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Directions of Test

Test Name	2016 Bull CAT 01	Total Questions	100	Total Time	180 Mins

Section Name	No. of Questions	Time limit	Marks per Question	Negative Marking
Verbal Ability	34	1:0(h:m)	3	1/3
DI & Reasoning	32	1:0(h:m)	3	1/3
Quantitative Ability	34	1:0(h:m)	3	1/3

Section : Verbal Ability

DIRECTIONS for the question : *Read the passage and answer the question based on it.*

DBNO : 48770, LOD : 33, Question No. : 1

BEWARE of habitual monopolists bearing gifts—especially if they operate in shamefully uncompetitive markets. AT&T's proposed $39 billion takeover of T-Mobile USA would create a dominant mobile-phone operator, with a 39% market share in America, and a near-duopoly with Verizon, the current market leader: together their combined share would be 70%. It is a mark of the mess that the United States has made of telecoms not just that such a deal is being considered, but also that a duopoly might actually bring genuine short-term benefits. All the same, it would be far better if the Federal Communications Commission (FCC) and the Department of Justice blocked the T-Mobile merger—and tried to reform the market instead.

The bait for Barack Obama is that the deal could speed up his commitment to make broadband available to more Americans. AT&T says the acquisition will let it expand its fourth-generation (4G) technology—which will provide faster data connections on mobile devices—to a further 46.5m Americans, including many in rural areas who cannot get fixed-line broadband. This is much the same argument that AT&T's grandmother, Ma Bell, made a century ago when it lobbied successfully to be allowed to swallow up lots of other telephone operators and become a monopoly, on the ground that this was the best way to ensure decent coverage, especially in a huge country with a thinly spread population. In the 1970s the government decided that technological gains had undermined such "natural monopoly" arguments: AT&T's local phone services were subsequently hived off, and it was forced to accept competition for long-distance services.

Why reverse history? AT&T argues that by making better use of the two firms' combined infrastructure it could improve the quality of connections. It says the merger, by making it a stronger rival to Verizon, would improve the industry's competitiveness. Consumers everywhere would have a choice between two strong national companies.

This new-found zeal for serving consumers needs to be taken with a pinch of salt: AT&T now gets the worst customer-satisfaction ratings among the main mobile operators. The deeper question is whether two is enough, especially in a business that is evolving as fast, and becoming as important to people's lives, as mobile communications. Canada—also vast and sparsely populated—concluded that lack of competition had contributed to its having some of the rich world's most expensive call rates, and has been trying for three years to promote new entrants. The FCC's British counterpart wants to manage its 4G auction to guarantee consumers have at least four operators with nationwide coverage.

AT&T points out that consumers in many American metropolises already have a choice of five or more operators; and it is prepared to give up market share in some localities where the merger would make it dominant. But many consumers want a mobile operator with good national coverage. That is why AT&T and Verizon each spend so heavily on advertisements claiming they are the best for this.

The suspicion is that Mr Obama, desperate both to build some broken fences with big business and to make progress on connecting every American home to the internet, will give in. In fact he should push the FCC to promote more competition—by,

for instance, allowing other firms to buy bulk wireless capacity from AT&T and resell it, by freeing up underused spectrum and by making local phone and cable firms share their wires. A duopoly would in the end reduce choice for American consumers, and be hard to reverse.

How will the merger be beneficial for American consumers?

A) When competition is restricted, consumers always end up with better call rates and faster data access
B) Connections will be available to more states and consumer will have a chance to define the call rates
C) The fast evolving business, which involves considerable investment, will be now the domination of two companies only
✔D) Faster data connections, rural accessibility, improve connection quality and good national coverage

Explanation:-
Option 1 – When competition is restricted, normally the company which has monopoly in the market dictates the terms for its customers.
Option 2. There is no mention of call rates being define or decide the call rates
Option 3. There is no mention of investment which is restricting more companies form investing.

DIRECTIONS for the question : *Read the passage and answer the question based on it.*

DBNO : 48771, LOD : 66, Question No. : 2

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hard to reverse.

With which of the following would the author likely to agree with?

✓A) Curtailing competition would make the consumer and government lose out in the long run
B) If government settles for duopoly then it must allow consumers to fix mobile call rates
C) Verizon and AT&T should first get better customer satisfaction ratings before converting the market into one in which only two operators would be king
D) FCC makes coverage to all remote areas mandatory for any new or existing operator and allow for wireless capacity sharing obligatory for Verizon and AT&T

Explanation:-
The author states that if AT & T and Verizon are the only two players in the market then American consumers will actually end up having a very restricted choice (only to choose between two operators) and keeping in mind the Ma Bell experience chances of this surviving and benefiting consumers looks bleak. Reversing the decision also may become hard.
Option 2 – This is an unrealistic suggestion which the author would not give as if something cannot be put into practice what is the use of such action
Option 3 – The problem with customer satisfaction lies with AT&T and not with Verizon.
Option 4 – The author wants the FCC to not allow the merger and to instead reform the market. Moreover making wireless capacity sharing obligatory is again an unrealistic proposition as chances are that both the companies may not want to do so. (America is a capitalistic market and every company would want profits. Capacity sharing would mean profit sharing which is something that a company will least likely agree with)

DIRECTIONS for the question : *Read the passage and answer the question based on it.*

DBNO : 48772, LOD : 66, Question No. : 3

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According to the passage all of the following are not true, except

A) Consumers should be wary of freebies especially in markets where there is no dearth of competition
B) The AT & T duopoly situation will definitely lead to a deja vu of the Ma Bell episode
C) The only reason that a customer chooses a mobile operator is based on the rating that the company gets for coverage
✓D) AT & T is willing to concede those areas in which the merger would assume a position of supremacy

Explanation:-
The passage states that – AT&T is prepared to give up market share in some localities where the merger would make it dominant.
Option 1 – The beginning of the passage states that one should beware gifts from habitual monopolists if they operate in an uncompetitive market, whereas here we are talking about no dearth - no scarcity – of competition.
Option 2 – The author is not stating that the duoploy will definitely lead to the a déjà vu. What he is saying is that the Ma Bell experience showed that the government had to reverse their decision.
Option 3 – Though many customers want a mobile operator with a good national coverage, that is not stated as the only reason for selecting an operator.

DIRECTIONS for the question : *Read the passage and answer the question based on it.*

DBNO : 48773, LOD : 66, Question No. : 4

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The tone of the passage is best described as

✓A) candid and suggestive   B) speculative yet invigorating   C) sarcastic and disparaging   D) optimistic yet satirical

Explanation:-
The author talks very frankly and gives his opinion and suggestions regarding actions which he feels Obama government should take – one, block the merger, try to reform the market, new found zeal for serving consumers should be taken with a pinch of salt, asking whether two operators are sufficient and so on.
Option 2 – Speculative means guessing or hypothesizing which is not the case here
Option 3 and option 4 – The passage is not mocking or making fun of any action or person, hence sarcastic or satirical do not fit the tone of the passage.

DIRECTIONS for the question: *Read the passage and answer the question based on it.*

DBNO : 69421, LOD : 66, Question No. : 5

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The author of the passage:

A) clearly exhibits a distrust for large corporations.
✔B) believes in maintaining the impartial sanctity of the business environment.
C) highlights how the needs of the consumer take precedence over everything else.
D) exhibits limited knowledge of an industry that demands precise knowledge.

Explanation:-
In the given case, the author of the passage argues for maintaining an environment where competition is allowed and monopolies do not come into existence. Considering this sentiment, we can see that option 2 is the best answer in the given case. Option 1 cannot be derived from the given context as the author is speaking about only one context and we cannot extend this to other industries and corporations. Options 3 and 4 cannot be derived from the passage. If anything, option 3 is quoted an excuse being used by AT&T to expand its reach.

DIRECTIONS for the question: *Read the passage and answer the question based on it.*

DBNO : 69422, LOD : 66, Question No. : 6

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It can be inferred from the passage that:
I. Not having sufficient competition in an industry can impact the talent pool for the given industry.
II. Insufficient competition in an industry can skewer the consumer costs for that industry.
III. Big brands use advertising as a means to portray that these brands fulfills the needs of consumers from a specific industry.

A) I & II   ✔B) II & III   C) I & III   D) All of the above

Explanation:-
Statement I is not mentioned in the passage.
Statement II can be derived from the lines: Canada—also vast and sparsely populated— concluded that lack of competition had contributed to its having some of the rich world's most expensive call rates, and has been trying for three years to promote new entrants.
Statement III can be derived from the lines: But many consumers want a mobile operator with good national coverage. That is why AT&T and Verizon each spend so heavily on advertisements claiming they are the best for this.

DIRECTIONS for the question : *Read the passage and answer the question based on it.*

DBNO : 48780, LOD : 99, Question No. : 7

Clothing accounts for 80 percent of Bangladesh's exports and the industry employs over 3 million workers. As bad as conditions in the factories are, workers choose to take these jobs because they are better than any alternative they have. For the young women that make up most of the workforce, it allows them to delay marriage and child-bearing, which has numerous benefits for them, their families, and the country's development.

So cutting off trade with Bangladesh is not a solution. The brand-name buyers should stay and be part of the solution. The question is how to overcome the collective-action problems that plague the apparel industry – the fact that no one wants to act unless everyone does. Individual factory owners are afraid to demand higher prices for their goods because they might lose business to a competitor. Multinational buyers are reluctant to offer higher prices because it could erode their profits and disappoint shareholders. And governments are afraid to raise or enforce labor standards because investors and buyers can move to another low-wage country.

In the short run, a joint pool with contributions from the major buyers of goods made in Bangladesh could help to finance immediate and relatively inexpensive improvements in health and safety, like training of managers and inspectors, ensuring that there fire exits and fire extinguishers that work, and checking the structural integrity of buildings.

Excerpted from 'Cutting Off Trade With Bangladesh Would Hurt Workers' by Kimberly Ann Elliott in New York Times dated May 2013

What do you mean by term in passage **"Collective action problem"**?

✔A) Belling the cat   B) A stitch in time saves nine   C) To be in the same boat   D) Unable to weather the storm

Explanation:-
The passage states that - The question is how to overcome the collective-action problems that plague the apparel industry – the fact that no one wants to act unless everyone does. This is just like belling the CAT. The cat was a problem for all the mice and they also knew that if its arrival could be heard, the mice could run away. But the problem was – who was going to bell the cat. Each mouse waited for he thought someone else would solve the problem. Here too, to the entire apparel industry is plagued by the problem, but no one wants to act.

DIRECTIONS for the question : *Read the passage and answer the question based on it.*

Clothing accounts for 80 percent of Bangladesh's exports and the industry employs over 3 million workers. As bad as conditions in the factories are, workers choose to take these jobs because they are better than any alternative they have. For the young women that make up most of the workforce, it allows them to delay marriage and child-bearing, which has numerous benefits for them, their families, and the country's development.

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Which of the following can be inferred from the passage?

A) The apparel industry job acts as an absolute escape for Bangladeshi women from traditional roles
✓B) With none of the factory owners, the multinationals and government willing to let go their positions the situation has become a stalemate
C) A permanent solution for this problem would be the refusal of any multinational to conduct business with Bangladesh factories if the conditions in the factory do not conform to international standards
D) The Bangladeshi government is under tremendous pressure to adhere to standard safety measures but is unable to do so because of lack of funds

Explanation:-
The passage states that " Individual factory owners .... investors and buyers can move to another low-wage country" which means that none of the three are willing to do anything about the situation and each has a reason to do so. Hence they have reached a stalemate position in which none of them is going to win in the long run.
Option 1 – The Bangladeshi woman are only able to delay their marriage and child-bearing and not escape from the same.
Option 3 – The passage is actually stating that the multinationals are not willing to increase prices as then their profits would be eroded. The lower prices is what attracts them to Bangladesh in the first place. No information is available which even remotely suggests about the refusal of multinationals to conduct business with Bangladesh unless they change the conditions of the factory workers.
Option 4 – No data in passage to support the same.

DIRECTIONS for the question : *Read the passage and answer the question based on it.*

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According to the passage all of the following are untrue except,

A) The fear of losing business to other countries is forcing Bangladesh to get the factory owners to toe the line for better working conditions
B) The factory owners are willing to extend immediate inexpensive improvements in the factories to safeguard the workers' health
C) The apparel industry in Bangladesh in booming because of the copious women force it employs at very cheap labour costs
✔D)The purchasers of clothing from Bangladesh could provide monetary help which could be used to ameliorate the working conditions in the apparel manufacturing factories

Explanation:-
The last paragraph of the passage states that the major buyers of goods in Bangladesh could help to finance immediate and relatively inexpensive improvements in health and safety, which is what option 4 states.
Option 1 – It is given that the government does not want that as it fears that the investors and buyers would move to another low wage country. Hence 1 is incorrect
Option 2 – Factory owners are not willing to ask for a higher price. No mention of their willingness or unwillingness to change the factory working conditions
Option 3 – It is not mentioned whether the woman force is abundant or not

DIRECTIONS for the question : *Read the passage and answer the question based on it.*

DBNO : 48783, LOD : 33, Question No. : 10

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So cutting off trade with Bangladesh is not a solution. The brand-name buyers should stay and be part of the solution. The question is how to overcome the collective-action problems that plague the apparel industry – the fact that no one wants to act unless everyone does. Individual factory owners are afraid to demand higher prices for their goods because they might lose business to a competitor. Multinational buyers are reluctant to offer higher prices because it could erode their profits and disappoint shareholders. And governments are afraid to raise or enforce labor standards because investors and buyers can move to another low-wage country.

In the short run, a joint pool with contributions from the major buyers of goods made in Bangladesh could help to finance immediate and relatively inexpensive improvements in health and safety, like training of managers and inspectors, ensuring that there fire exits and fire extinguishers that work, and checking the structural integrity of buildings.

Excerpted from 'Cutting Off Trade With Bangladesh Would Hurt Workers' by Kimberly Ann Elliott in New York Times dated May 2013

With which of the following would the author of the article most agree with ?

✔A)Unless all the three parties, the multinationals, the factory owners and Bangladesh government do not strive in a combined effort the apparel industry issue will not be resolved
B) Any arm twisting done by mutlinational corporations will result in work conditions becoming streamlined in Bangladesh
C) Consumers must show Bangladesh that they would source from Bangladeshi factories only if the labor conditions meet international standards
D) Intensive newspapers coverage, interviews with the affected, graphic photos emerged, and a conversation began

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DIRECTIONS for the question: *Read the passage and answer the question based on it.*

DBNO : 69423, LOD : 33, Question No. : 11

Clothing accounts for 80 percent of Bangladesh's exports and the industry employs over 3 million workers. As bad as conditions in the factories are, workers choose to take these jobs because they are better than any alternative they have. For the young women that make up most of the workforce, it allows them to delay marriage and child-bearing, which has numerous benefits for them, their families, and the country's development.

So cutting off trade with Bangladesh is not a solution. The brand-name buyers should stay and be part of the solution. The question is how to overcome the collective-action problems that plague the apparel industry – the fact that no one wants to act unless everyone does. Individual factory owners are afraid to demand higher prices for their goods because they might lose business to a competitor. Multinational buyers are reluctant to offer higher prices because it could erode their profits and disappoint shareholders. And governments are afraid to raise or enforce labor standards because investors and buyers can move to another low-wage country.

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Excerpted from 'Cutting Off Trade With Bangladesh Would Hurt Workers' by Kimberly Ann Elliott in New York Times dated May 2013

The author of the passage accomplishes how many of the following purposes through this passage?
I. urges action
II. incites review
III. forbids a course of action
IV.describes a condition

A) 1   B) 2   ✔C) 3   D) 4

Explanation:-
Let's analyse each of the given options.
Urges action: he clearly is urging companies and governments to change their existing ways of working.
Incites review: he wants the given situation to be reviewed and a solution found for the problems of workers.
Forbids a course of action: he does not forbid any particular course of action; he simply is recommending changes.
Describes a condition: he does describe the condition of workers and their situation in Bangladesh.
thus the author is accomplishing 3 puposes that is - I, II, IV.

DIRECTIONS for the question: *Read the passage and answer the question based on it.*

DBNO : 69424, LOD : 66, Question No. : 12

Clothing accounts for 80 percent of Bangladesh's exports and the industry employs over 3 million workers. As bad as conditions in the factories are, workers choose to take these jobs because they are better than any alternative they have. For the young women that make up most of the workforce, it allows them to delay marriage and child-bearing, which has numerous benefits for them, their families, and the country's development.

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business to a competitor. Multinational buyers are reluctant to offer higher prices because it could erode their profits and disappoint shareholders. And governments are afraid to raise or enforce labor standards because investors and buyers can move to another low-wage country.

In the short run, a joint pool with contributions from the major buyers of goods made in Bangladesh could help to finance immediate and relatively inexpensive improvements in health and safety, like training of managers and inspectors, ensuring that there fire exits and fire extinguishers that work, and checking the structural integrity of buildings.

Excerpted from 'Cutting Off Trade With Bangladesh Would Hurt Workers' by Kimberly Ann Elliott in New York Times dated May 2013

The author of the passage clearly:

A) understands that short-terms solutions are hard to come-by in the given situation.
B) highlights how urgent change is required to prevent a humanitarian crises.
C) advises a measured approach that includes all stakeholders.   ✓D) both (a) and (c)

Explanation:-
Option 2 goes against what the author of the passage is recommending.
Options 1 and 3 can be derived from the lines: In the short run, a joint pool with contributions from the major buyers of goods made in Bangladesh could help to finance immediate and relatively inexpensive improvements in health and safety, like training of managers and inspectors, ensuring that there fire exits and fire extinguishers that work, and checking the structural integrity of buildings.

DIRECTIONS for the question: *Read the passage and answer the question based on it.*

DBNO : 48786, LOD : 66, Question No. : 13

To get a better understanding of how graffiti culture came to be what it is today, one first needs to step back and look over the basic elements of hip-hop culture, elements that may have been overlooked because of the diversity that it has today.

Research has shown that the identity of a person is a direct consequence of heredity and environment. From birth, a person does not choose the path they'll lead, but instead is guided in one direction or the other through socialization that has been dictated by opportunities around them.

The people who first began the hip-hop movement were at the bottom of the socio-economic pyramid. Graffiti is an indirect result and a modern response to the class struggle in America that has been going on for generations.

In a class system, one naturally wants to move to the top and maintain that position. A majority of people born into a free-market society are indoctrinated with capitalistic values, and to them it is seen as a positive and constructive thing to gain wealth and maintain vast amounts of capital that will extend beyond that person or society's lifetime.

Unfortunately, urban lower-class youth are often completely disenfranchised from any opportunities to move up the ladder and attain wealth. Constant struggle to just meet basic needs encourages them to spend their free time (and money) doing things that are entertaining and not necessarily constructive.

Luckily the instinct to remain alive that each person has cannot be dismantled so easily. Although older people who have been locked into these situations for a long period of time may grow apathetic and find such forms of expression meaningless, the youth have yet to be completely changed by their environment, and can still be influenced by their hereditary survival instinct. They still want to attain or create something that people will remember them by, something that will keep their message living beyond the grave.

Rebellion is something that rich youth often take for granted as an alternative to their current way of life, without realizing that many people who are locked into a certain economic situation are not afforded that alternative without risking further hardship or even death. Like the story of the forbidden fruit, lower-class youths have been denied these opportunities all their lives, so they want them even more than the rich do.

These motives can be used to explain the origins of graffiti, but they do not thoroughly define graffiti today, now that it has spread

beyond its original socio-economic barriers. Reiterating the opening point, culture is formed in a very similar way to the way a person's identity is formed. To this effect, a culture is constantly changing, just like a person. What allowed this change to occur was creating new and improved technology that allowed different types of people to experience hip-hop culture.

Technological developments in recent years have globalized modern graffiti culture. A quick glance through a graffiti magazine or gallery will show the viewer artwork from every inhabited continent of the Earth.

Originally, graffiti was more often used for communication rather than the profit. In the circumstances from which graffiti grew, social messages were often seen as important to incorporate into the artwork. Now that graffiti has been lifted out of its original context, the message is not emphasized as much. In a sense graffiti has "splintered" into a variety of subcultures that deviate from its original style.

One such subculture is street advertising. Many multinational corporations have selected graffiti writers to spray their logos and ad campaigns onto city streets in return for a paycheck. Unfortunately, a conflict arises when graffiti is used for advertising consumer goods. The use of graffiti to promote a commercial product is bitterly ironic. Graffiti is being used to encourage today's youth to spend their hard-earned money on products they don't necessarily need.

Why does the author say that – the use of graffiti to promote a commercial product is bitterly ironic?

A) Graffiti was initially associated with people who were at the bottom of the socio-economic pyramid, while now even the elite have taken interest in it
✔B) Graffiti is being used to encourage the stratification of society, although it was originally created to break free of those very chains that were interfering with quality of life
C) Ingrained deep into the roots of graffiti is a loud and clear message that the middle class and not the lower class deserves as much respect and equality as does the upper-class
D) Many multinational corporations have selected graffiti writers to spray their logos and ad campaigns onto city streets in return for a paycheck

Explanation:-
The passage states that graffiti came into existence because the have-nots wanted to be the haves. That is they wanted the rich and poor divide to be reduced. Using graffiti for commercial products actually is now creating a division as those who do not have the money to buy these products will be frustrated and the feelings of resentment will increase. Also people would be made to buy products which they may not need.
Option 1- If graffiti is now appreciated by lower and upper groups then the divide would decrease
Option 3 – Graffiti was associated with the lower income group and not the middle class
Option 4 - This does not reflect any irony in the sense the question asks. What the question means is that the reason why Graffiti came into existence is rebuffed by making it a medium of advertisements.

DIRECTIONS for the question: *Read the passage and answer the question based on it.*

DBNO : 48787, LOD : 33, Question No. : 14

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All of the following about Graffiti reflects the original meaning of the term except

A) Graffiti is the youth's subtle yet loud, clear and energetic response towards a society which showed no love for them, the so-called underdog
B) People with money can put up signs ... if you don't have money you're marginalized...you're not allowed to express yourself or to put up words or messages that you think other people should see
C) To pour your soul onto a wall and be able to step back and see your fears, your hopes, your dreams, your weaknesses, really gives you a deeper understanding of yourself and your own mental state
✓D) Why are people are so keen to put the details of their private life in public; they forget that invisibility is a superpower

Explanation:-
In the circumstances from which graffiti grew, social messages were often seen as important to incorporate into the artwork. It was a medium which was used to voice the frustrations and resentment of the common man and to generate some sort of social issue. This option is the only one which speaks the opposite in that it states that why do people want to vent their feelings publicly.

DIRECTIONS for the question: *Read the passage and answer the question based on it.*

DBNO : 48788, LOD : 33, Question No. : 15

To get a better understanding of how graffiti culture came to be what it is today, one first needs to step back and look over the basic elements of hip-hop culture, elements that may have been overlooked because of the diversity that it has today.

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opportunities around them.

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In a class system, one naturally wants to move to the top and maintain that position. A majority of people born into a free-market society are indoctrinated with capitalistic values, and to them it is seen as a positive and constructive thing to gain wealth and maintain vast amounts of capital that will extend beyond that person or society's lifetime.

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Rebellion is something that rich youth often take for granted as an alternative to their current way of life, without realizing that many people who are locked into a certain economic situation are not afforded that alternative without risking further hardship or even death. Like the story of the forbidden fruit, lower-class youths have been denied these opportunities all their lives, so they want them even more than the rich do.

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All of the following are true according to the passage, except

A) Graffiti artists are now actually earning money for their art
B) Graffiti has more applications than just expressing feelings for social issues such as advertising multinational products
C) Graffiti is now a global phenomenon ✓D) Even now only the lower and middle class are interested in Graffiti

Explanation:-
The passage states that even the rich youth are taking to Graffiti.
Option 1 – the multinational corporations are paying money to Graffiti artists
Option 2 – In a sense graffiti has "splintered" into a variety of subcultures that deviate from its original style. One such subculture is street advertising.
Option 3 – Technological developments ..... graffiti magazine or gallery will show the viewer artwork from every inhabited continent of the Earth.

DIRECTIONS for the question: *Read the passage and answer the question based on it.*

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All of the following can be inferred from the passage except

A) The founders of hip-hop were not born into wealth, but instead were expressing their jealousy towards those who were
B) The lower class was usually locked in poverty that was difficult to break out of, and the frustrations came out in the form of Graffiti
C) Use of graffiti in advertising is not without its critics ✔D) Living for the moment is what Graffiti users are interested in

Explanation:-
The passage states that Graffiti artists want to attain or create something that people will remember them by, something that will keep their message living beyond the grave.

Option 1 and Option 2 - Graffiti is an indirect result and a modern response to the class struggle in America that has been going on for generations.
Option 3 - Unfortunately, a conflict arises when graffiti is used for advertising consumer goods. Hence this is true.

DIRECTIONS for the question: *Read the passage and answer the question based on it.*

DBNO : 69425, LOD : 33, Question No. : 17

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It can be inferred from the passage that the term 'forbidden fruit' is used to refer to:

✔A) anything that is tempting but denied.   B) anything that is appealing but ephemeral.
C) anything that is transient yet inconsequential.   D) anything that is enticing but insignificant.

Explanation:-
refer lines - Like the story of the forbidden fruit, lower-class youths have been denied these opportunities all their lives, so they want them even more than the rich do. in this case forbidden fruits refers to the oppurtunities denied to the lower class youths, and these oppurtunities are extremely tempting for the lower class youth. thus the answer is option 1.

DIRECTIONS for the question: *Read the passage and answer the question based on it.*

DBNO : 69426, LOD : 66, Question No. : 18

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Which of the following statements is correct as per the information given in the passage?
I. Class systems inherently are driven by people who wish to move to the top.
II. Older individuals from the lower classes are too shackled in the humdrum of life to be moved by thoughts of rebellion.
III. Rebellion by the lower class is fraught and risky.

A) I & II   B) II & III   C) I & III   ✓D) All of the above

Explanation:-
Statement I can be derived from the lines: In a class system, one naturally wants to move to the top and maintain that position.

Statement II can be derived from the lines: Although older people who have been locked into these situations for a long period of time may grow apathetic and find such forms of expression meaningless, the youth have yet to be completely changed by their environment, and can still be influenced by their hereditary survival instinct.

Statement III can be derived from the lines: Rebellion is something that rich youth often take for granted as an alternative to their current way of life, without realizing that many people who are locked into a certain economic situation are not afforded that alternative without risking further hardship or even death.

DIRECTIONS for the question : *Read the passage and answer the question based on it.*

DBNO : 48793, LOD : 66, Question No. : 19

The partitioning of Africa by European empires has had devastating social, economic, political and psychological impacts, and millions of lives have been lost in post-independence Africa defending colonial borders. We are overdue for an African renaissance, completing the decolonization – which remains unfinished business until boundaries are changed.

In Africa, transnational parks have redefined state borders for wildlife. They could do more, radically decolonizing the continent.

Africans and others have proposed many new maps of Africa. One recurring idea is to carve up the continent into smaller states on the basis of ethnicity or its proxies, like shared language. This theory has been put into practice in the new state of South Sudan, which now faces serious existential challenges. Other proposals have focused on creating larger states that would balance power among disparate groups, but this repeats the colonial mistake of imposing boundaries onto people.

There is a more promising approach, however. The conservation lobby and its financiers have been keen to create transnational parks, to re-establish and protect ecological systems that span the boundaries of contiguous states. The idea is a not unique to the continent, but they mushroomed in southern Africa after the end of apartheid in South Africa. So far these parks have redefined state borders for wildlife but not for people. But if the project went further, it could radically decolonize Africa – allowing micro-regions to inspire a new map.

Conservationists currently encourage some visits among people, but for real decolonization the short-term goal should be fluid movement of people within transfrontier parks and around transborder natural resources. For example, the Kgalagadi, the first official transfrontier park in post-independence Africa, is the historical home of the southern San community in Botswana, Namibia and South Africa. The San -- part of the Khoe-San language group -- struggle to cross borders to work and visit family, even though wildlife and tourists roam freely in the park, entering all three nations. Even without redrawing the borders of Botswana, Namibia and South Africa, the nations could acknowledge that the Kgalagadi micro-region represents the land of the San. They should think of themselves, and live their lives, as transnational citizens.

Micro-regions evolve from existing connections and ecosystems. They can be formalized as transnational conservation areas, or they can be informal if governments are hesitant. The development and recognition of micro-regions is good for humans and ecosystems, because it gives local residents (on both sides of the border) a collective voice in governing the natural resources. As more micro-regions are established and respected, they will be a stepping stone toward regional integration in southern Africa.

People living in Africa's borderlands have long used colonial borders as theaters of opportunities. Transnational parks create yet another opportunity: for conservation, for decolonization, for an African renaissance.

From a reading of the passage, it can be inferred that

A) Segregation on the basis of ethnicity has met with limited success

B) The idea of having a transnational park is unique to Africa as it is the only place where many tribes and societies live together in a congenial manner

✓C) The colonial era borders have long passed their sell by date

D) Effacing borders will lead to chaos and a bloody battle for power and supremacy

Explanation:-

The passage states that one really needs to re-look at the borders which separate the countries in Africa. The author states that boundaries need to be changed. Hence we can infer that the borders set by the colonial borders are of no use to the Africa now.

Option 1. The example given of South Sudan to explain the point of separation by ethnicity was actually a disaster. No other example has been given. Hence the statement is false.

Option 2. The passage states that " .... keen to create transnational parks, ...span the boundaries of contiguous states. The idea is a not unique to the continent, but they mushroomed in southern Africa after the end of apartheid in South Africa.

Option 4. The author is actually all for decolonisation or removing borders or changing them. Hence this statement is incorrect.

DIRECTIONS for the question : *Read the passage and answer the question based on it.*

DBNO : 48794, LOD : 66, Question No. : 20

The partitioning of Africa by European empires has had devastating social, economic, political and psychological impacts, and millions of lives have been lost in post-independence Africa defending colonial borders. We are overdue for an African renaissance, completing the decolonization – which remains unfinished business until boundaries are changed.

In Africa, transnational parks have redefined state borders for wildlife. They could do more, radically decolonizing the continent.

Africans and others have proposed many new maps of Africa. One recurring idea is to carve up the continent into smaller states on the basis of ethnicity or its proxies, like shared language. This theory has been put into practice in the new state of South Sudan, which now faces serious existential challenges. Other proposals have focused on creating larger states that would balance power among disparate groups, but this repeats the colonial mistake of imposing boundaries onto people.

There is a more promising approach, however. The conservation lobby and its financiers have been keen to create transnational parks, to re-establish and protect ecological systems that span the boundaries of contiguous states. The idea is a not unique to the continent, but they mushroomed in southern Africa after the end of apartheid in South Africa. So far these parks have redefined state borders for wildlife but not for people. But if the project went further, it could radically decolonize Africa – allowing micro-regions to inspire a new map.

Conservationists currently encourage some visits among people, but for real decolonization the short-term goal should be fluid movement of people within transfrontier parks and around transborder natural resources. For example, the Kgalagadi, the first official transfrontier park in post-independence Africa, is the historical home of the southern San community in Botswana, Namibia and South Africa. The San -- part of the Khoe-San language group -- struggle to cross borders to work and visit family, even though wildlife and tourists roam freely in the park, entering all three nations. Even without redrawing the borders of Botswana, Namibia and South Africa, the nations could acknowledge that the Kgalagadi micro-region represents the land of the San. They should think of themselves, and live their lives, as transnational citizens.

Micro-regions evolve from existing connections and ecosystems. They can be formalized as transnational conservation areas, or they can be informal if governments are hesitant. The development and recognition of micro-regions is good for humans and ecosystems, because it gives local residents (on both sides of the border) a collective voice in governing the natural resources. As more micro-regions are established and respected, they will be a stepping stone toward regional integration in southern Africa.

People living in Africa's borderlands have long used colonial borders as theaters of opportunities. Transnational parks create yet another opportunity: for conservation, for decolonization, for an African renaissance.

With which of the following is the author most likely to agree with?

✓A) Africa's colonial era borders need to totally redrawn if Africa is to have any chance of realizing its potential

B) The vast majority of African countries have arbitrary artificial borders that force them to live with other societies they had never historically had anything to do with

C) Countries having mono-ethnic societies would probably have better economies and stable governments

D) Once borders are thrown open, resource grabs and the military power to make them define governments

Explanation:-

The author states that there needs to be an African renaissance and that there must be complete decolonization. This he feels can happen only if the existing borders are changed. Moreover he feels that transnational parks may pave the way for harmony among the people who belong to one tribe but are distributed through many countries. Hence he will definitely agree with the idea that if borders are redrawn Africa will prosper.
Option 2 – There is no mention of any force that the author states should be used to get people to live together across countries.
Option 3 – The author mentions South Sudan to state that borders based on ethnicity do not work.
Option 4 – The author is talking of an Africa which will live in harmony. He wants the borders to be changed because he feels that when the same tribe is spread across countries they must be allowed to interact with each other. Hence he is for opening borders

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DIRECTIONS for the question : *Read the passage and answer the question based on it.*

DBNO : 48795, LOD : 66, Question No. : 21

The partitioning of Africa by European empires has had devastating social, economic, political and psychological impacts, and millions of lives have been lost in post-independence Africa defending colonial borders. We are overdue for an African renaissance, completing the decolonization – which remains unfinished business until boundaries are changed.

In Africa, transnational parks have redefined state borders for wildlife. They could do more, radically decolonizing the continent.

Africans and others have proposed many new maps of Africa. One recurring idea is to carve up the continent into smaller states on the basis of ethnicity or its proxies, like shared language. This theory has been put into practice in the new state of South Sudan, which now faces serious existential challenges. Other proposals have focused on creating larger states that would balance power among disparate groups, but this repeats the colonial mistake of imposing boundaries onto people.

There is a more promising approach, however. The conservation lobby and its financiers have been keen to create transnational parks, to re-establish and protect ecological systems that span the boundaries of contiguous states. The idea is a not unique to the continent, but they mushroomed in southern Africa after the end of apartheid in South Africa. So far these parks have redefined state borders for wildlife but not for people. But if the project went further, it could radically decolonize Africa – allowing micro-regions to inspire a new map.

Conservationists currently encourage some visits among people, but for real decolonization the short-term goal should be fluid movement of people within transfrontier parks and around transborder natural resources. For example, the Kgalagadi, the first official transfrontier park in post-independence Africa, is the historical home of the southern San community in Botswana, Namibia and South Africa. The San -- part of the Khoe-San language group -- struggle to cross borders to work and visit family, even though wildlife and tourists roam freely in the park, entering all three nations. Even without redrawing the borders of Botswana, Namibia and South Africa, the nations could acknowledge that the Kgalagadi micro-region represents the land of the San. They should think of themselves, and live their lives, as transnational citizens.

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People living in Africa's borderlands have long used colonial borders as theaters of opportunities. Transnational parks create yet another opportunity: for conservation, for decolonization, for an African renaissance.

The author is arguing that

A) Reinventing borders will lead African states to trade amongst one another
B) All countries have been artificially created and people must have the right to move to any state within Africa
C) By eulogizing the colonial rulers, African countries have led themselves to the point of annihilation
✔D) Movement of people should be exhorted across contiguous states

Explanation:-

He wants complete decolonization and the short term goal is to allow movement of people across transnational parks and around transborder natural resources
Option 1- There is no mention of trade in the passage
Option 2 – He is not arguing that people must be allowed to move anywhere in Africa, but that they should be allowed to move in those countries with whom they share their border.
Option 3 – He is not praising the colonial rulers but actually blaming them for the state Africa finds itself in today.

DIRECTIONS for the question: *Read the passage and answer the question based on it.*

DBNO : 69427, LOD : 33, Question No. : 22

The ability to labor is usually greatest in early adulthood, when people are in their physical prime. Back in the days when many workers did in fact contribute little more than their physical exertions, a middle-aged manual laborer was typically less employable than a young man in his twenties working in the same occupation. But today, when most people who work for a living earn more as they grow older, this is much more consistent with their earning a return on their human capital, which tends to increase with age. The human capital concept is also more consistent with narrowing income gaps between women and men, as physical strength counts for less and less in an economy where power increasingly comes from machines rather than human muscle, and an economy in which information and high-tech skills count for more.

While the growing importance of human capital tends to create greater equality between the sexes, it tends to create greater inequality between those people who have been assiduous in acquiring knowledge and mastering skills and those who have not. In addition, like every other source of greater rewards for work, it tends to create greater inequality between those who work and those who do not. American families in the bottom 20 percent of income earners supply only a fraction of the hours of work per year supplied by families in the top 20 percent. Both the rising incomes of more experienced workers and the growing inequality in incomes in free market societies show the influence of human capital.

While almost all jobs today provide both pay and experience, at one time it was common for inexperienced and uneducated young people to take jobs that paid them nothing. This was obviously an investment of their time and labor for the sake of acquiring human capital. Apprenticeship, with and without pay, has been a centuries- old institution in many parts of the world, and unpaid labor was not uncommon in the United States as late as the Great Depression of the 1930s, when people desperate for work took jobs without pay for the sake of gaining work experience that would improve their chances of getting paying jobs later. Back around the time of the First World War, a young black American named Paul Williams decided to become an architect— a virtually unheard of occupation for someone of his race at that time— and turned down the only paying job he was offered at an architectural firm, in order to go to work as an office boy without pay in a more prominent architectural firm, from which he expected to gain more valuable knowledge and experience.He was clearly thinking beyond the initial stage of his career.

In the given context of the passage, 'human capital' means:

A) the price at which the person is acquired in the job market and its co-relation with the benefits derived by the organization.
✓B) the skills, knowledge, and experience possessed by an individual, viewed in terms of their value to an organization.
C) the value of a human being as the buy and sell matrix, which is in turn driven by market forces.
D) the value of a human decided on the basis of the number of hours of work he puts in.

Explanation:-
In the give case, it is clear that the reference to 'human capital' implies something beyond traditional working hours. Also, option 1 is actually an in-direct reference to slave trade and option 3 finds no mention in the passage. This is why option 2 is the best answer in the given case.

DIRECTIONS for the question: *Read the passage and answer the question based on it.*

DBNO : 69428, LOD : 33, Question No. : 23

The ability to labor is usually greatest in early adulthood, when people are in their physical prime. Back in the days when many workers did in fact contribute little more than their physical exertions, a middle-aged manual laborer was typically less employable than a young man in his twenties working in the same occupation. But today, when most people who work for a living earn more as they grow older, this is much more consistent with their earning a return on their human capital, which tends to increase with age. The human capital concept is also more consistent with narrowing income gaps between women and men, as physical

strength counts for less and less in an economy where power increasingly comes from machines rather than human muscle, and an economy in which information and high-tech skills count for more.

While the growing importance of human capital tends to create greater equality between the sexes, it tends to create greater inequality between those people who have been assiduous in acquiring knowledge and mastering skills and those who have not. In addition, like every other source of greater rewards for work, it tends to create greater inequality between those who work and those who do not. American families in the bottom 20 percent of income earners supply only a fraction of the hours of work per year supplied by families in the top 20 percent. Both the rising incomes of more experienced workers and the growing inequality in incomes in free market societies show the influence of human capital.

While almost all jobs today provide both pay and experience, at one time it was common for inexperienced and uneducated young people to take jobs that paid them nothing. This was obviously an investment of their time and labor for the sake of acquiring human capital. Apprenticeship, with and without pay, has been a centuries- old institution in many parts of the world, and unpaid labor was not uncommon in the United States as late as the Great Depression of the 1930s, when people desperate for work took jobs without pay for the sake of gaining work experience that would improve their chances of getting paying jobs later. Back around the time of the First World War, a young black American named Paul Williams decided to become an architect— a virtually unheard of occupation for someone of his race at that time— and turned down the only paying job he was offered at an architectural firm, in order to go to work as an office boy without pay in a more prominent architectural firm, from which he expected to gain more valuable knowledge and experience.1 He was clearly thinking beyond the initial stage of his career.

It is implied in the passage that:

✔A) In the past, people forsake financial gains in exchange for skill development.
B) In the past, people eschewed the financial opportunity to invest and preferred gains in the physical world.
C) In the past, people took up work which provided intellectual as well as physical rigour.
D) In the past, people looked down upon intellectual work and preferred physical work.

Explanation:-
The answer can be directly derived from the lines: While almost all jobs today provide both pay and experience, at one time it was common for inexperienced and uneducated young people to take jobs that paid them nothing. This was obviously an investment of their time and labor for the sake of acquiring human capital.

DIRECTIONS for the question: *Read the passage and answer the question based on it.*

DBNO : 69429, LOD : 33, Question No. : 24

The ability to labor is usually greatest in early adulthood, when people are in their physical prime. Back in the days when many workers did in fact contribute little more than their physical exertions, a middle-aged manual laborer was typically less employable than a young man in his twenties working in the same occupation. But today, when most people who work for a living earn more as they grow older, this is much more consistent with their earning a return on their human capital, which tends to increase with age. The human capital concept is also more consistent with narrowing income gaps between women and men, as physical strength counts for less and less in an economy where power increasingly comes from machines rather than human muscle, and an economy in which information and high-tech skills count for more.

While the growing importance of human capital tends to create greater equality between the sexes, it tends to create greater inequality between those people who have been assiduous in acquiring knowledge and mastering skills and those who have not. In addition, like every other source of greater rewards for work, it tends to create greater inequality between those who work and those who do not. American families in the bottom 20 percent of income earners supply only a fraction of the hours of work per year supplied by families in the top 20 percent. Both the rising incomes of more experienced workers and the growing inequality in incomes in free market societies show the influence of human capital.

While almost all jobs today provide both pay and experience, at one time it was common for inexperienced and uneducated young people to take jobs that paid them nothing. This was obviously an investment of their time and labor for the sake of acquiring human capital. Apprenticeship, with and without pay, has been a centuries- old institution in many parts of the world, and unpaid labor was not uncommon in the United States as late as the Great Depression of the 1930s, when people desperate for work took jobs without pay for the sake of gaining work experience that would improve their chances of getting paying jobs later. Back around the time of the First World War, a young black American named Paul Williams decided to become an architect— a virtually unheard of occupation for someone of his race at that time— and turned down the only paying job he was offered at an

architectural firm, in order to go to work as an office boy without pay in a more prominent architectural firm, from which he expected to gain more valuable knowledge and experience.1 He was clearly thinking beyond the initial stage of his career.

According to the information provided in the passage, an investment in human capital leads:
I. Erosion of gender inequality.
II. Division of society, in terms of skills, into haves and have-nots.
III. Enhanced earnings for those who are experienced.

A) I & II   B) II & III   C) I & III   ✔D) All of the above

Explanation:-
The answer can be derived from the lines: While the growing importance of human capital tends to create greater equality between the sexes, it tends to create greater inequality between those people who have been assiduous in acquiring knowledge and mastering skills and those who have not.......Both the rising incomes of more experienced workers and the growing inequality in incomes in free market societies show the influence of human capital.

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

DBNO : 48767, LOD : 66, Question No. : 25

1. The state can respond to such phenomena but it cannot micro-manage them
2. Religious traditions, if they are worth the name, can suddenly produce charismatic figures, mystical movements, prophets,seers, new incarnations and indeed all manner of things that no bureaucrat ever dreamed of
3. However close they may be to the state, religious figures will lose credibility unless they sometimes stand up for the faith they profess
4. The trouble, from the state's point of view, is that you can monitor and channel religions as much as you want, but you can never be sure which direction the current will flow

A) 3   B)   C)   D)

Explanation:-
The passage talks about the state and religion and states that one can keep an eye on or try to guide or direct religion along a way but you can never predict which directly the religion would take. It further talks about religious traditions can produce things no one in the bureaucracy has thought of. Such phenomena mentioned in statement 1 refers to the sudden production of mystical movements, prophets, seers, new incarnation etc. Statement 3 though talks about the same topic, it seems to be abrupt at this stage, as it also talks of the religious figures losing credibility , something that hasnt been talked of in the rest of the lines. Thus , option 3 is a misfit. It probably follows in subsequent paragraphs.

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

DBNO : 48776, LOD : 33, Question No. : 26

1. Being "all in" or "all out" are two unproductive ways of finding a work-life balance in a family business
2. Indeed, they can cause problems when it comes to succession or when boundaries cut across customer needs or reduce operational efficiencies
3. Neither alternative allows the family member room to sculpt a satisfying role in the family business system
4. Of course, finding a balance is difficult in a publicly-traded company, too, but in a family business the boundary between professional and personal lives is often fuzzy

A) 2   B)   C)   D)

Explanation:-
The paragraph is talking about family business. Neither alternative in statement 3 refers to "all in" or "all out" that is talked about

in statement 1. Statement 4 continues with the balance idea of statement 1. In statement 2, there is a pronoun they which doesn't refer to anything in any of the other sentences.

DIRECTIONS for question: *The five sentences (labelled 1,2,3,4 and 5) given in this question, when properly sequenced, from a coherent paragraph. Decide on the proper order for the sentence and key in this sequence of five numbers as your answer.*

DBNO : 48779, LOD : 99, Question No. : 27

1. Companies have been using analytics to mime insights within this newly available data to drive efficiency and effectiveness.
2. And now on top of that explosion, we can also analyze â€œunstructuredâ€ data, such as text and video, to pick up information on customer sentiment.
3. Most people know the Big Data story by now: the proliferation of sensors (the â€œInternet of Thingsâ€) is accelerating exponential growth in â€œstructuredâ€ data.
4. Such mining of digitized information has become more effective and powerful as more info is â€œtaggedâ€ and as analytics engines have gotten smarter.
5. For example, companies can now use analytics to decide which sales representatives should get which leads, what time of day to contact a customer, and whether they should e-mail them, text them, or call them

A) 32154   B)   C)   D)

Explanation:-
The paragraph talks about structured and unstructured data and how companies are using this data. The example in 5 is for the statement 1 â€" what insights do companies get from using this information / data / analytics. Hence 1,5 will be together. The mining that is talked about in 4 is with reference to statement 5.Hence the order of the sentences will be 32154.

DIRECTIONS for question: *The five sentences (labelled 1,2,3,4 and 5) given in this question, when properly sequenced, from a coherent paragraph. Decide on the proper order for the sentence and key in this sequence of five numbers as your answer.*

DBNO : 48784, LOD : 99, Question No. : 28

1. They are discriminating in their personal recommendations since character judgment is their primary currency.
2. People with social courage are extroverted in issuing invitations but introverted in conversation — willing to listen 70 percent of the time.
3. If you're interested in a new field, they can reel off the names of 10 people you should know.
4. They build not just contacts but actual friendships by engaging people on multiple levels.
5. They develop large informal networks of contacts that transcend their organization and give them an independent power base.

A) 24351   B)   C)   D)

Explanation:-
The passage talks about people with social courage, what they do and how they will be useful to you, and what happens because of what they do.
So obviously, 2 becomes the introductory sentence. First we would need to mention what they do – so they build contacts on multiple level.
Now if you are interested they would first tell you the names you should know, then they are also discriminating based on character. Hence the sequence should be 24351.

DIRECTIONS for question: *The five sentences (labelled 1,2,3,4 and 5) given in this question, when properly sequenced, from a coherent paragraph. Decide on the proper order for the sentence and key in this sequence of five numbers as your answer.*

DBNO : 48790, LOD : 66, Question No. : 29

1. "If they're targeted and the university does nothing to help them, they will be "left to their own resources in coping with the

damage wrought."

2. The theory that vulnerable students should be guaranteed psychological security has roots in a body of legal thought elaborated in the 1980s and 1990s and still read today.

3. One scholar, Mari J. Matsuda, was particularly insistent that college students not be subjected to "the violence of the word" because many of them "are away from home for the first time and at a vulnerable stage of psychological development."

4. That might have, she wrote, "lifelong repercussions."

5. Feminist and anti-racist legal scholars argued that the First Amendment should not safeguard language that inflicted emotional injury through racist or sexist stigmatization.

(in Order)

A) 25314   B)   C)   D)

Explanation:-
The paragraph is talking about the theory vulnerable students and psychological security. One scholar was particularly insistent suggests that something was said before this sentence, which is what is talked about in sentence 5. Hence 2 is a better opening sentence. Moreover, what Mari J Matsuda said needs to be all together, as this is not a conversation.Hence the final order is 25314.

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

DBNO : 48792, LOD : 66, Question No. : 30

1. The most famous effort to measure machine intelligence does not resolve these questions; instead, it obscures them.

2. If the ability to carry out complex arithmetic and algebra is a sign of intellect, then is a digital calculator, in some sense,gifted?

3. If we did, we might discover a problem tucked inside it: defining intelligence is far from straightforward.

4. Artificial Intelligence is an idea so commonplace that few of us bother to interrogate its meaning.

A) 1   B)   C)   D)

Explanation:-
The paragraph talks about Artificial Intelligence. If we did – bother to interrogate – then we might discover the problem. Hence statement 4 is the introductory sentence and statement 3 follows it. In statement 1, the word these questions tells us that more than one question has to be mentioned before. and thus this statement doesnt fit with the rest of the sentneces.

DIRECTIONS for the question: *Identify the most appropriate summary for the paragraph and write the key for most appropriate option.*

DBNO : 48775, LOD : 33, Question No. : 31

The ancient Egyptians believed strongly in life after death. They also believed that a person would need his body to exist in this afterlife. Therefore, they carefully preserved the body by treating it with spices and oils and wrapping it in linen cloth. The wrapped body was then placed in a tomb. A body that is treated in this way is called a mummy. Egyptian kings and nobles wanted to be certain that their mummies would be kept in safe places forever. They had great tombs built for themselves and their families. Many kings were buried in secret tombs carved out of solid rock in a place near Thebes called the Valley of the Kings. About eighty kings built towering pyramidâ€shaped stone tombs. These pyramids have become famous as one of the Seven Wonders of the Ancient World. One of the most amazing things about these pyramids is that they were constructed without using wheels or heavy equipment to move or raise the rocks. Egypt did not learn about the wheel until long after the pyramids were built. Workmen used levers to get large blocks of stone on and off sledges and hauled them into place over long ramps built around the pyramids.

Which of the following is the best summary of the above paragraph?

1. Egyptian kings were mummified and placed in concealed tombs like the Pyramids, which had been built when man did not know about the wheel

2. As the Egyptians believed that the body is needed in afterlife, Egyptian kings and nobles were mummified and kept in solid rock tombs, now famous as one of the wonders of the ancient world; the pyramid tombs consisted of large blocks of stone stacked one of top of another using levers, at a time when the wheel had yet to make an appearance in Egypt

3. One of the seven wonders of the ancient world, the pyramids are the tombs of Egyptian kings and noblemen, who believed that a body is needed in after life

4. The most amazing thing about the Pyramids, one of the seven wonders of the ancient world, is that they were constructed using levers, in a period when the wheel was unknown to the Egyptians, who believed that a body was required in afterlife

A) 2   B)   C)   D)

Explanation:-
This is the best summary as it talks about mummies, the pyramids, the lever, the wheel, Egyptians and the body required for afterlife.
Option 1 – is incorrect, because the paragraph states that the wheel was yet unknown to Egyptians, whether it was to known outside Egypt we do not know.
Option 3- though the information given here is correct, it does not have the word mummy, solid rock and seven wonders.
Option 4 – this does not mention what was in the Pyramids and what they were made of.

DIRECTIONS for the question: Identify the most appropriate summary for the paragraph and write the key for most appropriate option.

DBNO : 48777, LOD : 33, Question No. : 32

We are the only animal that chooses what it will look like. True, the chameleon changes colour – but not willfully. Unlike us, it doesn't get up in the morning and ask itself, "What shall I look like today?" , but we can and do. Indeed, the antiquity of our body decoration points to the conclusion that it is a key factor in our development as the dominant life-form on our planet. No human society has ever been found where some form of body decoration is not the norm.

By customizing their appearance, our ancestors distanced themselves from the rest of the animal kingdom. Within each tribe this helped them to mark out differences of role, status and kinship. Our ancestors developed extraordinary techniques of body decoration for practical reasons. How to show where one tribe ends and another begins? How to memorably underline the significance of that moment when an individual becomes an adult member of society? Arguably, without the expressive capabilities of such body language we would have been infinitely less successful as species.

Which of the following best summarizes the paragraph above?

1. Humans are the only animal which can change their forms and appear as they wish; our ancestors too gave great importance to outward decoration for aesthetic reasons
2. Bodily decorations have being used by humans since ancient times, first, to make themselves different than other animals and then from other clan members or from other age groups, indeed, these physical expressions have helped humans to flourish
3. To portray a sense of belongingness within members of the same tribe, physical identification became a necessity and bodily decorations seemed to fulfill this human need
4. Physical appearance was crucial to the development of mankind, and from the time of our ancestors, we have used bodily decorations to determine the status a person holds in his group, which decides the role that he will play in the working of the group

A) 2   B)   C)   D)

Explanation:-
This is the best option because it covers all the relevant parts – used since ancient times, to differentiate from other animals in the kingdom, then from other tribes and then to show emergence into adulthood and finally to say that the bodily decorations helped us flourish as a species.
Option 1. We cannot change our forms, we can choose what to look like. Our ancestors gave importance to bodily decorations for practical purposes and not for aesthetic reasons
Option 3. It was not only belongingness that bodily decorations revealed. The physical identification was also used to reveal the status and role of the individual.
Option 4. Again here only one aspect – role identification is talked about. Kinship and status were also important.

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

DBNO : 69430, LOD : 33, Question No. : 33

1. In the Christian tradition, this is known as "moral liberty"—the capacity to discern and pursue the good, instead of merely being compelled by appetites and desires.
2. For centuries, philosophers and theologians have almost unanimously held that civilization as we know it depends on a widespread belief in free will—and that losing this belief could be calamitous.
3. The sciences have grown steadily bolder in their claim that all human behavior can be explained through the clockwork laws of cause and effect.
4. Our codes of ethics, for example, assume that we can freely choose between right and wrong.

A) 3   B)   C)   D)

Explanation:-
In the given case, statement 3 is the odd one out. It is clear from the given context that statements 2-4-1 form the set of connected statements. Statement 2 introduces the subject, statement 4 then takes this forward by providing an example and statement 1 caps this by providing the equivalent of right and wrong in the Christian tradition. Statement 3 is the odd one out here as there is no mention of sciences in the other three lines and this line does not fit with the generic nature of the other three lines.

DIRECTIONS for question: *The five sentences (labelled 1,2,3,4 and 5) given in this question, when properly sequenced, from a coherent paragraph. Decide on the proper order for the sentence and key in this sequence of five numbers as your answer.*

DBNO : 69431, LOD : 66, Question No. : 34

1. The author, Richard Cohen, could not have realised just how inescapable his theme would become.
2. But the idea of the biological clock is a recent invention. It first appeared in the late 1970s.
3. "The Clock Is Ticking for the Career Woman," the Washington Post declared, on the front page of its Metro Section, on 16 March 1978.
4. His article opened on a lunch date with a "Composite Woman" who is supposed to represent all women between the ages of 27 and 35.
5. Women in many times and places have felt pressure to bear children.

A) 52314   B)   C)   D)

Explanation:-
This is one of the easier para-jumble questions that you will solve. It follows the general to specific rule and the relationships are easy to identify. Statement 5 introduces the subject of the paragraph. Statement 2 takes this forward and statement 3 provides details with respect to a specific articles that appeared in 1978. Statements 1 and 4 simply close the loop by providing details about the said article. Thus the sequence is 52314

Section : DI & Reasoning

DIRECTIONS for the question: *Analyse the graph/s given below and answer the question that follows.*

DBNO : 48735, LOD : 33, Question No. : 35

The scatter diagram below shows the production and sales of two products, P1 and P2 for four companies, W, X, Y and Z across two cities, Rajgarh and Kanpur. Each company sells every unit of P1 and P2 that it manufactures. The large squares and triangles represent the production of P1 in Rajgarh and Kanpur respectively and the small triangles and squares represent the production of P2 in Rajgarh and Kanpur respectively. In each of the cities, a unit of P1 is sold for Rs. 400 while a unit of P2 is sold for Rs. 300 assume each product is sold.
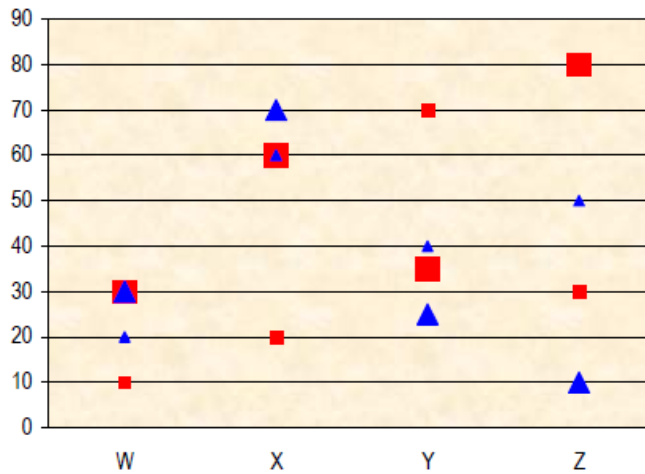
In Rajgarh, which company has the least sales by value from the sale of P1?

✓A) W   B) X   C) Y   D) Z

Explanation:-
Be careful of the data points. The big red squares denote the production of P1 in Rajgarh, the big blue triangles denote the production of P1 is Kanpur, the small blue triangles denote the production of P2 in Rajgarh and the small red squares denote the production of P2 in Kanpur.
In Rajgarh, W, X, Y and Z have sold 30, 60, 35 and 80 units of P1 respectively. So company W will have the least sales by value.
(Note: We do not need to calculate the value as the selling price is the same)

DIRECTIONS for the question: *Analyse the graph/s given below and answer the question that follows.*

DBNO : 48736, LOD : 33, Question No. : 36

The scatter diagram below shows the production and sales of two products, P1 and P2 for four companies, W, X, Y and Z across two cities, Rajgarh and Kanpur. Each company sells every unit of P1 and P2 that it manufactures. The large squares and triangles represent the production of P1 in Rajgarh and Kanpur respectively and the small triangles and squares represent the production of P2 in Rajgarh and Kanpur respectively. In each of the cities, a unit of P1 is sold for Rs. 400 while a unit of P2 is sold for Rs. 300.

Which company has the maximum revenue from the sale of products P1 and P2 in both cities, Rajgarh and Kanpur?

A) W   ✓B) X   C) Y   D) Z

Explanation:-
Be careful of the data points. The big red squares denote the production of P1 in Rajgarh, the big blue triangles denote the production of P1 is Kanpur, the small blue triangles denote the production of P2 in Rajgarh and the small red squares denote the
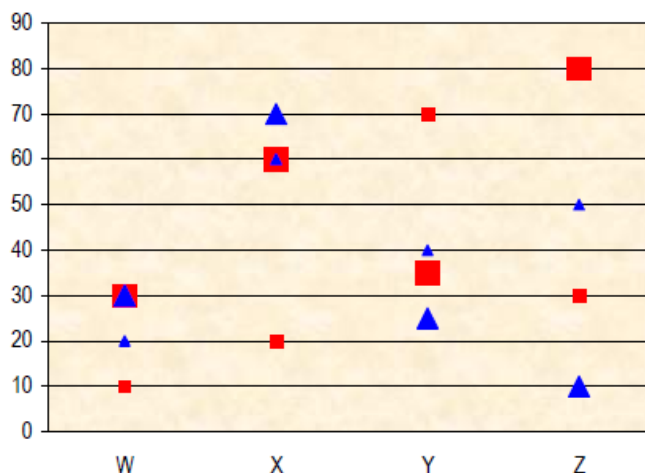
production of P2 in Kanpur. We can represent the information in the scatter diagram in the following table.

		W	X	Y	Z
Rajgarh	P1	30	60	35	80
	P2	20	60	40	50
Kanpur	P1	30	70	25	10
	P2	10	20	70	30
Total P1		60	130	60	90
Total P2		30	80	110	80
Revenue P1		Rs. 24,000	Rs. 52,000	Rs. 24,000	Rs. 36,000
Revenue P2		Rs. 9,000	Rs. 24,000	Rs. 33,000	Rs. 24,000
Total revenue		Rs. 33,000	Rs. 76,000	Rs. 57,000	Rs. 60,000

Thus company X has the maximum revenue from the sales of products P1 and P2 in both cities, Rajgarh and Kanpur.

DIRECTIONS for the question: *Analyse the graph/s given below and answer the question that follows.*

DBNO : 69480, LOD : 33, Question No. : 37

The scatter diagram below shows the production and sales of two products, P1 and P2 for four companies, W, X, Y and Z across two cities, Rajgarh and Kanpur. Each company sells every unit of P1 and P2 that it manufactures. The large squares and triangles represent the production of P1 in Rajgarh and Kanpur respectively and the small triangles and squares represent the production of P2 in Rajgarh and Kanpur respectively. In each of the cities, a unit of P1 is sold for Rs. 400 while a unit of P2 is sold for Rs. 300.

The company with the maximum total revenue from the sale of P1 and P2 in both cities had manufactured how many more total units of P1 and P2 than had the company with the minimum revenue? (in numerical value)

A) 120   B)   C)   D)

Explanation:-
Be careful of the data points. The big red squares denote the production of P1 in Rajgarh, the big blue triangles denote the production of P1 is Kanpur, the small blue triangles denote the production of P2 in Rajgarh and the small red squares denote the production of P2 in Kanpur.

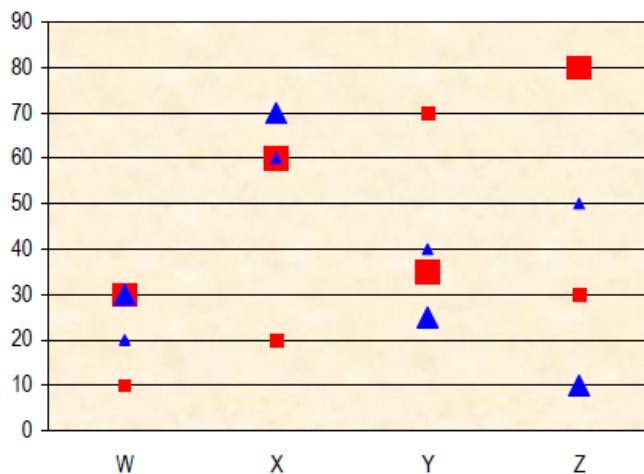*We can represent the information in the scatter diagram in the following table.*

		W	X	Y	Z
Rajgarh	P1	30	60	35	80

		20	60	40	50
	P2	20	60	40	50
	P1	30	70	25	10
Kanpur	P2	10	20	70	30
Total P1		60	130	60	90
Total P2		30	80	110	80
Revenue P1		Rs. 24,000	Rs. 52,000	Rs. 24,000	Rs. 36,000
Revenue P2		Rs. 9,000	Rs. 24,000	Rs. 33,000	Rs. 24,000
Total revenue		Rs. 33,000	Rs. 76,000	Rs. 57,000	Rs. 60,000

Company X had the maximum revenue and had manufactured a total of 130 + 80 = 210 units of P1 and P2. Company W had the minimum revenue and had manufactured a total of 60 + 30 = 90 units of P1 and P2. The required difference is 210 – 90 = 120.

DIRECTIONS for the question: *Analyse the graph/s given below and answer the question that follows.*

DBNO : 48738, LOD : 33, Question No. : 38

The scatter diagram below shows the production and sales of two products, P1 and P2 for four companies, W, X, Y and Z across two cities, Rajgarh and Kanpur. Each company sells every unit of P1 and P2 that it manufactures. The large squares and triangles represent the production of P1 in Rajgarh and Kanpur respectively and the small triangles and squares represent the production of P2 in Rajgarh and Kanpur respectively. In each of the cities, a unit of P1 is sold for Rs. 400 while a unit of P2 is sold for Rs. 300 assume each product is sold.
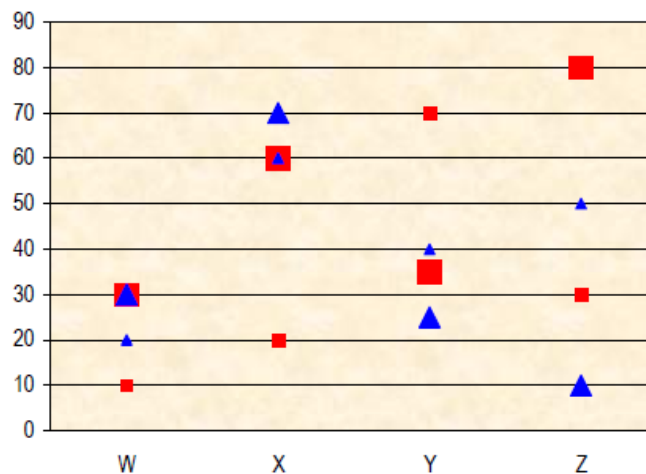
If companies W and Z merge together to form company A and companies X and Y merge together to form company B, which of the following statements is / are true?

I. The total number of units of P1 and P2 manufactured by company B is 40 more than that manufactured by company A.
II. Company B's total revenue from the sale of P1 exceeds that of company A by more than 25%.
III. Company A's total revenue from the sale of P1 and P2 is less than that of company B's by approximately 40%.

✓A) II only   B) III only   C) I and II   D) I and III

Explanation:-
Be careful of the data points. The big red squares denote the production of P1 in Rajgarh, the big blue triangles denote the production of P1 is Kanpur, the small blue triangles denote the production of P2 in Rajgarh and the small red squares denote the production of P2 in Kanpur.
We can represent the information in the scatter diagram in the following table.

	W	X	Y	Z
P1	30	60	35	80

Rajgarh	P2	20	60	40	50
Kanpur	P1	30	70	25	10
	P2	10	20	70	30
Total P1		60	130	60	90
Total P2		30	80	110	80
Revenue P1		Rs. 24,000	Rs. 52,000	Rs. 24,000	Rs. 36,000
Revenue P2		Rs. 9,000	Rs. 24,000	Rs. 33,000	Rs. 24,000
Total revenue		Rs. 33,000	Rs. 76,000	Rs. 57,000	Rs. 60,000

The total number of units of P1 and P2 manufactured by company A is 60 + 30 + 90 + 80 = 260. The total number of units of P1 and P2 manufactured by company B is 130 + 80 + 60 + 110 = 380. So, company B has manufactured 380 – 260 = 120 units more. Thus statement I is false.

Company A's revenue from the sale of P1 is 24000 + 36000 = Rs. 60,000. Company B's revenue from the sale of P1 is 52000 + 24000 = Rs. 76,000. So, company B's revenue from the sale of P1 exceeds that of company A by (16000/60000) × 100 = 26.66%. Thus statement II is true.

Company A's total revenue from the sale of P1 and P2 is 33000 + 60000 = Rs. 93,000. Company B's total revenue from the sale of P1 and P2 is 76000 + 57000 = Rs. 133,000. So, company A's total revenue is less than that of company B's by (40000/133000) × 100 = 30%. Thus statement III is false.

Hence the correct answer is option 1.

DIRECTIONS for the question: *Read the information given below and answer the question that follows.*

DBNO : 48751, LOD : 33, Question No. : 39

A software company has to assign four of its employees – Ken, Linda, Mona and Sunny – to four cities – Bangalore, Lisbon, Los Angeles and Shanghai – over a two-year period. Each of the cities is assigned at least two employees over the two-year period. This condition is deemed to have been met if an employee chooses to remain in the same city for the second year. The employees have a choice of staying in the same city for the second year or relocating to some other city.

- In the first year, no employee is assigned to a city whose name starts with the same letter as that of the employee's.
- Ken and Linda are married and will always be assigned to the same city. No others can be assigned to same place at same time.
- Linda does not like Shanghai and Sunny does not like Lisbon; they will not be assigned to these cities respectively.
- Linda is not assigned to Los Angeles in the second year.

Which of the following is necessarily true?

A) Mona is assigned to Lisbon in the first year   ✔B) Linda is assigned to Bangalore in the first year
C) Mona is assigned to Los Angeles in the second year   D) Sunny is assigned to Shanghai in the second year

Explanation:-
We know that Ken and Linda will always be together.
First Year:
Linda, and therefore Ken, cannot be assigned to either Lisbon or Los Angeles (same starting letter). Linda and Ken will not be assigned to Shanghai as Linda does not like Shanghai. So, Linda and Ken must be assigned to Bangalore. Sunny cannot be assigned to Shanghai (same starting letter). So, the only one who can be assigned to Shanghai is Mona. Since Sunny does not like Lisbon, he can only be assigned to Los Angeles.
Second Year:
No one was assigned to Lisbon in the first year. So, 2 employees must be assigned to Lisbon in the second year and the only possibility is therefore Linda and Ken. Los Angeles and Shanghai have had only one employee each in the first year and must therefore be assigned at least one member this year. So, either of Mona or Sunny could be assigned to Los Angeles and the other to Shanghai.

The assignments for the two years are:
Case- I

	Bangalore	Lisbon	Los Angeles	Shanghai
Year 1	Ken & Linda	---	Sunny	Mona
Year 2	---	Ken & Linda	Mona/Sunny	Sunny/Mona

Case -II

	Bangalore	Lisbon	Los Angeles	Shanghai
Year 1	Ken & Linda	---	Sunny/Mona	---
Year 2	---	Ken & Linda	----	Sunny/Mona

The best answer is option 2.

DIRECTIONS for the question: *Read the information given below and answer the question that follows.*

DBNO : 48752, LOD : 33, Question No. : 40

A software company has to assign four of its employees – Ken, Linda, Mona and Sunny – to four cities – Bangalore, Lisbon, Los Angeles and Shanghai – over a two-year period. Each of the cities is assigned at least two employees over the two-year period. This condition is deemed to have been met if an employee chooses to remain in the same city for the second year. The employees have a choice of staying in the same city for the second year or relocating to some other city.

- In the first year, no employee is assigned to a city whose name starts with the same letter as that of the employee's.
- Ken and Linda are married and will always be assigned to the same city. No others can be assigned to same place at same time.
- Linda does not like Shanghai and Sunny does not like Lisbon; they will not be assigned to these cities respectively.
- Linda is not assigned to Los Angeles in the second year.

Who is assigned to Los Angeles in the first year?

A) Ken and Linda   B) Sunny   C) Mona   ✔D) Sunny or Mona

Explanation:-
We know that Ken and Linda will always be together.
First Year:
Linda, and therefore Ken, cannot be assigned to either Lisbon or Los Angeles (same starting letter). Linda and Ken will not be assigned to Shanghai as Linda does not like Shanghai. So, Linda and Ken must be assigned to Bangalore. Sunny cannot be assigned to Shanghai (same starting letter). So, the only one who can be assigned to Shanghai is Mona. Since Sunny does not like Lisbon, he can only be assigned to Los Angeles.
Second Year:
No one was assigned to Lisbon in the first year. So, 2 employees must be assigned to Lisbon in the second year and the only possibility is therefore Linda and Ken. Los Angeles and Shanghai have had only one employee each in the first year and must therefore be assigned at least one member this year. So, either of Mona or Sunny could be assigned to Los Angeles and the other to Shanghai.

The assignments for the two years are:
Case- I

	Bangalore	Lisbon	Los Angeles	Shanghai
Year 1	Ken & Linda	---	Sunny	Mona
Year 2	---	Ken & Linda	Mona/Sunny	Sunny/Mona

Case -II

	Bangalore	Lisbon	Los Angeles	Shanghai
Year 1	Ken & Linda	---	Sunny/Mona	---
Year 2	---	Ken & Linda	----	Sunny/Mona

DBNO : 48753, LOD : 99, Question No. : 41

A software company has to assign four of its employees – Ken, Linda, Mona and Sunny – to four cities – Bangalore, Lisbon, Los Angeles and Shanghai – over a two-year period. Each of the cities is assigned at least two employees over the two-year period. This condition is deemed to have been met if an employee chooses to remain in the same city for the second year. The employees have a choice of staying in the same city for the second year or relocating to some other city.

- In the first year, no employee is assigned to a city whose name starts with the same letter as that of the employee's.
- Ken and Linda are married and will always be assigned to the same city. No others can be assigned to same place at same time.
- Linda does not like Shanghai and Sunny does not like Lisbon; they will not be assigned to these cities respectively.
- Linda is not assigned to Los Angeles in the second year.

Who is not assigned to Lisbon in either of the two years?

A) Sunny   B) Ken and Linda   ✓C) Mona and Sunny   D) Mona

Explanation:-
We know that Ken and Linda will always be together.
First Year:
Linda, and therefore Ken, cannot be assigned to either Lisbon or Los Angeles (same starting letter). Linda and Ken will not be assigned to Shanghai as Linda does not like Shanghai. So, Linda and Ken must be assigned to Bangalore. Sunny cannot be assigned to Shanghai (same starting letter). So, the only one who can be assigned to Shanghai is Mona. Since Sunny does not like Lisbon, he can only be assigned to Los Angeles.
Second Year:
No one was assigned to Lisbon in the first year. So, 2 employees must be assigned to Lisbon in the second year and the only possibility is therefore Linda and Ken. Los Angeles and Shanghai have had only one employee each in the first year and must therefore be assigned at least one member this year. So, either of Mona or Sunny could be assigned to Los Angeles and the other to Shanghai.

The assignments for the two years are:
Case- I

	Bangalore	Lisbon	Los Angeles	Shanghai
Year 1	Ken & Linda	---	Sunny	Mona
Year 2	---	Ken & Linda	Mona/Sunny	Sunny/Mona

Case -II

	Bangalore	Lisbon	Los Angeles	Shanghai
Year 1	Ken & Linda	---	Sunny/Mona	---
Year 2	---	Ken & Linda	----	Sunny/Mona

The best answer is option 3.

DBNO : 48754, LOD : 33, Question No. : 42

A software company has to assign four of its employees – Ken, Linda, Mona and Sunny – to four cities – Bangalore, Lisbon, Los Angeles and Shanghai – over a two-year period. Each of the cities is assigned at least two employees over the two-year period.

This condition is deemed to have been met if an employee chooses to remain in the same city for the second year. The employees have a choice of staying in the same city for the second year or relocating to some other city.

- In the first year, no employee is assigned to a city whose name starts with the same letter as that of the employee's.
- Ken and Linda are married and will always be assigned to the same city. No others can be assigned to same place at same time.
- Linda does not like Shanghai and Sunny does not like Lisbon; they will not be assigned to these cities respectively.
- Linda is not assigned to Los Angeles in the second year.

In the second year, if Sunny is not assigned to Shanghai, then which city will Mona be assigned to?

A) Bangalore   B) Lisbon   C) Los Angeles   ✔D) Shanghai

Explanation:-
We know that Ken and Linda will always be together.
First Year:
Linda, and therefore Ken, cannot be assigned to either Lisbon or Los Angeles (same starting letter). Linda and Ken will not be assigned to Shanghai as Linda does not like Shanghai. So, Linda and Ken must be assigned to Bangalore. Sunny cannot be assigned to Shanghai (same starting letter). So, the only one who can be assigned to Shanghai is Mona. Since Sunny does not like Lisbon, he can only be assigned to Los Angeles.
Second Year:
No one was assigned to Lisbon in the first year. So, 2 employees must be assigned to Lisbon in the second year and the only possibility is therefore Linda and Ken. Los Angeles and Shanghai have had only one employee each in the first year and must therefore be assigned at least one member this year. So, either of Mona or Sunny could be assigned to Los Angeles and the other to Shanghai.

The assignments for the two years are:
Case-I

	Bangalore	Lisbon	Los Angeles	Shanghai
Year 1	Ken & Linda	---	Sunny	Mona
Year 2	---	Ken & Linda	Mona/Sunny	Sunny/Mona

Case -II

	Bangalore	Lisbon	Los Angeles	Shanghai
Year 1	Ken & Linda	---	Sunny/Mona	---
Year 2	---	Ken & Linda	----	Sunny/Mona

If Sunny is not assigned to Shanghai in the second year, then Mona must be assigned to Shanghai.

DIRECTIONS for the question: *Go through the following graph/information and answer the question that follows.*

DBNO : 9293, LOD : 66, Question No. : 43

A publishing house based in Delhi publishes a weekly magazine. The magazine offers discounts to customers based on different subscription schemes as shown below.

Period	No. of Issues	Discount
1 year	52	17%
3 years	156	25%
5 years	260	35%

The news stand price of the magazine is Rs. 25.
A year is made up of 52 weeks.
Subscriptions can be paid for by cash, D.D. or cheque.

Subscriptions are rounded off to the nearest Rs. 50.
The publishing house charges Rs. 50 as D.D. collection charges and Rs. 100 for out station cheques.
The issues are delivered by ordinary postal mail at no extra cost. If a customer wishes the issues be delivered by courier, the publishing house collects a one time courier charge equivalent to 10% of the news stand value of the subscription.

Mr. Rajat lives in Kolkata. His bank charges Rs. 45 as D.D. making charges for values below Rs. 5000. If Mr. Rajat pays the subscription charges by D.D. and requests that the issues be delivered by ordinary postal mail, what is the effective discount that he gets for a 1 year subscription to the magazine?

A) 9.69%   B) 11.53%   ✓C) 8.07%   D) 15.84%

Explanation:-
The value of a 1-year subscription is 25 × 52 = Rs. 1300. He gets a discount of 17% and should pay 1300 – 0.17 × 1300 = 1300 – 221 = Rs. 1079. This will be rounded off to Rs. 1100. In addition, he pays D.D. collection charges of Rs. 50 and D.D. making charges of Rs. 45. So, he effectively pays 1100 + 50 + 45 = Rs. 1195 towards his subscription and gets an effective discount of 1300 – 1195 = Rs. 105. Thus he gets an effective discount of 105/1300 ≈ 8%.

DIRECTIONS for the question: *Go through the following graph/information and answer the question that follows.*

DBNO : 9294, LOD : 66, Question No. : 44

A publishing house based in Delhi publishes a weekly magazine. The magazine offers discounts to customers based on different subscription schemes as shown below.

Period	No. of Issues	Discount
1 year	52	17%
3 years	156	25%
5 years	260	35%

The news stand price of the magazine is Rs. 25.
A year is made up of 52 weeks.
Subscriptions can be paid for by cash, D.D. or cheque.
Subscriptions are rounded off to the nearest Rs. 50.
The publishing house charges Rs. 50 as D.D. collection charges and Rs. 100 for out station cheques.
The issues are delivered by ordinary postal mail at no extra cost. If a customer wishes the issues be delivered by courier, the publishing house collects a one time courier charge equivalent to 10% of the news stand value of the subscription.

Nikhil and Savita stay in Mumbai. Nikhil's bank charges Rs. 100 for a D.D, if the value is up to Rs. 5000 and 5% if the value is above Rs. 5000. Nikhil pays for a 3-year subscription by D.D. and requests that the issues be delivered by ordinary postal mail. Savita pays for a 3-year subscription by a cheque drawn on a bank in Delhi and requests that the issues be delivered by courier. What is the absolute difference between the effective discounts that Nikhil and Savita get?

A) 3.72%   ✓B) 6.16%   C) 8.72%   D) 9.18%

Explanation:-
The value of a 3-yr subscription is 25 × 156 = Rs. 3900. After a discount of 25%, the subscriber would have to pay 3900 – 0.25 × 3900 = Rs. 2925, which will be rounded off to Rs. 2950. Nikhil pays an additional Rs. 100 as D.D. making charges and Rs. 50 as D.D. collection charges. He pays a total of 2950 + 100 + 50 = Rs. 3100 towards a 3-year subscription. Since he saves 3900 – 3100 = Rs. 800, he gets an effective discount of 800/3900 = 20.51%. Savita has to pay 10% of subscription value, i.e., 10% of 3900 = Rs. 390 as courier charges. She pays a total of 2950 + 390 = Rs. 3340 towards a 3-year subscription. Since she saves 3900 – 3340 = Rs. 560, she gets an effective discount of 560/3900 = 14.35%. The absolute difference between these discounts is 20.51 – 14.35 = 6.16%.

DIRECTIONS for the question: *Go through the following graph/information and answer the question that follows.*

DBNO : 69469, LOD : 99, Question No. : 45

A publishing house based in Delhi publishes a weekly magazine. The magazine offers discounts to customers based on different subscription schemes as shown below.

Period	No. of Issues	Discount
1 year	52	17%
3 years	156	25%
5 years	260	35%

The news stand price of the magazine is Rs. 25.
A year is made up of 52 weeks.
Subscriptions can be paid for by cash, D.D. or cheque.
Subscriptions are rounded off to the nearest Rs. 50.
The publishing house charges Rs. 50 as D.D. collection charges and Rs. 100 for out station cheques.
The issues are delivered by ordinary postal mail at no extra cost. If a customer wishes the issues be delivered by courier, the publishing house collects a one time courier charge equivalent to 10% of the news stand value of the subscription.

<div justify;\\"="" style="text-align: justify;"> Pankaj stays in Delhi and has a 5-year subscription to the magazine. He paid in cash and asked that the issues be delivered by courier. Jasleen stays in Ahmedabad and has a 5-year subscription to the magazine. She paid by D.D., for which her bank charged 5% of the value as D.D. making charges. Jasleen asked that the issues be delivered by ordinary postal mail. What is the difference between the effective discounts earned? (in Rs.)

A) 385   B)   C)   D)

Explanation:-
The value of a 5-year subscription is 25 × 260 = Rs. 6500. After a discount of 35%, a subscriber would have to pay 6500 – 0.35 × 6500 = Rs. 4225, which would be rounded off to Rs. 4250. Pankaj has to pay 10% of subscription value, i.e., 10% of 6500 = Rs. 650 as courier charges. So he pays a total of 4250 + 650 = Rs. 4900 towards his subscription. He thus gets an effective discount of 6500 – 4900 = Rs. 1600. Jasleen has to pay an additional Rs. 50 as D.D. collection charges. So, she would have to make a D.D. for Rs. 4300. The D.D. making charges will be an additional 5% of 4300 = Rs. 215. So she pays a total of 4300 + 215 = Rs. 4515 towards her subscription. She thus gets an effective discount of 6500 – 4515 = Rs. 1985. The difference between these discounts is 1985 – 1600 = Rs. 385.

DIRECTIONS for the question: *Go through the following graph/information and answer the question that follows.*

DBNO : 9296, LOD : 66, Question No. : 46

A publishing house based in Delhi publishes a weekly magazine. The magazine offers discounts to customers based on different subscription schemes as shown below.

Period	No. of Issues	Discount
1 year	52	17%
3 years	156	25%
5 years	260	35%

The news stand price of the magazine is Rs. 25.
A year is made up of 52 weeks.
Subscriptions can be paid for by cash, D.D. or cheque.
Subscriptions are rounded off to the nearest Rs. 50.
The publishing house charges Rs. 50 as D.D. collection charges and Rs. 100 for out station cheques.
The issues are delivered by ordinary postal mail at no extra cost. If a customer wishes the issues be delivered by courier, the publishing house collects a one time courier charge equivalent to 10% of the news stand value of the subscription.

Navneet stays in Bangalore and is contemplating two different options for a 5-year subscription to the magazine. Under option A, he plans to have two 1-year subscriptions followed by a 3-year subscription. Under option B, he plans to take up a 5-year subscription. He plans on paying by DD as his bank does not charge for making a D.D. He wants the issues delivered by courier. Which option should Navneet choose and how much would he save, in `, as compared to the other option?

✓A) Option B, Rs. 1000   B) Option A, Rs. 950   C) Option B, Rs. 200   D) Option A, Rs. 1090

Explanation:-
A 1-year subscription would cost 1300 – 0.17 × 1300 = 1300 – 221 = 1079, which would be rounded off to Rs. 1100. In addition to this, there will be a courier charge of 10% of 1300 = Rs. 130 and D.D. collection charges of Rs. 50. So, a 1-year subscription would effectively cost 1100 + 130 + 50 = Rs. 1280. A 3-year subscription would cost 3900 – 0.25 × 3900 = 3900 – 975 = 2925, which would be rounded off to Rs. 2950. In addition to this, there will be a courier charge of 10% of 3900 = Rs. 390 and D.D. collection charges of Rs. 50. So, a 3-year subscription would effectively cost 2950 + 390 + 50 = Rs. 3390. Thus, option A would cost (2 × 1280) + 3390 = Rs. 5950. A 5-year subscription would cost 6500 – 0.35 × 6500 = 6500 – 2275 = 4225, which would be rounded off to Rs. 4250. In addition to this, there will be a courier charge of 10% of 6500 = Rs. 650 and D.D. collection charges of Rs. 50. So, the 5-year subscription in option B would cost 4250 + 650 + 50 = Rs. 4950. Navneet should choose option B so that he saves 5950 – 4950 = Rs. 1000.

DIRECTIONS for the question: *Read the information given below and answer the question that follows.*

DBNO : 48755, LOD : 33, Question No. : 47

5 people, A, B, C, D and E, stay on different floors in a 3-storied building, with one of them staying on the ground floor and two each staying on the first floor and the second floor. Each of them has exactly one pet from amongst a cow, a dog, a horse, a rabbit and a parrot.

- D stays on the second floor and neither he nor his neighbour own the dog.
- The person staying on the ground floor, who is not A, owns the cow.
- B owns the parrot and his neighbours own neither the horse nor the rabbit.
- C, who is not a neighbour of either B or E, does not own either the cow or the dog, and his neighbour does not own the horse.

Who stays on the first floor?

✓A) B   B) C   C) D   D) E

Explanation:-
We know that D stays on the 2nd floor and he and his neighbour does not own the dog. The person who owns the cow, stays on the ground floor. Now, C does not own the cow, nor is he neighbours with B or E. This tells us that C must stay on the 2nd floor and is a neighbour of D, who does not own the horse. It is given that the person staying on the ground floor is not A and B owns the parrot. So, the person staying on the ground floor must be E so that A and B stay on the 1st floor. B's neighbour A, does not own the cow, the horse or the rabbit. So, A must own the dog. Since C's neighbour does not own the horse, we can conclude that D owns the rabbit and C owns the horse. We have matched the information as follows:
Ground Floor: *E – Cow*
First Floor: *B – Parrot, A – Dog*
Second Floor: *D – Rabbit, C – Horse*

DIRECTIONS for the question: *Read the information given below and answer the question that follows.*

DBNO : 48756, LOD : 33, Question No. : 48

5 people, A, B, C, D and E, stay on different floors in a 3-storied building, with one of them staying on the ground floor and two each staying on the first floor and the second floor. Each of them has exactly one pet from amongst a cow, a dog, a horse, a rabbit and a parrot.

- D stays on the second floor and neither he nor his neighbour own the dog.
- The person staying on the ground floor, who is not A, owns the cow.
- B owns the parrot and his neighbours own neither the horse nor the rabbit.
- C, who is not a neighbour of either B or E, does not own either the cow or the dog, and his neighbour does not own the horse.

Who owns the cow?

A) A   B) C   C) D   ✔D) E

Explanation:-

We know that D stays on the 2nd floor and he and his neighbour does not own the dog. The person who owns the cow, stays on the ground floor. Now, C does not own the cow, nor is he neighbours with B or E. This tells us that C must stay on the 2nd floor and is a neighbour of D, who does not own the horse. It is given that the person staying on the ground floor is not A and B owns the parrot. So, the person staying on the ground floor must be E so that A and B stay on the 1st floor. B's neighbour A, does not own the cow, the horse or the rabbit. So, A must own the dog. Since C's neighbour does not own the horse, we can conclude that D owns the rabbit and C owns the horse. We have matched the information as follows:
Ground Floor: E – Cow
First Floor: B – Parrot, A – Dog
Second Floor: D – Rabbit, C – Horse

DIRECTIONS for the question: *Read the information given below and answer the question that follows.*

DBNO : 48757, LOD : 33, Question No. : 49

5 people, A, B, C, D and E, stay on different floors in a 3-storied building, with one of them staying on the ground floor and two each staying on the first floor and the second floor. Each of them has exactly one pet from amongst a cow, a dog, a horse, a rabbit and a parrot.

- D stays on the second floor and neither he nor his neighbour own the dog.
- The person staying on the ground floor, who is not A, owns the cow.
- B owns the parrot and his neighbours own neither the horse nor the rabbit.
- C, who is not a neighbour of either B or E, does not own either the cow or the dog, and his neighbour does not own the horse.

Who owns the horse?

A) A   ✔B) C   C) D   D) E

Explanation:-

We know that D stays on the 2nd floor and he and his neighbour does not own the dog. The person who owns the cow, stays on the ground floor. Now, C does not own the cow, nor is he neighbours with B or E. This tells us that C must stay on the 2nd floor and is a neighbour of D, who does not own the horse. It is given that the person staying on the ground floor is not A and B owns the parrot. So, the person staying on the ground floor must be E so that A and B stay on the 1st floor. B's neighbour A, does not own the cow, the horse or the rabbit. So, A must own the dog. Since C's neighbour does not own the horse, we can conclude that D owns the rabbit and C owns the horse. We have matched the information as follows:
Ground Floor: E – Cow
First Floor: B – Parrot, A – Dog
Second Floor: D – Rabbit, C – Horse

DIRECTIONS for the question: *Read the information given below and answer the question that follows.*

DBNO : 48758, LOD : 33, Question No. : 50

5 people, A, B, C, D and E, stay on different floors in a 3-storied building, with one of them staying on the ground floor and two each staying on the first floor and the second floor. Each of them has exactly one pet from amongst a cow, a dog, a horse, a rabbit and a parrot.

- D stays on the second floor and neither he nor his neighbour own the dog.
- The person staying on the ground floor, who is not A, owns the cow.
- B owns the parrot and his neighbours own neither the horse nor the rabbit.
- C, who is not a neighbour of either B or E, does not own either the cow or the dog, and his neighbour does not own the horse.

Who is E's neighbour?

A) A   B) B   C) D   ✓D) None of these

Explanation:-
We know that D stays on the 2nd floor and he and his neighbour does not own the dog. The person who owns the cow, stays on the ground floor. Now, C does not own the cow, nor is he neighbours with B or E. This tells us that C must stay on the 2nd floor and is a neighbour of D, who does not own the horse. It is given that the person staying on the ground floor is not A and B owns the parrot. So, the person staying on the ground floor must be E so that A and B stay on the 1st floor. B's neighbour A, does not own the cow, the horse or the rabbit. So, A must own the dog. Since C's neighbour does not own the horse, we can conclude that D owns the rabbit and C owns the horse. We have matched the information as follows:
Ground Floor: *E – Cow*
First Floor: *B – Parrot, A – Dog*
Second Floor: *D – Rabbit, C – Horse*

DIRECTIONS for the question: *Go through the following graph/information and answer the question that follows.*

DBNO : 48743, LOD : 33, Question No. : 51

Two Engineering colleges, A and B have a record of 100% placements of students across all streams. The following tables give data of placement statistics of these two colleges. e.g., 80 students of Mechanical Engineering from College A were placed with starting salaries of Rs. 4 lakhs.

College A

Stream	Rs. 3 lakhs	Rs. 4 lakhs	Rs. 5 lakhs	Rs. 6 lakhs	Rs. 7 lakhs
Mechanical	33	80	36	24	7
Civil	23	35	30	20	12
Electrical	40	65	30	35	10
Electronics	65	35	45	30	5
Computer Science	45	55	32	35	13

College B

Stream	Rs. 3 lakhs	Rs. 4 lakhs	Rs. 5 lakhs	Rs. 6 lakhs	Rs. 7 lakhs
Mechanical	35	65	40	35	5
Civil	20	45	20	25	10
Electrical	33	70	42	23	12
Electronics	50	32	42	48	8
Computer Science	56	54	27	28	15

Let x denote the proportion of students from College A who are placed with starting salaries of Rs. 6 lakhs and y denote the proportion of students from College B who are placed with starting salaries of Rs. 6 lakhs. By how much does y exceed x?

✓A) $\dfrac{1}{56}$ B) $\dfrac{1}{70}$ C) $\dfrac{1}{280}$ D) $\dfrac{1}{420}$

Explanation:-
After adding up the rows, we know that the total number of students in Civil Engineering in Colleges A and B is 120 each and the total number of students in each of the other streams in both colleges is 180 each. So, each college has a total of 840 students. The total number of students from College A placed with starting salaries of Rs. 6 lakhs is 144 and the total number of students from College B placed with starting salaries of Rs. 6 lakh is 159. The required difference is (159 – 144)/840 = 15/840 = 1/56.

DIRECTIONS for the question: *Go through the following graph/information and answer the question that follows.*

DBNO : 69481, LOD : 33, Question No. : 52

Two Engineering colleges, A and B have a record of 100% placements of students across all streams. The following tables give data of placement statistics of these two colleges. e.g., 80 students of Mechanical Engineering from College A were placed with starting salaries of Rs. 4 lakhs.

College A

Stream	Rs. 3 lakhs	Rs. 4 lakhs	Rs. 5 lakhs	Rs. 6 lakhs	Rs. 7 lakhs
Mechanical	33	80	36	24	7
Civil	23	35	30	20	12
Electrical	40	65	30	35	10
Electronics	65	35	45	30	5
Computer Science	45	55	32	35	13

College B

Stream	Rs. 3 lakhs	Rs. 4 lakhs	Rs. 5 lakhs	Rs. 6 lakhs	Rs. 7 lakhs
Mechanical	35	65	40	35	5
Civil	20	45	20	25	10
Electrical	33	70	42	23	12
Electronics	50	32	42	48	8
Computer Science	56	54	27	28	15

What is the difference between the total salaries of the Computer Science students from the two colleges? (in Rs. Lakhs)

A) 24   B)   C)   D)

Explanation:-
The total salary of the Computer Science students from College A is (45 × 3) + (55 × 4) + (32 × 5) + (35 × 6) + (13 × 7) = Rs. 816 lakhs. The total salary of the Computer Science students from college B is (56 × 3) + (54 × 4) + (27 × 5) + (28 × 6) + (15 × 7) = Rs. 792 lakhs. The required difference is Rs. 24 lakhs.

DIRECTIONS for the question: *Go through the following graph/information and answer the question that follows.*

Two Engineering colleges, A and B have a record of 100% placements of students across all streams. The following tables give data of placement statistics of these two colleges. e.g., 80 students of Mechanical Engineering from College A were placed with starting salaries of Rs. 4 lakhs.

College A

Stream	Rs. 3 lakhs	Rs. 4 lakhs	Rs. 5 lakhs	Rs. 6 lakhs	Rs. 7 lakhs
Mechanical	33	80	36	24	7
Civil	23	35	30	20	12
Electrical	40	65	30	35	10
Electronics	65	35	45	30	5
Computer Science	45	55	32	35	13

College B

Stream	Rs. 3 lakhs	Rs. 4 lakhs	Rs. 5 lakhs	Rs. 6 lakhs	Rs. 7 lakhs
Mechanical	35	65	40	35	5
Civil	20	45	20	25	10
Electrical	33	70	42	23	12
Electronics	50	32	42	48	8
Computer Science	56	54	27	28	15

For which stream in College B is the percentage of students who were placed with starting salaries not below Rs. 5 lakhs the highest?

A) Computer Science   B) Electrical   ✔C) Electronics   D) Mechanical

Explanation:-
The number of students in Mechanical from College B who were placed at starting salaries of Rs. 5 lakhs or more is 40 + 35 + 5 = 80. These 80 students form (80/180) × 100 ≈ 44.44% of the 180 students in Mechanical.
The number of students in Civil from College B who were placed at starting salaries of Rs. 5 lakhs or more is 20 + 25 + 10 = 55. These 55 students form (55/120) × 100 ≈ 45.83% of the 120 students in Civil.
The number of students in Electrical from College B who were placed at starting salaries of Rs. 5 lakhs or more is 42 + 23 + 12 = 77. These 77 students form (77/180) × 100 ≈ 42.77% of the 180 students in Electrical.
The number of students in Electronics from College B who were placed at starting salaries of Rs. 5 lakhs or more is 42 + 48 + 8 = 98. These 98 students form (98/180) × 100 ≈ 54.44% of the 180 students in Electronics.
The number of students in Computer Science from College B who were placed at starting salaries of Rs. 5 lakhs or more is 27 + 28 + 15 = 70. These 70 students form (70/180) × 100 ≈ 38.88% of the 180 students in Electrical.
Thus the percentage is highest for Electronics.
Note: The percentage calculation can be avoided by simply comparing fractions. However, the 55/120 for Civil should be changed to 82.5/180 so that all fractions have the same denominator. If you realise that Civil is not one of the options, there is no need for this conversion!

DIRECTIONS for the question: *Go through the following graph/information and answer the question that follows.*

Two Engineering colleges, A and B have a record of 100% placements of students across all streams. The following tables give data of placement statistics of these two colleges. e.g., 80 students of Mechanical Engineering from College A were placed with starting salaries of Rs. 4 lakhs.

College A

Stream	Rs. 3 lakhs	Rs. 4 lakhs	Rs. 5 lakhs	Rs. 6 lakhs	Rs. 7 lakhs
Mechanical	33	80	36	24	7
Civil	23	35	30	20	12
Electrical	40	65	30	35	10
Electronics	65	35	45	30	5
Computer Science	45	55	32	35	13

College B

Stream	Rs. 3 lakhs	Rs. 4 lakhs	Rs. 5 lakhs	Rs. 6 lakhs	Rs. 7 lakhs
Mechanical	35	65	40	35	5
Civil	20	45	20	25	10
Electrical	33	70	42	23	12
Electronics	50	32	42	48	8
Computer Science	56	54	27	28	15

On account of the boost to the infrastructure sector, companies who had offered starting salaries of Rs. 5 lakhs and Rs. 6 lakhs have revised their starting salaries to Rs. 6 lakhs and Rs. 7 lakhs for students in Civil in both colleges. Which of the following statements is / are true?

I. The average salary of the students from Civil in College A has increased by more than Rs. 40,000.
II. The average salary of the students from Civil in College B has increased by less than Rs. 40,000.
III. The percentage of students who have starting salaries of more than Rs. 6 lakhs is greater for College A than College B.
IV. The percentage of students who have starting salaries of less than Rs. 7 lakhs is greater for College A than College B.

A) I and II only   B) I, II and III only   C) II, III and IV only   ✓D) I, II and IV only

Explanation:-
The average salary of the students of Civil in College A was earlier [(23 × 3) + (35 × 4) + (30 × 5) + (20 × 6) + (12 × 7)] / 120 = 563 lakhs / 120 = Rs. 469,166. The average salary of these students is now [(23 × 3) + (35 × 4) + (30 × 6) + (32 × 7)] / 120 = 613 lakhs / 120 = Rs. 510,833. The average salary of these students has increased by 510833 – 469166 = Rs. 41,667. So statement I is true.
The average salary of the students of Civil in College B was earlier [(20 × 3) + (45 × 4) + (20 × 5) + (25 × 6) + (10 × 7)] / 120 = 560 lakhs / 120 = Rs. 466,666. The average salary of these students is now [(20 × 3) + (45 × 4) + (20 × 6) + (35 × 7)] / 120 = 605 lakhs / 120 = Rs. 504,166. The average salary of these students has increased by 504166 – 466666 = Rs. 37,500. So statement II is true.
In statement III, we are interested in students who have a starting salary of Rs. 7 lakhs. Since the total number of students in both colleges is the same, we need to check only for the total number of students with a starting salary of Rs. 7 lakhs. The number of students in College A with starting salaries of Rs. 7 lakhs is 31 + 32 + 45 + 35 + 48 = 191 and the number of students in College B with starting salaries of Rs. 7 lakhs is 40 +35 +35 + 56 + 43 = 209. Since the number of students with starting salaries of Rs. 7 lakhs is greater in College B than in College A, statement III is false.
In statement IV, there is no need to calculate the number of students with starting salaries of less than Rs. 7 lakhs. In verifying statement III, we know that the number of students with starting salaries of Rs. 7 lakhs is greater for College B than College A. So, the number of students with starting salaries less than Rs. 7 lakhs will be greater for College A than College B. So statement IV is true.
Hence option 4.

DIRECTIONS for the question: *Read the information given below and answer the question that follows.*

38 fruits, apples, oranges, plums and guavas, are distributed among 4 people A, B, C and D. Each one gets a minimum of one fruits of each type and a maximum of four fruits of each type. There are 12 apples. There are two females, each of whom has the highest number of fruits. D, who has 3 plums, has 5 fruits less than the person who has the highest number of fruits. A has 4 apples and 4 plums and does not have the lowest number of fruits. B has an equal number of apples, oranges and guavas only. C has an equal number of oranges, guavas and plums only. None of the friends has exactly the same composition of all fruits as any other friend.

The females together had how many more fruits than the males had together? (in numerical value)

A) 6   B)   C)   D)

Explanation:-
We know that D has 3 plums. Since each of them gets a minimum of 1 fruits of each type, D will have at least 1 each of apples, oranges and guavas. So, the minimum number of fruits with D will be 6. If D has 6 fruits, then the two females will have 11 fruits each. So, the number of fruits with the four friends will be 11, 11, 10 and 6. If D has 7 fruits, then the four friends will have 12, 12, 7 and 7 fruits. If D has 8 fruits, then the four friends will have 13, 13, 8 and 4 fruits. D cannot have more than 8 fruits; otherwise, one of the friends will get only 1 fruits.

Suppose D has 7 fruit. Since A has 4 apples and 4 plums, A must have 12 fruit. So, one of B and C must have 12 fruit and the other must have 7 fruit. Each of B and C has the same number of fruit of three different types. The one who has 12 fruit cannot have 3 fruit of each type and must therefore have 2, 2, 2 and 6 fruit. Since this is not possible, we can rule out the possibility that D has 7 fruit.
Suppose D has 8 fruit. Since A has 4 apples and 4 plums, A must have 13 fruit and consequently, one of B and C must have 13 fruit and the other must have 4 fruit. The one who has 4 fruit will have 1 fruit of each type. But this contradicts the information that B and C have an equal number of fruit of three types only. These rules out the possibility that D has 8 fruit

D must, therefore, have 6 fruit and the other three friends must have 11, 11 and 10 fruit. D must have 1 each of apples, oranges and guavas and 3 plums. Suppose A has 10 fruit and B and C have 11 fruit each. The only way B and C can have 11 fruit each is if they have 3 fruit each of 3 different types and 2 fruit of the fourth type. So, one of B and C will have 3 apples and the other will have 2 apples. So, the total number of apples with A, B, C and D is 4 + 3 + 2 + 1 = 10. This contradicts the information that the total number of apples is 12. Thus, A must have 11 fruit, one of B and C must have 11 fruit and the other must have 10 fruit and D has 6 fruit. Based on this, there are four different ways in which the fruit can be distributed.

Case 1	A	B	C	D	Total		Case 2	A	B	C	D	Total
Apples	**4**	3	4	1	12		Apples	**4**	3	4	1	12
Oranges	2	3	2	1	8		Oranges	1	3	2	1	7
Guavas	1	3	2	1	7		Guavas	2	3	2	1	8
Plums	**4**	2	2	**3**	11		Plums	**4**	2	2	**3**	11
Total	11	11	10	6	38		Total	11	11	10	6	38

Case 3	A	B	C	D	Total		Case 4	A	B	C	D	Total
Apples	**4**	4	3	1	12		Apples	**4**	4	3	1	12
Oranges	2	2	3	1	8		Oranges	1	2	3	1	7
Guavas	1	2	3	1	7		Guavas	2	2	3	1	8
Plums	**4**	2	2	**3**	11		Plums	**4**	2	2	**3**	11
Total	11	10	11	6	38		Total	11	10	11	6	38

B has an equal number of apples, oranges and guavas only. C has an equal number of oranges, guavas and plums only. So case-3 & case-4 are rejected
The females had a total of 22 fruit and the males had a total of 16 fruit. The difference is 6.

DBNO : 69483, LOD : 99, Question No. : 56

<div style="text-align: justify;" justify;\\"=""> 38 fruits, apples, oranges, plums and guavas, are distributed among 4 people A, B, C and D. Each one gets a minimum of one fruits of each type and a maximum of four fruits of each type. There are 12 apples. There are two females, each of whom has the highest number of fruits. D, who has 3 plums, has 5 fruits less than the person who has the highest number of fruits. A has 4 apples and 4 plums and does not have the lowest number of fruits. B has an equal number of apples, oranges and guavas only. C has an equal number of oranges, guavas and plums only. None of the friends has exactly the same composition of all fruits as any other friend.

What was the total number of plums? (in numerical value)

A) 11   B)   C)   D)

Explanation:-
We know that D has 3 plums. Since each of them gets a minimum of 1 fruits of each type, D will have at least 1 each of apples, oranges and guavas. So, the minimum number of fruits with D will be 6. If D has 6 fruits, then the two females will have 11 fruits each. So, the number of fruits with the four friends will be 11, 11, 10 and 6. If D has 7 fruits, then the four friends will have 12, 12, 7 and 7 fruits. If D has 8 fruits, then the four friends will have 13, 13, 8 and 4 fruits. D cannot have more than 8 fruits; otherwise, one of the friends will get only 1 fruits.

Suppose D has 7 fruit. Since A has 4 apples and 4 plums, A must have 12 fruit. So, one of B and C must have 12 fruit and the other must have 7 fruit. Each of B and C has the same number of fruit of three different types. The one who has 12 fruit cannot have 3 fruit of each type and must therefore have 2, 2, 2 and 6 fruit. Since this is not possible, we can rule out the possibility that D has 7 fruit.
Suppose D has 8 fruit. Since A has 4 apples and 4 plums, A must have 13 fruit and consequently, one of B and C must have 13 fruit and the other must have 4 fruit. The one who has 4 fruit will have 1 fruit of each type. But this contradicts the information that B and C have an equal number of fruit of three types only. These rules out the possibility that D has 8 fruit

D must, therefore, have 6 fruit and the other three friends must have 11, 11 and 10 fruit. D must have 1 each of apples, oranges and guavas and 3 plums. Suppose A has 10 fruit and B and C have 11 fruit each. The only way B and C can have 11 fruit each is if they have 3 fruit each of 3 different types and 2 fruit of the fourth type. So, one of B and C will have 3 apples and the other will have 2 apples. So, the total number of apples with A, B, C and D is 4 + 3 + 2 + 1 = 10. This contradicts the information that the total number of apples is 12. Thus, A must have 11 fruit, one of B and C must have 11 fruit and the other must have 10 fruit and D has 6 fruit. Based on this, there are four different ways in which the fruit can be distributed.

		Case 1							Case 2			
	A	B	C	D	Total			A	B	C	D	Total
Apples	**4**	3	4	1	12		Apples	**4**	3	4	1	12
Oranges	2	3	2	1	8		Oranges	1	3	2	1	7
Guavas	1	3	2	1	7		Guavas	2	3	2	1	8
Plums	**4**	2	2	**3**	11		Plums	**4**	2	2	**3**	11
Total	11	11	10	6	38		Total	11	11	10	6	38

		Case 3							Case 4			
	A	B	C	D	Total			A	B	C	D	Total
Apples	**4**	4	3	1	12		Apples	**4**	4	3	1	12
Oranges	2	2	3	1	8		Oranges	1	2	3	1	7

	A	B	C	D	Total			A	B	C	D	Total
Guavas	1	2	3	1	7	Guavas	2	2	3	1	8
Plums	**4**	2	2	**3**	11	Plums	**4**	2	2	**3**	11
Total	11	10	11	6	38	Total	11	10	11	6	38

B has an equal number of apples, oranges and guavas only. C has an equal number of oranges, guavas and plums only. So case-3 & case-4 are rejected
The total number of plums is 4 + 2 + 2 + 3 = 11.

DIRECTIONS for the question: *Read the information given below and answer the question that follows.*

DBNO : 48761, LOD : 66, Question No. : 57

38 fruits, apples, oranges, plums and guavas, are distributed among 4 people A, B, C and D. Each one gets a minimum of one fruits of each type and a maximum of four fruits of each type. There are 12 apples. There are two females, each of whom has the highest number of fruits. D, who has 3 plums, has 5 fruits less than the person who has the highest number of fruits. A has 4 apples and 4 plums and does not have the lowest number of fruits. B has an equal number of apples, oranges and guavas only. C has an equal number of oranges, guavas and plums only. None of the friends has exactly the same composition of all fruits as any other friend.

Which of the following pairs cannot be the two females?

✔A) A and B   B) A and C   C) B and C   D) Cannot be determined

Explanation:-
We know that D has 3 plums. Since each of them gets a minimum of 1 fruits of each type, D will have at least 1 each of apples, oranges and guavas. So, the minimum number of fruits with D will be 6. If D has 6 fruits, then the two females will have 11 fruits each. So, the number of fruits with the four friends will be 11, 11, 10 and 6. If D has 7 fruits, then the four friends will have 12, 12, 7 and 7 fruits. If D has 8 fruits, then the four friends will have 13, 13, 8 and 4 fruits. D cannot have more than 8 fruits; otherwise, one of the friends will get only 1 fruits.

Suppose D has 7 fruit. Since A has 4 apples and 4 plums, A must have 12 fruit. So, one of B and C must have 12 fruit and the other must have 7 fruit. Each of B and C has the same number of fruit of three different types. The one who has 12 fruit cannot have 3 fruit of each type and must therefore have 2, 2, 2 and 6 fruit. Since this is not possible, we can rule out the possibility that D has 7 fruit.
Suppose D has 8 fruit. Since A has 4 apples and 4 plums, A must have 13 fruit and consequently, one of B and C must have 13 fruit and the other must have 4 fruit. The one who has 4 fruit will have 1 fruit of each type. But this contradicts the information that B and C have an equal number of fruit of three types only. These rules out the possibility that D has 8 fruit

D must, therefore, have 6 fruit and the other three friends must have 11, 11 and 10 fruit. D must have 1 each of apples, oranges and guavas and 3 plums. Suppose A has 10 fruit and B and C have 11 fruit each. The only way B and C can have 11 fruit each is if they have 3 fruit each of 3 different types and 2 fruit of the fourth type. So, one of B and C will have 3 apples and the other will have 2 apples. So, the total number of apples with A, B, C and D is 4 + 3 + 2 + 1 = 10. This contradicts the information that the total number of apples is 12. Thus, A must have 11 fruit, one of B and C must have 11 fruit and the other must have 10 fruit and D has 6 fruit. Based on this, there are four different ways in which the fruit can be distributed.

		Case 1							Case 2			
	A	B	C	D	Total			A	B	C	D	Total
Apples	**4**	3	4	1	12		Apples	**4**	3	4	1	12
Oranges	2	3	2	1	8		Oranges	1	3	2	1	7
Guavas	1	3	2	1	7		Guavas	2	3	2	1	8
Plums	**4**	2	2	**3**	11		Plums	**4**	2	2	**3**	11
Total	11	11	10	6	38		Total	11	11	10	6	38

Case 3   Case 4

	A	B	C	D	Total			A	B	C	D	Total
Apples	4	4	3	1	12		Apples	4	4	3	1	12
Oranges	2	2	3	1	8		Oranges	1	2	3	1	7
Guavas	1	2	3	1	7		Guavas	2	2	3	1	8
Plums	4	2	2	3	11		Plums	4	2	2	3	11
Total	11	10	11	6	38		Total	11	10	11	6	38

B has an equal number of apples, oranges and guavas only. C has an equal number of oranges, guavas and plums only. So case-3 & case-4 are rejected.
So the two females are A and B.

DBNO : 48762, LOD : 99, Question No. : 58

38 fruits, apples, oranges, plums and guavas, are distributed among 4 people A, B, C and D. Each one gets a minimum of one fruits of each type and a maximum of four fruits of each type. There are 12 apples. There are two females, each of whom has the highest number of fruits. D, who has 3 plums, has 5 fruits less than the person who has the highest number of fruits. A has 4 apples and 4 plums and does not have the lowest number of fruits. B has an equal number of apples, oranges and guavas only. C has an equal number of oranges, guavas and plums only. None of the friends has exactly the same composition of all fruits as any other friend.

Which of the following statements could be true?

A) A is a male   B) B has more guavas than apples   ✓C) C has one guava more than B
D) The total number of oranges is equal to the total number of guavas

Explanation:-
We know that D has 3 plums. Since each of them gets a minimum of 1 fruits of each type, D will have at least 1 each of apples, oranges and guavas. So, the minimum number of fruits with D will be 6. If D has 6 fruits, then the two females will have 11 fruits each. So, the number of fruits with the four friends will be 11, 11, 10 and 6. If D has 7 fruits, then the four friends will have 12, 12, 7 and 7 fruits. If D has 8 fruits, then the four friends will have 13, 13, 8 and 4 fruits. D cannot have more than 8 fruits; otherwise, one of the friends will get only 1 fruits.

Suppose D has 7 fruit. Since A has 4 apples and 4 plums, A must have 12 fruit. So, one of B and C must have 12 fruit and the other must have 7 fruit. Each of B and C has the same number of fruit of three different types. The one who has 12 fruit cannot have 3 fruit of each type and must therefore have 2, 2, 2 and 6 fruit. Since this is not possible, we can rule out the possibility that D has 7 fruit.
Suppose D has 8 fruit. Since A has 4 apples and 4 plums, A must have 13 fruit and consequently, one of B and C must have 13 fruit and the other must have 4 fruit. The one who has 4 fruit will have 1 fruit of each type. But this contradicts the information that B and C have an equal number of fruit of three types only. These rules out the possibility that D has 8 fruit

D must, therefore, have 6 fruit and the other three friends must have 11, 11 and 10 fruit. D must have 1 each of apples, oranges and guavas and 3 plums. Suppose A has 10 fruit and B and C have 11 fruit each. The only way B and C can have 11 fruit each is if they have 3 fruit each of 3 different types and 2 fruit of the fourth type. So, one of B and C will have 3 apples and the other will have 2 apples. So, the total number of apples with A, B, C and D is 4 + 3 + 2 + 1 = 10. This contradicts the information that the total number of apples is 12. Thus, A must have 11 fruit, one of B and C must have 11 fruit and the other must have 10 fruit and D has 6 fruit. Based on this, there are four different ways in which the fruit can be distributed.

	Case 1							Case 2				
	A	B	C	D	Total			A	B	C	D	Total
Apples	4	3	4	1	12		Apples	4	3	4	1	12
Oranges	2	3	2	1	8		Oranges	1	3	2	1	7

Guavas	1	3	2	1	7	Guavas	2	3	2	1	8
Plums	4	2	2	3	11	Plums	4	2	2	3	11
Total	11	11	10	6	38	Total	11	11	10	6	38

	Case 3						Case 4				
	A	B	C	D	Total		A	B	C	D	Total
Apples	4	4	3	1	12	Apples	4	4	3	1	12
Oranges	2	2	3	1	8	Oranges	1	2	3	1	7
Guavas	1	2	3	1	7	Guavas	2	2	3	1	8
Plums	4	2	2	3	11	Plums	4	2	2	3	11
Total	11	10	11	6	38	Total	11	10	11	6	38

B has an equal number of apples, oranges and guavas only. C has an equal number of oranges, guavas and plums only. So case-3 & case-4 are rejected.

A is obviously a female (highest number of fruit). C either has the same number of apples and guavas or has less guavas than apples. C could have one guava more than B (Cases 3 and 4). The total number of guavas and oranges differ by 1. Hence option 3.

DIRECTIONS for the question: *Go through the following graph/information and answer the question that follows.*

DBNO : 48747, LOD : 33, Question No. : 59

The 18 boys and 18 girls in an IB school must study at least one and at most two out of three foreign languages, French, German and Spanish. It is known that:

- A total of 12 students study exactly two of the three languages.
- There are twice as many girls as boys who study both French and German.
- There are no students who study both French and Spanish.
- The ratio of boys to girls studying both French and German is the same as the ratio of boys to girls studying both German and Spanish.
- The number of students studying both French and German is the same as the number of students studying both German and Spanish.
- The ratio of boys to girls studying only French is 2 : 1 and the ratio of boys to girls studying only Spanish is 2:1.
- The number of students studying only French is same as the number of students studying only German.
- The number of girls studying only Spanish is less than the number of girls studying only French.

What is the ratio of the number of boys to girls who study exactly one of the three languages?

A) 5 : 4   ✓B) 7 : 5   C) 2 : 3   D) 7 : 8
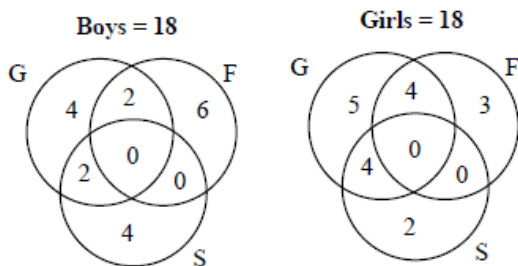
Explanation:-
Consider the Venn diagram below.

Let the number of boys studying both French and German be x, the number of girls studying both French and German be 2x, the number of boys studying both German and Spanish be y and the number of girls studying both German and Spanish be 2y. Since the number of students studying both French and German is the same as the number of students studying both German and

Spanish, we have 3x = 3y or x = y. It is also given that the total number of students studying exactly 2 of the 3 languages is 12. So, 3x + 3y = 6x = 12 or x = 2.

Let the number of boys studying French only be 2a, the number of girls studying French only be a, the number of boys studying Spanish only be 2b and the number of girls studying Spanish only be b. Let the number of boys studying German only be p and the number of girls studying German only be q. Since the number of students studying only German is the same as the number of students studying only French, we have 3a = p + q. Out of the 36 students, the 12 students who study exactly two of the three languages have already been accounted for. So, 3a + 3b + p + q = 6a + 3b = 24 or 2a + b = 8. Now, since 2 a will always be even, b must be even so that 2a + b = 8. There are three different possibilities for (a, b) ° (1, 6), (2, 4) and (3, 2). Since the number of girls studying only Spanish is less than the number of girls studying only German, we know that a > b. So the only possibility is a = 3 and b = 2 so that p + q = 9.

The total number of girls is 18. So, q + 2x + a + 2y + b = 18. Substituting values, we get q + 4 + 3 + 4 + 2 = 18 or q = 5. This gives us p = 9 − 5 = 4. We can now complete the Venn diagram as shown below.

The number of boys who study exactly one of the languages is 14 while the number of girls is 10. The required ratio is 14 : 10 = 7 : 5.

DIRECTIONS for the question: *Go through the following graph/information and answer the question that follows.*

DBNO : 48748, LOD : 99, Question No. : 60

The 18 boys and 18 girls in an IB school must study at least one and at most two out of three foreign languages, French, German and Spanish. It is known that:
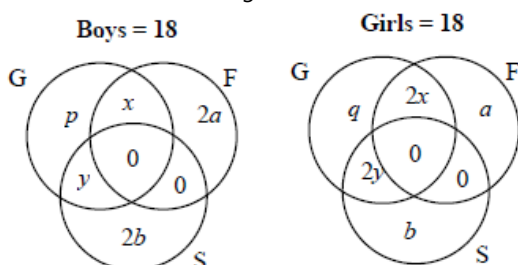
- A total of 12 students study exactly two of the three languages.
- There are twice as many girls as boys who study both French and German.
- There are no students who study both French and Spanish.
- The ratio of boys to girls studying both French and German is the same as the ratio of boys to girls studying both German and Spanish.
- The number of students studying both French and German is the same as the number of students studying both German and Spanish.
- The ratio of boys to girls studying only French is 2 : 1 and the ratio of boys to girls studying only Spanish is 2:1.
- The number of students studying only French is same as the number of students studying only German.
- The number of girls studying only Spanish is less than the number of girls studying only French.

What is the ratio of the number of boys studying French to the number of girls studying German?

✓A) 8 : 13   B) 7 : 6   C) 8 : 7   D) 4 : 3
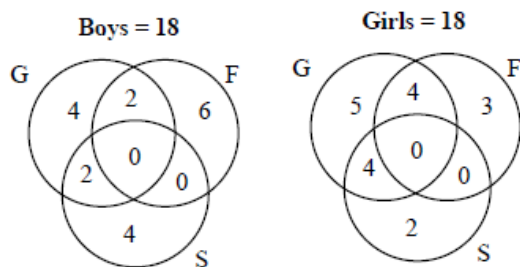
Explanation:-
Consider the Venn diagram below.

Let the number of boys studying both French and German be x, the number of girls studying both French and German be 2x, the number of boys studying both German and Spanish be y and the number of girls studying both German and Spanish be 2y. Since the number of students studying both French and German is the same as the number of students studying both German and Spanish, we have 3x = 3y or x = y. It is also given that the total number of students studying exactly 2 of the 3 languages is 12. So, 3x + 3y = 6x = 12 or x = 2.

Let the number of boys studying French only be 2a, the number of girls studying French only be a, the number of boys studying Spanish only be 2b and the number of girls studying Spanish only be b. Let the number of boys studying German only be p and the number of girls studying German only be q. Since the number of students studying only German is the same as the number of students studying only French, we have 3a = p + q. Out of the 36 students, the 12 students who study exactly two of the three languages have already been accounted for. So, 3a + 3b + p + q = 6a + 3b = 24 or 2a + b = 8. Now, since 2 a will always be even, b must be even so that 2a + b = 8. There are three different possibilities for (a, b) ° (1, 6), (2, 4) and (3, 2). Since the number of girls studying only Spanish is less than the number of girls studying only German, we know that a > b. So the only possibility is a = 3 and b = 2 so that p + q = 9.

The total number of girls is 18. So, q + 2x + a + 2y + b = 18. Substituting values, we get q + 4 + 3 + 4 + 2 = 18 or q = 5. This gives us p = 9 − 5 = 4. We can now complete the Venn diagram as shown below.

The number of boys studying French is 2 + 6 = 8 and the number of girls studying German is 5 + 4 + 4 = 13. The required ratio is 8 : 13.

DIRECTIONS for the question: *Go through the following graph/information and answer the question that follows.*

DBNO : 48749, LOD : 99, Question No. : 61

The 18 boys and 18 girls in an IB school must study at least one and at most two out of three foreign languages, French, German and Spanish. It is known that:
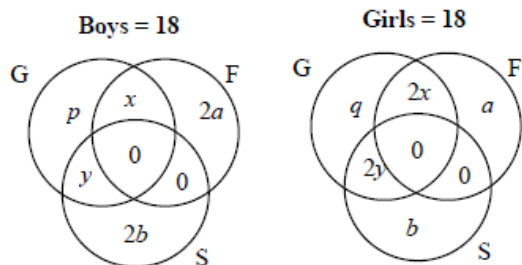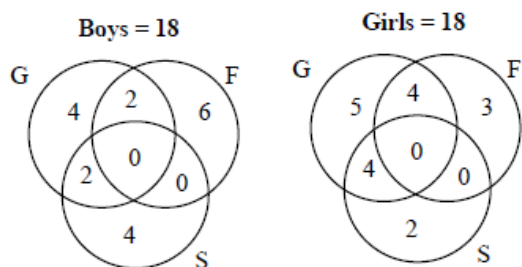
- A total of 12 students study exactly two of the three languages.
- There are twice as many girls as boys who study both French and German.
- There are no students who study both French and Spanish.
- The ratio of boys to girls studying both French and German is the same as the ratio of boys to girls studying both German and Spanish.
- The number of students studying both French and German is the same as the number of students studying both German and Spanish.
- The ratio of boys to girls studying only French is 2 : 1 and the ratio of boys to girls studying only Spanish is 2:1.
- The number of students studying only French is same as the number of students studying only German.
- The number of girls studying only Spanish is less than the number of girls studying only French.

What proportion of boys study Spanish?

A) 2/9   ✓B) 1/3   C) 4/9   D) 13/18

Explanation:-
Consider the Venn diagram below.

Boys = 18   Girls = 18

Let the number of boys studying both French and German be x, the number of girls studying both French and German be 2x, the number of boys studying both German and Spanish be y and the number of girls studying both German and Spanish be 2y. Since the number of students studying both French and German is the same as the number of students studying both German and Spanish, we have 3x = 3y or x = y. It is also given that the total number of students studying exactly 2 of the 3 languages is 12. So, 3x + 3y = 6x = 12 or x = 2.

Let the number of boys studying French only be 2a, the number of girls studying French only be a, the number of boys studying Spanish only be 2b and the number of girls studying Spanish only be b. Let the number of boys studying German only be p and the number of girls studying German only be q. Since the number of students studying only German is the same as the number of students studying only French, we have 3a = p + q. Out of the 36 students, the 12 students who study exactly two of the three languages have already been accounted for. So, 3a + 3b + p + q = 6a + 3b = 24 or 2a + b = 8. Now, since 2 a will always be even, b must be even so that 2a + b = 8. There are three different possibilities for (a, b) ° (1, 6), (2, 4) and (3, 2). Since the number of girls studying only Spanish is less than the number of girls studying only German, we know that a > b. So the only possibility is a = 3 and b = 2 so that p + q = 9.

The total number of girls is 18. So, q + 2x + a + 2y + b = 18. Substituting values, we get q + 4 + 3 + 4 + 2 = 18 or q = 5. This gives us p = 9 − 5 = 4. We can now complete the Venn diagram as shown below.

Boys = 18   Girls = 18

Of the 18 boys, the number of boys who study Spanish is 2 + 4 = 6. The required proportion is 6/18 = 1/3.

DIRECTIONS for the question: *Go through the following graph/information and answer the question that follows.*

DBNO : 48750, LOD : 99, Question No. : 62

The 18 boys and 18 girls in an IB school must study at least one and at most two out of three foreign languages, French, German and Spanish. It is known that:
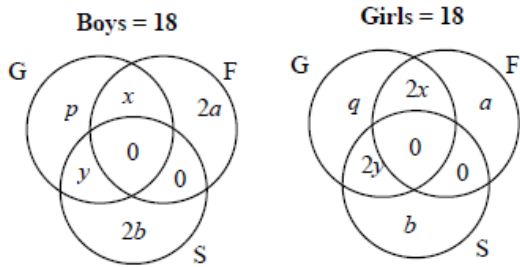
- A total of 12 students study exactly two of the three languages.
- There are twice as many girls as boys who study both French and German.
- There are no students who study both French and Spanish.
- The ratio of boys to girls studying both French and German is the same as the ratio of boys to girls studying both German and Spanish.
- The number of students studying both French and German is the same as the number of students studying both German and Spanish.
- The ratio of boys to girls studying only French is 2 : 1 and the ratio of boys to girls studying only Spanish is 2:1.
- The number of students studying only French is same as the number of students studying only German.
- The number of girls studying only Spanish is less than the number of girls studying only French.

What is the difference between the proportion of students who study German and the proportion of students who study Spanish?
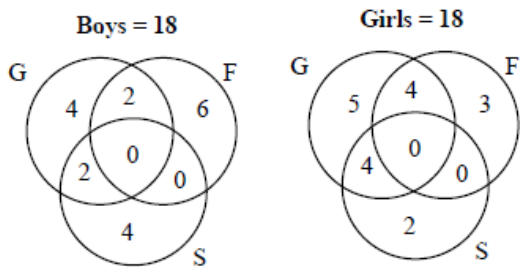
A) 1/18   B) 1/12   C) 5/36   ✓D) 1/4

Explanation:-

Consider the Venn diagram below.

Boys = 18 — three-circle Venn diagram with circles G, F, S. Values: G∩F = x, F only = 2a, center = 0, G only = p, G∩S = y, F∩S = 0, S only = 2b.

Girls = 18 — three-circle Venn diagram with circles G, F, S. Values: G∩F = 2x, F only = a, center = 0, G only = q, G∩S = 2y, F∩S = 0, S only = b.

Let the number of boys studying both French and German be x, the number of girls studying both French and German be 2x, the number of boys studying both German and Spanish be y and the number of girls studying both German and Spanish be 2y. Since the number of students studying both French and German is the same as the number of students studying both German and Spanish, we have $3x = 3y$ or $x = y$. It is also given that the total number of students studying exactly 2 of the 3 languages is 12. So, $3x + 3y = 6x = 12$ or $x = 2$.

Let the number of boys studying French only be 2a, the number of girls studying French only be a, the number of boys studying Spanish only be 2b and the number of girls studying Spanish only be b. Let the number of boys studying German only be p and the number of girls studying German only be q. Since the number of students studying only German is the same as the number of students studying only French, we have $3a = p + q$. Out of the 36 students, the 12 students who study exactly two of the three languages have already been accounted for. So, $3a + 3b + p + q = 6a + 3b = 24$ or $2a + b = 8$. Now, since 2 a will always be even, b must be even so that $2a + b = 8$. There are three different possibilities for (a, b) ° (1, 6), (2, 4) and (3, 2). Since the number of girls studying only Spanish is less than the number of girls studying only German, we know that a > b. So the only possibility is a = 3 and b = 2 so that $p + q = 9$.

The total number of girls is 18. So, $q + 2x + a + 2y + b = 18$. Substituting values, we get $q + 4 + 3 + 4 + 2 = 18$ or $q = 5$. This gives us $p = 9 - 5 = 4$. We can now complete the Venn diagram as shown below.

Boys = 18 — completed Venn diagram: G∩F = 2, F only = 6, center = 0, G only = 4, G∩S = 2, F∩S = 0, S only = 4.

Girls = 18 — completed Venn diagram: G∩F = 4, F only = 3, center = 0, G only = 5, G∩S = 4, F∩S = 0, S only = 2.

The number of students who study German is $4 + 2 + 2 + 5 + 4 + 4 = 21$ and the number of students who study Spanish is $2 + 4 + 2 + 4 = 12$. The required difference $(21 – 12)/36 = 9/36 = 1/4$.

DIRECTIONS for the question: Read the information given below and answer the question that follows.

DBNO : 69484, LOD : 99, Question No. : 63

The boys and girls in a school are given grades in binary (0 or 1) on three parameters – Academics, Cultural Activities and Sports. Their grades are represented as a string of three binary digits where the first digit represents grades in Academics, the second represents the grade in Cultural Activities and the third represents the grade in Sports. Further a strange phenomenon is noticed in the grades. The number of boys with grades *abc* is exactly equal to the number of girls with grade *acb* where a, b & c are binary digits. The tables below show the number of boys and girls who received the respective grades on two parameters. The blank data has been intentionally removed.

Boys

Cultural	Sports 0	Sports 1
0		80
1		50

Girls

Academics	Cultural 0	Cultural 1
0	45	
1	55	60

How many boys scored 1 in Academics? (in numerical value)

A) 115   B)   C)   D)

Explanation:-

From the table, we know that the number of boys scoring 1 in Academics is a + b + c + d. The number of girls scoring 1 in Academics is a + c + b + d = 55 + 60 = 115. Thus the number of boys scoring 1 in Academics is also 115.

DIRECTIONS for the question: *Read the information given below and answer the question that follows.*

DBNO : 48764, LOD : 99, Question No. : 64

The boys and girls in a school are given grades in binary (0 or 1) on three parameters – Academics, Cultural Activities and Sports. Their grades are represented as a string of three binary digits where the first digit represents grades in Academics, the second represents the grade in Cultural Activities and the third represents the grade in Sports. Further a strange phenomenon is noticed in the grades. The number of boys with grades *abc* is exactly equal to the number of girls with grade *acb* where *a, b & c* are binary digits. The tables below show the number of boys and girls who received the respective grades on two parameters. The blank data has been intentionally removed.

Boys		Sports			Girls		Cultural	
		0	1				0	1
Cultural	0		80	Academics		0	45	
	1		50			1	55	60

How many girls scored 1 in Sports?

A) 85   B) 115   C) 130   ✓D) Cannot be determined

Explanation:-

Consider all possible 3-digit grades in Academics, Cultural Activities and Sports respectively as shown in the table below. We know that the number of boys getting grades abc is the same as the number of girls getting grades acb.

	000	001	010	011	100	101	110	111
Boys	*x*	*y*	*z*	*w*	*a*	*b*	*c*	*d*
Girls	*x*	*z*	*y*	*w*	*a*	*c*	*b*	*d*

From the table, we know that the number of girls scoring 1 in Sports is z + w + c + d. From the given information, we have y + b = 80, w + d = 50, x + z = 45, a + c = 55 and b + d = 60. By combining these equations, we get y + w = 70. Since it is not possible to determine the value of z + c, the best answer is option 4.

DIRECTIONS for the question: *Read the information given below and answer the question that follows.*

DBNO : 69485, LOD : 99, Question No. : 65

The boys and girls in a school are given grades in binary (0 or 1) on three parameters – Academics, Cultural Activities and Sports. Their grades are represented as a string of three binary digits where the first digit represents grades in Academics, the second represents the grade in Cultural Activities and the third represents the grade in Sports. Further a strange phenomenon is noticed in the grades. The number of boys with grades *abc* is exactly equal to the number of girls with grade *acb* where *a, b & c* are binary digits. The tables below show the number of boys and girls who received the respective grades on two parameters. The blank data has been intentionally removed.

Boys	Sports		Girls	Cultural	
	0	1		0	1
0		80	0	45	

	Cultural		Academics		
	1	50	1	55	60

What is the total number of students? (in numerical value)

A) 460   B)   C)   D)

Explanation:-

Consider all possible 3-digit grades in Academics, Cultural Activities and Sports respectively as shown in the table below. We know that the number of boys getting grades abc is the same as the number of girls getting grades acb.

	000	001	010	011	100	101	110	111
Boys	x	y	z	w	a	b	c	d
Girls	x	z	y	w	a	c	b	d

From the given information, we have y + b = 80, w + d = 50, x + z = 45 and a + c = 55. Adding these equations, we get (a + b + c + d + w + x + y + z) = 80 + 50 + 45 + 55 = 230. Thus the total number of students is 2 × 230 = 460.

DIRECTIONS for the question: *Read the information given below and answer the question that follows.*

DBNO : 69486, LOD : 99, Question No. : 66

The boys and girls in a school are given grades in binary (0 or 1) on three parameters – Academics, Cultural Activities and Sports. Their grades are represented as a string of three binary digits where the first digit represents grades in Academics, the second represents the grade in Cultural Activities and the third represents the grade in Sports. Further a strange phenomenon is noticed in the grades. The number of boys with grades *abc* is exactly equal to the number of girls with grade *acb* where *a, b & c* are binary digits. The tables below show the number of boys and girls who received the respective grades on two parameters. The blank data has been intentionally removed.

Boys				Girls			
		Sports				Cultural	
		0	1			0	1
Cultural	0		80	Academics	0	45	
	1		50		1	55	60

How many more girls scored 1 in Cultural Activities than boys scored 1 in Academics? (in numerical value)

A) 15   B)   C)   D)

Explanation:-

From the given information, we have y + b = 80, w + d = 50, x + z = 45, a + c = 55 and b + d = 60. Now, y + b + w + d = 80 + 50 = 130. Substituting b + d = 60, we get y + w = 70. The number of girls who scored 1 in Cultural Activities is y + w + b + d = 70 + 60 = 130. The number of boys who scored 1 in Academics is a + b + c + d = 55 + 60 = 115. The difference is 130 – 115 = 15.

Section : Quantitative Ability

DIRECTIONS for the question: *Solve the following question and mark the best possible option.*

DBNO : 48701, LOD : 33, Question No. : 67

What is the distance between two parallel lines, $x + y = 4$, $x + y = -2$?

✓A) $3\sqrt{2}$ B) $2\sqrt{2}$ C) $5\sqrt{2}$ D) $\sqrt{2}$

DIRECTIONS for the question: *Solve the following question and mark the best possible option.*

DBNO : 48702, LOD : 33, Question No. : 68

If a, b, and c are positive integers such that $a \geq b$ and $a!b! = a! + b! + 2^c$, what is the value of $\left(\dfrac{a^2 - b^2}{c^2}\right)$?

A) $\dfrac{5}{2}$ B) 0   ✓C) $\dfrac{5}{4}$ D) $\dfrac{5}{3}$

Explanation:-
Since a ≥ b and divide through by b!:
a! = a!/b! + 1 + 2^c/b!, giving integers throughout.

As each term on the RHS is integer, RHS ≥ 3 ⇒ a! ≥ 3 ⇒ a ≥ 3.

For b > 2, b! will contain a factor of 3, and so cannot divide 2^c. Thus b=1 or b=2.
If b = 1, we get a! = a! + 1 + 2^c, which leads to 2^c + 1 = 0: no solution.
If b = 2, we get a! = a!/2 + 1 + 2^{c-1}, which leads to a!/2 = 1 + 2^{c-1}.
If a > 3, c would never be an integer.

If a = 3, 3 = 1 + 2^{c-1} ⇒ c = 2.

Since $a = 3$, $b = 2$ and $c = 2$, we have $\left(\dfrac{a^2 - b^2}{c^2}\right) = \dfrac{5}{4}$.

DIRECTIONS for the question: *Solve the following question and mark the best possible option.*

DBNO : 48703, LOD : 33, Question No. : 69

$5^a = 26$, $125^b = 676$, Find a : b .

A) 1 : 3   ✓B) 3 : 2   C) 2 : 1   D) 3 : 4

Explanation:-
125^b = 676 can be rewritten as 5^{3b} = 26^2 . squaring the first expression, we get 5^{2a} = 26^2.
Comparing the two equations, we get 2a = 3b or a/b = 3/2.

DIRECTIONS for the question: *Solve the following question and mark the best possible option.*

DBNO : 48704, LOD : 33, Question No. : 70

A triangle number counts the objects that can form an equilateral triangle. For example 6 is a triangle number:
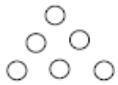
Given that p is prime, for what value of p is $(8p +1)$ a triangle number?

A) 13   B) 19   ✓C) Both 1 and 2   D) None of these

Explanation:-
Let $8p + 1 = k (k + 1)/2$, so $16 p + 2 = k (k + 1)$
Therefore $16 p = k^2 + k - 2 = (k - 1)(k + 2)$.
If $k - 1$ is odd, then $k + 2$ will be even, and vice versa. In other words, only one of these factors is even, and so it must be a multiple of 16.
As $k - 1$ and $k + 2$ differ by 3, we can write $16p = 16m(16m \pm 3)$, leading to $p = m(16m \pm 3)$.
Now, $m = 1$, otherwise we would be dealing with a composite number, and $p = 13$ or $p = 19$.
When $p = 13$, $8p + 1 = 105 = t_{14}$ and when $p = 19$, $8p + 1 = 153 = t_{17}$.

DIRECTIONS for the question: *Solve the following question and mark the best possible option.*

DBNO : 23977, LOD : 33, Question No. : 71

There are 26 consecutive even natural numbers. The average of first 11 numbers is x. What is the average of next 15 numbers?

A) $x + 13$ B) $x + 24$ ✓C) $x + 26$ D) $x + 28$

Explanation:-
The average of first 11 terms is 6th term which is equal to x. Now the average of next 15 terms will be 8th term from 11th term i.e. the 19th term from start which is equal to x + 26.

DIRECTIONS for the question: *Solve the following question and mark the best possible option.*

DBNO : 59019, LOD : 33, Question No. : 72

$(2x + 3y)$ when divided by 5 gives remainder 2 and $(3x + 2 y)$ when divided by 5 gives remainder 3. If $x > y$, what is the remainder when $x - y$ is divided by 5? (in numerical value)

A) 1   B)   C)   D)

Explanation:-
$(2x + 3y) = 5Q_1 + 2$ and $(3x + 2y) = 5Q_2 + 3$. Subtracting the first expression from the second, we get $(x - y) = 5(Q_2 - Q_1) + 1$. In other words, the remainder when $(x - y)$ is divided by 5 is 1.
<u>Alternate solution</u>: Assume $2x + 3y = 7$ and $3x + 2y = 8$. Solving these two equations, we get $x - y = 1$. Thus the remainder when $x - y$ is divided by 5 is 1.

DIRECTIONS for the question: *Solve the following question and mark the best possible option.*

DBNO : 69487, LOD : 66, Question No. : 73

In a class, if 50% of the boys were girls, then there would be 50% more girls than boys. What percentage of the overall class is girls? (in numerical value)

A) 20   B)   C)   D)

Explanation:-
Number of girls should be 1.5 times the number of boys. When 50% of the boys are taken as girls, let the number of boys = x
Number of girls = 1.5x
Total number of students = 2.5x

Original number of boys = 2x (50% of boys = x)
Original number of girls = 0.5x

Girls form 20% of the overall class.

DIRECTIONS for the question: *Solve the following question and mark the best possible option.*

DBNO : 48706, LOD : 33, Question No. : 74

A series X_1, X_2, …. is such that $X_i + X_{i+1} = k$, where k is some constant, for all i. If $X_{10} = 1$, what is the value of X_{91}?

✓A) k - 1   B) 1   C) k   D) k + 1

Explanation:-
$X_9 + X_{10} = X_9 + 1 = k$ yields $X_9 = k - 1$.
$X_8 + X_9 = X_8 + k - 1 = k$, which yields $X_8 = 1$.
$X_{10} + X_{11} = 1 + X_{11} = k$ yields $X_{11} = k - 1$.
$X_{11} + X_{12} = k - 1 + X_{12} = k$, which yields $X_{12} = 1$.
We can now conclude that $X_i = k - 1$ if i is odd and $X_i = 1$ is i is even.
Thus $X_{91} = k - 1$.

DIRECTIONS for the question: *Solve the following question and mark the best possible option.*

DBNO : 48707, LOD : 33, Question No. : 75

$x^2 + bx - c = 0$; b and c are positive integers. u and v are roots. If $|u| > |v|$, then which of the following is true?

A) $u > 0$, $v < 0$ B) $u > 0$, $v > 0$ ✓C) $u < 0$, $v > 0$ D) $u < 0$, $v < 0$

Explanation:-
The product of roots is uv = −c. So, either one of u or v is negative. Also, the sum of roots is u + v = −b. For the sum to be negative, the larger number has to be negative. Thus, u is negative and v positive. Hence option 3.
Alternate solution: Consider $x^2 + 2x - 15 = 0$ which can be factored as (x + 5) (x − 3) = 0. The roots of this equation are −5 and 3. Since |u| > |v| and |−5| > |3|, we have u = −5 and v = 3. Thus, u < 0 and v > 0. Hence option 3.

DIRECTIONS for the question: *Solve the following question and mark the best possible option.*

DBNO : 59020, LOD : 66, Question No. : 76

If x and y are integers such that $|x| + 2|y| = 100$, how many different values can the ordered pair (x, y) take? (in numerical value)

A) 200   B)   C)   D)

Explanation:-
If $|y| > 50$, $2|y| > 100$, and $|x|$ would need to be negative, so $-50 \le y \le 50$.

If y = ± 50, then 2|y| = 100 ⇒ x = 0; that is, one solution for y = −50 and one solution for y = 50.

But for − 49 ≤ y ≤ 49 there will be two values of x for each value of y; for example, if y = −20, 2|y| = 40, |x| = 60 ⇒ x = ± 60.

Therefore from −49 to 49 there are 49 (negative) + 1 (zero) + 49 (positive) = 99 values of y, each of which has two solutions. Hence there are 2 × 99 + 2 = 200 distinct solutions to the equation.

DIRECTIONS: *Solve the following question and mark the best possible option*
DBNO : 281, LOD : 33, Question No. : 77

An article costing Rs. 84 was sold at a profit of 50%. The second purchaser sold it once again at a loss of 25%. At what price did he sell it?

A) Rs. 63.00   B) Rs. 78.75   ✓C) Rs. 94.50   D) Rs. 100.00

Explanation:-
Cost price = Rs. 84
Firstly there is an increase of 50% & then a decrease of 25%.
Final price = 84x1.5x0.75 = Rs. 94.50

DIRECTIONS for the question: *Solve the following question and mark the best possible option.*

DBNO : 69470, LOD : 33, Question No. : 78

For how many real values of x is $2|x| \le 1.97x$? (in numerical value)

A) 1   B)   C)   D)

Explanation:-
The given expression can be simplified as |x| ≤ 0.985x. The only value of x that will satisfy the given inequality is x = 0. Hence answer 1.

DIRECTIONS for the question: *Solve the following question and mark the best possible option.*

DBNO : 48710, LOD : 33, Question No. : 79

What is the value of $(x + y + z)(xz + yz + xy) - xyz$?

✓A) $(x + y)(x + z)(y + z)$ B) $(x - y)(x - z)(y - z)$ C) $(xy + xz + yz)(x + y + z)$ D) $(x + y + z)^2$

Explanation:-
The long method would be to multiply the original expression and the answer choices and compare. A simpler solution would be to assume values for x, y and z and check which answer choice gives the same value as the original expression. Suppose x = 1, y = 2 and z = 3. The value of the original expression is 6(3 + 6 + 2) − 6 = 60. Option 1 = 3 × 4 × 5 = 60. Option 2 = −1 × −2 × −1 = −2. Option 3 = (2 + 3 + 6) × 6 = 66. Option 4 = 6² = 36. Thus the correct answer is option 1.

DIRECTIONS for the question: *Solve the following question and mark the best possible option.*

DBNO : 69471, LOD : 66, Question No. : 80

The three sides of an equilateral triangle are $2x - y$, $3x - 5y - 1$ and $4x - 3y - 8$. What is the perimeter of the triangle? (in numerical value)

A) 27   B)   C)   D)

Explanation:-
Since the sides of an equilateral triangle are equal, we have $2x - y = 3x - 5y - 1 = 4x - 3y - 8$. If we consider $2x - y = 3x - 5y - 1$, we can rewrite this as $x - 4y = 1$. If we consider $2x - y = 4x - 3y - 8$, we can rewrite this as $2x - 2y = 8$. Solving these simultaneously, we get $x = 5$ and $y = 1$. Thus the side of the equilateral triangle is $2(5) - 1 = 9$ and its perimeter is 27.

DIRECTIONS for the question: *Solve the following question and mark the best possible option.*

DBNO : 48712, LOD : 66, Question No. : 81

The sum of the first n terms of a GP is $2n$ and the sum of the first $2n$ terms of the GP is n. What is the sum of the first $3n$ terms?

A) $n / 2$ ✓B) $3n / 2$ C) $n / 4$ D) $3n$

Explanation:-
Suppose the GP has 9 terms, $a, ar, ar^2, ..., ar^8$. The sum of the first 3 terms of the GP is $a(1 + r + r^2) = 2n$. The sum of the first 6 terms of the GP is $a(1 + r + r^2) + ar^3(1 + r + r^2) = 2n + ar^3(1 + r + r^2) = n$. So, $ar^3(1 + r + r^2) = -n$. Substituting for $a(1 + r + r^2) = 2n$, we get $2nr^3 = -n$ or $r^3 = -1/2$. The sum of the first 9 terms of the GP is $a(1 + r + r^2) + ar^3(1 + r + r^2) + ar^6(1 + r + r^2) = n + r^3[ar^3(1 + r + r^2)] = n + (-1/2)(-n) = 3n/2$.

DIRECTIONS for the question: *Solve the following question and mark the best possible option.*

DBNO : 48713, LOD : 33, Question No. : 82

Reena and Reema share a rectangular piece of land in the ratio 2 : 3. Both of them grow rice and wheat. The ratio of areas under rice and wheat cultivation on Reena's share of the land is 2 : 5. If the total areas under rice and wheat cultivation are equal, what is the ratio of areas under rice and wheat cultivation on Reema's share of the land?

A) 3 : 7   B) 5 : 1   C) 5 : 2   ✓D) 9 : 5

Explanation:-
Suppose the area of the entire piece of land is 35. Reena's share of the land is 14 while Reema's is 21. On Reena's share of the land, the areas under rice nad wheat cultivation will be 4 and 10 respectively. Suppose the areas under rice and wheat cultivation on Reema's share of the land are x and (21 − x) respectively. Since the total areas under rice and wheat cultivation are equal, we have (4 + x) = 10 + (21 − x). Solving this, we get x = 27/2 = 13.5 and (21 − x) = 7.5. Thus the ratio of the areas under rice and wheat cultivation on Reema's share of the land is 13.5/7.5 = 9 : 5.

DIRECTIONS for the question: *Solve the following question and mark the best possible option.*

DBNO : 44502, LOD : 33, Question No. : 83

A discount of 20% on one article is the same as a discount of 25% on another article. The marked prices of two articles respectively can be (in Rs.) :

✓A) 1000, 800   B) 600, 800   C) 500, 700   D) 900, 1000

Explanation:-
Since discounts are 20 % and 25 % respectively , Therefore, discounts are 0.2x and 0.25y, where x and y are the marked prices respectively.
Further, we are given that these discounts are equal, so
0.2x = 0.25y
=> x : y = 5 : 4

i.e. marked price ratio is 5:4.
Now, check for all the given options, Only the values in option 1 bears the same ratio.
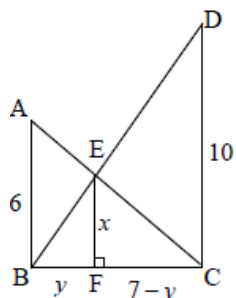*So, Option 1 is the correct answer.*

DIRECTIONS for the question: *Solve the following question and mark the best possible option.*

DBNO : 69472, LOD : 66, Question No. : 84

Two vertical lamp posts of heights 6 m and 10 m are 7 m apart. The top of each lamppost is connected to the bottom of the opposite lamppost by wire ropes. At what height from the ground will the 2 wire ropes cross each other? (in decimal value)

A) 3.75   B)   C)   D)

Explanation:-

Referring to the diagram above, $\triangle ABC \approx \triangle EFC$. So, $x/6 = (7-y)/7 \Rightarrow 7x = 42 - 6y$.
Likewise, $\triangle DCB \approx \triangle EFB$. So, $x/10 = y/7 \Rightarrow 7x = 10y$.
Equating these, we get $7x = 10y = 42 - 6y$, which on solving yields $y = 42/16 = 21/8$.
Thus, the height at which the ropes intersect is $x = 10y/7 = (10/7) \times (21/8) = 15/4 = 3.75$.

DIRECTIONS for the question: *Solve the following question and mark the best possible option.*

DBNO : 48716, LOD : 66, Question No. : 85

There are 10 distinct numbers in a list. Except for the 1st and the 10th numbers, the value of each number lies between the values of its immediate neighbours. If the 3rd number is less than the 8th, which is the smallest number in the list?

✓A) 1st B) 10th C) 3rd D) Cannot be determined

Explanation:-
Since each number lies between its immediate neighbours, so the series would be either increasing or decreasing. Since 3rd number is less than the 8th number, so it would be an increasing series and hence the first number will be least.

DIRECTIONS for the question: *Solve the following question and mark the best possible option.*

DBNO : 59021, LOD : 66, Question No. : 86

The sides of a triangle of area 6 are in AP. If the sides have integer lengths, what is the length of the longest side?

A) 5   B)   C)   D)

Explanation:-
The cumbersome solution would be to assume the sides as $(a - d)$, a and $(a + d)$ and then find the area and equate it to 6. After solving the equation, we get the sides as 3, 4 and 5. The simplest solution would be to work with numbers. Since the area is 6 and the sides are in AP, we can consider the sides as 3, 4 and 5. So the longest side will be 5.

DIRECTIONS for the question: *Solve the following question and mark the best possible option.*

DBNO : 59022, LOD : 99, Question No. : 87

How many rectangles exist so that the number of tiles of unit dimensions on the perimeter are equal to the number of tiles on the inside? (in numerical value)

A) 2   B)   C)   D)

Explanation:-
If the rectangle measures m × n, the number of tiles on the perimeter is 2m + 2n – 4.
For the number of tiles inside to equal the number of tiles on the perimeter, they must both be equal to half the area.

∵mn /2 = 2m + 2n – 4, which gives mn – 4m – 4n + 8 = 0

By writing this as mn – 4m – 4n + 16 = 8, we get (m – 4)(n – 4) = 8.
As m and n are both integer we obtain the factor pairs 1 × 8 and 2 × 4. Hence the only two solutions are rectangles measuring 5 × 12 and 6 × 8.

DIRECTIONS for the question: *Solve the following question and mark the best possible option.*

DBNO : 43579, LOD : 33, Question No. : 88

Ankit invested Rs. 1500 in two banks for two years. In the first bank he invested at 5% and second bank at 6%. He got Rs. 160 as interest. The amounts given at 5% and 6% per annum simple interest are respectively

A) Rs. 800 and Rs. 700   B) Rs. 950 and Rs. 550   C) Rs. 900 and Rs. 600   ✓D) Rs. 1000 and Rs. 500

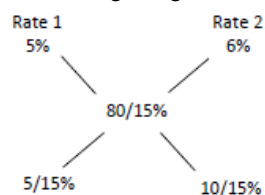***Explanation:-***
This question can be done by applying allegation
Overall rate of interest for 2 years
SI = PRT/100
160=(1500×2×R/100)
R=80/15 %
Now using allegation, concept being in what ratio should 2 interests be combined so as to get the overall interest of 80/15 %

Rate 1
5%
      Rate 2
      6%

80/15%

5/15%
      10/15%

Principle 1   Principle 2
$P_1 : P_2 = 2 : 1$
We get the ratio as 2:1
Therefore dividing the two principles in the ratio 2:1.
First principle
(1500×2)/3 = Rs 1000
Second principle
1500-1000 = Rs 500.

DIRECTIONS for the question: *Solve the following question and mark the best possible option.*

DBNO : 69473, LOD : 99, Question No. : 89

Five different books are to be distributed among three children A, B and C so that A and B get at least one book. In how many ways

can the books be distributed? (in numerical value)

A) 180   B)   C)   D)

Explanation:-
If A and B get 1 book each, this can be done in 5 × 4 = 20 different ways. If one of them gets 2 books and the other gets 1 book, this can be done in 2 × $^5C_2$ × $^3C_1$ = 60 ways. If one of them gets 3 books and the other gets 1 book, this can be done in 2 × $^5C_3$ × $^2C_1$ = 40 ways. If one of them gets 4 books and the other gets 1 book, this can be done in 2 × $^5C_4$ = 10 ways. If each of them gets 2 books, this can be done in $^5C_2$ × $^3C_2$ = 30 ways. If one of them gets 3 books and the other gets 2 books, this can be done in 2 × $^5C_3$ = 20 ways. Thus the total number of ways in which the books can be distributed is 180.

DIRECTIONS for the question: *Solve the following question and mark the best possible option.*

DBNO : 48722, LOD : 66, Question No. : 90

A and B started a race from the same point at 10 a.m. C started from the same point at 12 noon and overtook A at 2 p.m. He then doubled his speed and overtook B at 3 p.m. What is the ratio of speeds of A and B?

A) 5 : 12   B) 5 : 6   ✓C) 5 : 8   D) 2 : 3

Explanation:-
Suppose the speeds of A, B and C are a kmph, b kmph and c kmph respectively. When C catches up with A at 2 p.m., the distance travelled by A and C in 4 hours and 2 hours is the same. So, 4a = 2c, which yields c = 2a. When C catches up with B at 3 p.m., the distance travelled by B and C in 5 hours and 3 hours is the same. However, C has been running at c kmph for 2 hours and at 2c kmph for 1 hour. So, 5b = 2c + 2c, which yields c = 5b/4.
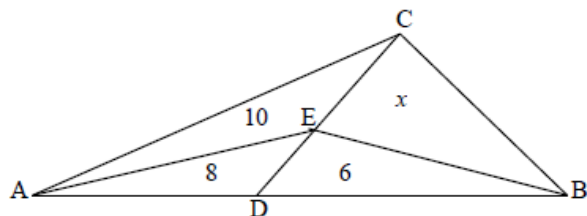*Thus, c = 2a = 5b/4, which yields a : b = 5 : 8.*

DIRECTIONS for the question: *Solve the following question and mark the best possible option.*

DBNO : 69474, LOD : 66, Question No. : 91

In △ABC, D is a point on AB and E is a point on CD such that the areas of △BDE, △DEA and △AEC are 6, 8 and 10 respectively. What is the area of △BEC? (in decimal value)

A) 7.5   B)   C)   D)

Explanation:-

In the figure above, the height of △AEB is also the height of △DEA and △BDE and the height of △ABC is also the height of △ADC and △BDC. Since △DEA and △ADC have the same base and their areas are 8 and 18 respectively, their heights must be in the ratio 8 : 18 = 4 : 9. Similarly, since △BDE and △BDC have the same base, their heights and therefore their areas must be in the ratio 4 : 9. So, 4/9 = 6/(6 + x), which gives x = 7.5.

DIRECTIONS for the question: *Solve the following question and mark the best possible option.*

DBNO : 69475, LOD : 66, Question No. : 92

A and B can do a piece of work in 10 days, B and C in 15 days and A and C in 25 days. All of them work together for 4 days, then A leaves. B and C work together for 5 days more and then B leaves. In how many days will C complete the work? (in numerical value)

A) 76   B)   C)   D)

Explanation:-
1/A + 1/B = 1/10; 1/B + 1/C = 1/15; 1/C + 1/A = 1/25;
Solving we get A's 1 day work = 11/300; B's 1 day work = 19/300; C's 1 day work = 1/300
If C alone takes x more days to complete the work then
4 (11/300 + 19/300 + 1/300) + 5 (19/300 + 1/300) + x/ 300 = 1
Solving we get x = 76

DIRECTIONS for the question: *Solve the following question and mark the best possible option.*

DBNO : 5609, LOD : 66, Question No. : 93

Two vessels have equal volumes of pure alcohol and Pepsi. A bartender is mixing the drinks. He takes half the volume of the first vessel containing alcohol and transfers it to the second vessel containing Pepsi. He now transfers ½ of the resultant solution from the second vessel to the first. He repeats the entire process once more transferring always ½ of the resultant solution to the other vessel.

Find the fractional volume of alcohol in the first container?

A) $7/_{16}$ B) $11/_{32}$ ✓C) $11/_{21}$ D) None of these

Explanation:-
Assume the volume in each container as 16 lts
Amt of alcohol at the end of first process = 12 lt.
Amt of alcohol at the end of second process = 11 lt.
Volume of the 1st vessel at end of process 1 = 20 lt.
Volume at the end of process 2 = 21 lt

The first container is 11/21 alcohol.
Hence the answer is option C

DIRECTIONS for the question: *Solve the following question and mark the best possible option.*

DBNO : 48726, LOD : 66, Question No. : 94

Tom and Jerry left New York simultaneously towards New Jersey. Speed of Tom is 15 km/hr and the speed of Jerry is 12 km km/hr. Half an hour later, Spike started from New York towards New Jersey on the same road in the same direction. After some time he overtook Jerry and 90 min further, he overtook Tom. What is Spike's speed (in kmph)?

A) 16 km/hr   ✓B) 18 km/hr   C) 20 km/hr   D) 24 km/hr

Explanation:-
Let Spike's speed be x, then {7.5/ (x – 15) } – {6/ (x – 12) } = 1.5
Solving we get x = 18 km/hr

DBNO : 69476, LOD : 66, Question No. : 95

The average age of three friends A, B and C is 7 years. Five years later, the average age of A and C will be 1½ years more than B's age then. How old will B be 10 years hence (in years)?

A) 16   B)   C)   D)

Explanation:-
Suppose the present ages of the three friends are A, B and C respectively. We know that A + B + C = 21. Five years later, their ages would be (A + 5), (B + 5) and (C + 5) respectively. So, (A + 5 + C + 5) / 2 = (B + 5) + 3/2, which on simplifying gives A + C + 10 = 2B + 13. From the first expression we know that A + C = 21 − B. Substituting this value in the second expression, we get 21 − B + 10 = 2B + 13 or 3B = 18, which yields B = 6 years. Thus, 10 years hence, B will be 16 years old.

DIRECTIONS for the question: *Solve the following question and mark the best possible option.*

DBNO : 48729, LOD : 33, Question No. : 96

Two vessels are filled with water. 60% of the water in the first vessel is poured into the second vessel. Then 50% of the water in the second vessel is poured into the first vessel. The ratio of the quantity of water in the first vessel to that in the second vessel is now 11 : 7. What was the ratio of the quantities of water in the first and the second vessel initially?

A) 1 : 4   B) 5 : 6   C) 4 : 3   ✓D) 5 : 4

Explanation:-
Suppose the first vessel contains 100x litres of water and the second vessel contains 100y litres of water. 60x litres of water from the first vessel is poured into the second vessel. 50% of the water from the second vessel, i.e., (30x + 50y) litres is now poured into the first vessel. Now, the quantity of water in the first vessel is now (70x + 50y) and the quantity of water in the second vessel is (30x + 50y). From the given information, (70x + 50y)/(30x + 50y) = 11/7. Solving this yields x : y = 5 : 4.

DIRECTIONS for the question: *Solve the following question and mark the best possible option.*

DBNO : 69477, LOD : 66, Question No. : 97

How many distinct real values can x take, if $x^6 - 4x^4 - 17x^2 + 60 = 0$? (in numerical value)

A) 4   B)   C)   D)

Explanation:-
The given expression can be factorised as $(x^2 + 4)(x^2 - 3)(x^2 - 5) = 0$. It is obvious that $(x^4 + 4)$ will not yield real roots. Thus, x can take 4 distinct real values, $\pm\sqrt{3}$, $\pm\sqrt{5}$.

DIRECTIONS for the question: *Solve the following question and mark the best possible option.*

DBNO : 69478, LOD : 99, Question No. : 98

The sum of four natural numbers is 305. The ratios of these numbers in pairs are 2:3, 3:4, 4:5, 5:6, 8:9 and 15:16. What is smallest natural number that can be divided by these four numbers? (in numerical value)

A) 3600   B)   C)   D)

Explanation:-
Since one of the ratios in pairs is 15:16, we know that one of the numbers is a multiple of 15 and one other number is a multiple of

16. The number which is a multiple of 15, when taken with the remaining two numbers should give a ratio of 4:5 and 5:6, which can be rewritten as 12:15 and 15:18 respectively. Thus, the ratio of the four numbers is 12 : 15 : 16 : 18. Since the ratio adds up to 61 and the sum of the four numbers is 305 = 61 × 5, we have a common factor of 5. The LCM of 12, 15, 16 and 18 is 720. Thus the smallest natural number that can be divided by the four natural numbers is 720 × 5 = 3600.
Alternately, we can determine that the four natural numbers are 60, 75, 80 and 90 and their LCM is 3600.

DIRECTIONS for the question: Solve the following question and mark the best possible option.

DBNO : 48733, LOD : 66, Question No. : 99

Amar, Akbar and Anthony, fresh out of B-School, joined the sales department of an MNC. After probation, their salaries were increased by 50%, 33.33% and 25% respectively. After their appraisals at the end of the year, their salaries were further increased by 33.33%, 20% and 20% respectively. If the salaries of the three friends are now equal, what was the ratio of the starting salaries of Amar, Akbar and Anthony?

✓A) 12 : 15 : 16   B) 6 : 5 : 4   C) 2 : 3 : 4   D) 20 : 16 : 15

Explanation:-
Amar's salary has first increased by 50% = 1/2, and then by 33.33% = 1/3. Suppose his starting salary was 6. This first increases to 9, which then increases to 12. Akbar's salary has first increased by 33.33% = 1/3, and then by 20% = 1/5. Suppose his starting salary was 15. This first increases to 20, which then increases to 24. Anthony's salary has first increased by 25% = 1/4, and then by 20% = 1/5. Suppose his starting salary was 20. This first increases to 25, which then increases to 30. We can multiply Amar's salary by 10, Akbar's salary by 5 and Anthony's salary by 4 so their final salaries are equal. Equating their final salaries to 120, the starting salaries of Amar, Akbar and Anthony will be 60, 75 and 80, which are in the ratio 12 : 15 : 16.

DIRECTIONS for the question: Solve the following question and mark the best possible option.

DBNO : 69479, LOD : 66, Question No. : 100

12 years ago, Bhagu was 5 times as old as her niece Chinu. 6 years hence, Chinu will be half as old as Bhagu. What would be Bhagu's age when Chinu is 20 years old? (in numerical value)

A) 44   B)   C)   D)

Explanation:-
Suppose the present ages of Bhagu and Chinu are B and C respectively. 12 years ago, the relation between their ages was (B – 12) = 5(C – 12) or B = 5C – 48. After 6 years, the relation between their ages will be (B + 6) = 2(C + 6) or B = 2C + 6. Solving these equations yields B = 42 and C = 18. Thus, when Chinu is 20 years old, Bhagu will be 44 years old.