bookmark] [FeedBack]

Q.49 [11594329]

If f(x) = mx + n and f(f(f(x))) = 8(x + 7), then find the value of (3m + 2n).

1 ○ **20**

2 ○ **35**

3 ○ **22**

4 ○ **30**

Solution:

Correct Answer : 3

🔍 **Answer key/Solution**

$f(x) = mx + n$
$f(f(x)) = m(mx + n) + n = m^2x + mn + n$
$f(f(f(x))) = m(m^2x + mn + n) + n = 8(x + 7)$
$\Rightarrow m^3x + m^2n + mn + n = 8x + 56$
Comparing both sides, we get
$m^3 = 8$ and $m^2n + mn + n = 56$
$\Rightarrow m = 2, n = 8$
∴ The value of $3m + 2n = 3 \times 2 + 2 \times 8 = 22$

[Bookmark] [FeedBack]

Q.50 [11594329]

If $x : y = 2 : 5$ find the value of $\left(\dfrac{3x^2 + xy}{y^2 - x^2} \right)$

1 ○ **21/22**

2 ○ **22/21**

3 ○ **44/41**

4 ○ **None of these**

✔

Solution:

Correct Answer : 2

Your Answer : 2

🔍 Answer key/Solution

Put x = 2 and y = 5

$$\therefore \frac{3x^2 + xy}{y^2 - x^2} = \frac{3x(2)^2 + 2 \times 5}{5^2 - 2^2} = \frac{22}{21}.$$

| Bookmark | FeedBack |

Q.51 [11594329]

The sum of the first 10 terms of an Arithmetic Progression is 50 and the sum of the next 10 terms is 250. Find the thirteenth term of the AP.

Solution:

Correct Answer : 20

🔍 Answer key/Solution

Sum of first 10 terms = $(a + a + 9d) \times \dfrac{10}{2} = 50$

$\Rightarrow 10\,a + 45\,d = 50$ ... (i)

Sum of next 10 terms = $(a + 10d + a + 19d) \times \dfrac{10}{2} = 250$

$\Rightarrow 10\,a + 145\,d = 250$ ... (ii)
From (i) and (ii), we get d = 2, a = −4
Hence, 13th term = −4 + 2 × 12 = 20.

| Bookmark | FeedBack |

Q.52 [11594329]

If $(5^{23} + 5^{23} + 5^{23} + 5^{23} + 5^{23})(2^{23} + 2^{23}) = 10^{x + 2}$, then find the value of x.

Solution:

Correct Answer : 22

$(5^{23} + 5^{23} + 5^{23} + 5^{23} + 5^{23})(2^{23} + 2^{23}) = 10^{x+2}$

$\Rightarrow 5^{23} \times 2^{23} \times 5 \times 2 = 10^{x+2}$

$\Rightarrow 10^{22+2} = 10^{x+2}$

$\therefore x = 22.$

[Bookmark] [FeedBack]

Q.53 [11594329]

If f(x + y, x − y) = x × y, then find the expression for f(x, y).

1 ○ $\dfrac{x^2 + y^2}{4}$

2 ○ $\dfrac{x^2 - y^2}{4}$

3 ○ $\dfrac{x - y}{2}$

4 ○ **None of these**

Solution:

Correct Answer : 2

Let $x + y = A$ and $x - y = B$, then $x = \dfrac{A+B}{2}$ and $y = \dfrac{A-B}{2}$

$\therefore f(A, B) = \left(\dfrac{A+B}{2}\right)\left(\dfrac{A-B}{2}\right) = \dfrac{A^2 - B^2}{4}$

Replacing x by $\dfrac{x+y}{2}$ and y by $\dfrac{x-y}{2}$

$\therefore f(x, y) = \left(\dfrac{x+y}{2}\right)\left(\dfrac{x-y}{2}\right) = \dfrac{x^2 - y^2}{4}.$

[Bookmark] [FeedBack]

Q.54 [11594329]

Find the perpendicular distance between the two lines given by the equations, 5x + 12y = 9 and 5x + 12y = 16.

1 ○ **1/2**

2 ○ **7**

3 ○ **6/13**

4 ○ **7/13**

Solution:

Correct Answer : 4

🔍 **Answer key/Solution**

The given lines 5x + 12y = 9 and 5x + 12y = 16 are parallel.

Hence, perpendicular distance between these two lines $= \dfrac{|9-16|}{\sqrt{5^2+12^2}} = \dfrac{7}{13}$.

[Bookmark] [FeedBack]

Q.55 [11594329]

If $M = 40^{50^{60^{70}}}$ and N = 9 , **then** what is the remainder when M is divided by N ?

✔

Solution:

Correct Answer : 4

🔍 **Answer key/Solution**

Your Answer : 4

$\dfrac{40^{50^{60^{70}}}}{9} \equiv \dfrac{(36+4)^{50^{60^{70}}}}{9} \equiv \dfrac{4^{50^{60^{70}}}}{9}$

$\dfrac{4^{3K+1}}{9} \rightarrow R = 4 \quad \dfrac{4^{3K+2}}{9} \rightarrow R = 7 \quad \dfrac{4^{3K+3}}{9} \rightarrow R = 1$

Where K = 0, 1, 2, 3, 4, ...

So, need to check whether $50^{60^{70}}$ belongs to (3K + 1), (3K + 2) or (3K + 3).

$\dfrac{50^{60^{70}}}{3} \equiv \dfrac{(51-1)^{60^{70}}}{3} \rightarrow R = 1 \text{ i.e.} 50^{60^{70}} \equiv 3K + 1$

Hence, Remainder is 4.

[Bookmark] [FeedBack]

Q.56 [11594329]

If the average of n consecutive natural numbers starting with "a" is 29 then the average of n natural numbers starting with "2a + 29" will be

(Write '0' if your answer is cannot be determined)

✖

Solution:

Correct Answer : 0

Your Answer : 29.49

If we take n = 1 and a = 29, new average = 87

If we take n = 3 and a = 28, new average = 86

If we take n = 5 and a = 27, new average = 85.

and so on.

So, average cannot be determined uniquely.

| Bookmark | FeedBack |

Q.57 [11594329]

Let the ratio of male population to female population be 3 : 4 in the first year and in the second year be 4 : 5. If their population grows at a uniform rate then find the ratio of male population to female population in the third year.

1 ○ **5 : 6**

2 ○ **64 : 75**

3 ○ **16 : 25**

4 ○ **Cannot be determined**

Solution:

🔍 **Answer key/Solution**

Correct Answer : 2

```
                    M         F
In the I^st year, ratio is    3x   :    4x
In the II^nd year, ratio is   4y   :    5y
```
As the growth rate has remained the same the ratio of males to females in the third year will be

$$4y\left(1+\frac{4y-3x}{3x}\right):5y\left(1+\frac{5y-4x}{4x}\right)$$

$$4y \times \frac{4y}{3x} : 5y \times \frac{5y}{4x}$$

On solving

$$\frac{16}{3} : \frac{25}{4}$$

64 : 75

| Bookmark | FeedBack |

Q.58 [11594329]

Find the 578th term in the series 1,2,2,4,4,4,4,8,8,8,8,8,8,8,8,.......

Solution:

Correct Answer : 512

1, 2, 2, 4, 4, 4, 4, 8, 8, 8, 8, 8, 8, 8, 8, 8,..........
$1 \to 2^0 \to 1$ time $\to 2^1 - 1 \to 1^{st}$ term ends
$2 \to 2^1 \to 2$ times $\to 2^2 - 1 \to 3^{rd}$ term ends
$4 \to 2^2 \to 4$ times $\to 2^3 - 1 \to 7^{th}$ term ends
⋮
$256 \to 2^8 \to 256$ times $\to 2^9 - 1 \to 511^{th}$ term ends
$512 \to 2^9 \to 512$ times $\to 2^{10} - 1 \to 1024^{th}$ term ends
Clearly, 578th term will be 512.

Bookmark   FeedBack

Q.59 [11594329]

How many acute angled triangles with integral sides are possible if two of the sides are 7 and 11?

1 ○ **12**

2 ○ **13**

3 ○ **5**

4 ○ **7**

Solution:

Correct Answer : 3

Let 3rd side be x.
So, $4 < x < 18$
$x^2 + 7^2 > 11^2$
$x^2 > 72$
and $11^2 + 7^2 > x^2$
$170 > x^2$
$\Rightarrow 72 < x^2 < 170$
∴ Values of x satisfying,
$x = 9, 10, 11, 12, 13$.
So, 5 acute angled triangles with integral sides are possible.

Bookmark   FeedBack

Q.60 [11594329]

On a biased dice every odd number appears four times as the frequency of every even number. If the dice is rolled three times, what is the probability that the sum of those appeared numbers is 17 or more?

1 ○ **1/3375**

2 ○ **12/625**

3 ◯ **13/625**

4 ◯ **13/3375**

Solution:

Q Answer key/Solution

Correct Answer : 4

$P(O) = 4P(e)$
also $3P(O) + 3P(e) = 1$

$\therefore P(e) = \dfrac{1}{15}$

$P(O) = \dfrac{4}{15}$

When 3 dice are thrown for getting sum equal to 17 or more, it is possible when we get,
(5, 6, 6), (6, 6, 5), (6, 5, 6), (6, 6, 6).

Probability of getting $5 = \dfrac{4}{15}$

Probability of getting $6 = \dfrac{1}{15}$

$\therefore$ Required probability is $3\left[\dfrac{4}{15} \times \dfrac{1}{15} \times \dfrac{1}{15}\right] + \dfrac{1}{15} \times \dfrac{1}{15} \times \dfrac{1}{15} = \dfrac{13}{3375}$

Bookmark	FeedBack

Q.61 [11594329]

The loss on selling an article at Rs.950 is 25% more than the profit on selling the same article at Rs.1040. Find the profit percentage if it is sold at Rs.1100.

✔

Solution:

Q Answer key/Solution

Correct Answer : 10

Your Answer : 10

$CP - 950 = \dfrac{125}{100}[1040 - CP]$

$4\,CP - 950 \times 4 = 5 \times 1040 - 5\,CP$
$9\,CP = 9000$
$CP = Rs.\ 1000$

$P\% = \dfrac{1100 - 1000}{1000} \times 100 = \dfrac{100}{10} = 10\%$

Bookmark	FeedBack

Q.62 [11594329]
Find the number of integral solutions of the equation 4x − 7y = 35, if x lies in the interval −50 < x < 50.

Solution:
Correct Answer : 15

🔍 Answer key/Solution

$4x − 7y = 35$ if $−50 \angle x \angle 50$
At x = 0, y = − 5
Now, the value of x will change according to the coefficient of y and the value of y will change accroding to the coefficient of x.
∴ Possible values of x between 0 and 50 will be 7, 14, ...,49 i.e. multiples of 7, similarly total 7 values are possible between 0 and − 50.
∴ Total 15 values are possible including 0 for which we get integer solutions.

Bookmark   FeedBack

Q.63 [11594329]
A Spice airline has a free luggage allowance upto a certain kg and if there is extra luggage, it is charged at constant rate per kg. The total luggage charge paid by M and S is Rs. 1050. If both M and S has carried twice the luggage they actually did then charge would be Rs. 2400 & Rs.900 respectively.Find the luggage charge paid by M(in Rs.).

1 ○ **750**

2 ○ **900**

3 ○ **1200**

4 ○ **1500**

Solution:

Correct Answer : 2

🔍 Answer key/Solution

Let the airline has a free luggage allowance up to 'f' kg.
Let luggage carried by M and S be m and s kg respectively and the rate charged beyond 'f' kg be Rs. 'e' per kg.
∴ Extra luggage of M = (m – f) kg
∴ Extra luggage of S = (s – f) kg
e(2m – f) = 2400   ...(1)
e(2s – f) = 900   ...(2)
Add (1) and (2),
e(2m + 2s – 2f) = 3300
∴ e(m + s – f) = 1650
Also, e(m – f) + e(s – f) = 1050
or, e(m + s – f) – ef = 1050
i.e. 1650 – ef = 1050 i.e. ef = 600
i.e. extra luggage for M = e(m – f)

$$= \frac{e(2m - 2f)}{2} = \frac{e(2m - f) - ef}{2}$$

this is $\frac{2400 - 600}{2}$ = Rs. 900.

Bookmark   FeedBack

Q.64 [11594329]

Find the average of the following series 1 × 2 × 3 × 4 + 2 × 3 × 4 × 5 + 3 × 4 × 5 × 6 + ... + 11 × 12 × 13 × 14

Solution:

Correct Answer : 6552

🔍 Answer key/Solution

Series is $1 \times 2 \times 3 \times 4 + 2 \times 3 \times 4 \times 5 + 3 \times 4 \times 5 \times 6 + \ldots + 11 \times 12 \times 13 \times 14$

The general form of the series is $n(n + 1)(n + 2)(n + 3)$.

$\therefore \quad t_n = n(n + 1)(n + 2)(n + 3)$

Let $X_n = n(n + 1)(n + 2)(n + 3)(n + 4)$　　　　　　　　　　... (i)

$X_{n-1} = (n - 1)(n)(n + 1)(n + 2)(n + 3)$

$\therefore \quad X_n - X_{n-1} = 5n(n + 1)(n + 2)(n + 3) = 5t_n$

$\therefore \quad t_n = \dfrac{1}{5}(X_n - X_{n-1})$

$\Rightarrow \quad t_1 = \dfrac{1}{5}(X_1 - X_0)$

$t_2 = \dfrac{1}{5}(X_2 - X_1)$

$t_3 = \dfrac{1}{5}(X_3 - X_2)$

$\vdots$

$t_n = \dfrac{1}{5}(X_n - X_{n-1})$

On adding all these terms, we get

$\Sigma t_n = \dfrac{1}{5}(X_n - X_0)$

Put $n = 0$ in equation (i), we get the value of $X_0 = 0$

$\Sigma t_n = \dfrac{1}{5}X_n = \dfrac{1}{5}n(n + 1)(n + 2)(n + 3)(n + 4)$

$\therefore$ Average of these n terms $= \dfrac{1}{5}(n + 1)(n + 2)(n + 3)(n + 4)$

As $n = 11$, therefore, average $= \dfrac{1}{5} \times 12 \times 13 \times 14 \times 15 = 6552$.

[Bookmark]　　[FeedBack]

Q.65 [11594329]

Price of the diesel is increased from Rs 60/litre to Rs 70/litre. By how much percent should the consumption of the diesel be reduced by Ravi so as to increase his expenditure by only 5%?

1 ◯ **15**

2 ◯ **7.5**

3 ◯ **12**

4 ○ **10**

Solution:

Correct Answer : 4

Price of diesel is increased from Rs. 60 to Rs 70

i.e. New price (P') is $\dfrac{7}{6}$ times the old price (P).

Expenditure increases by 5%,

∴ New expenditure (E') becomes $\dfrac{21}{20}$ times the old expenditure (E).

E' = P' × C' (where C' is the new consumption)

$\dfrac{21E}{20} = \dfrac{7P}{6} \times fC$ (f is the reduced fraction of the consumption)

$\dfrac{21}{20} \times P \times C = \dfrac{7}{6} \times P \times fC$

$\Rightarrow f = \dfrac{9}{10}$

$\Rightarrow$ % Reduction in consumption = $\dfrac{1}{10} \times 100 = 10\%.$

Bookmark	FeedBack