Directions of Test

Test Name	2016 Bull CAT 04	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.*

Question No. : 1

If the man to perpetuate whose memory we have this day raised a statue had been asked on what part of his busy life's work he set the highest value, he would undoubtedly have pointed to his voluminous contributions to theology. In season and out of season, he was the steadfast champion of that hypothesis respecting the Divine nature which is termed Unitarianism by its friends and Socinianism by its foes. Regardless of odds, he was ready to do battle with all comers in that cause; and if no adversaries entered the lists, he would sally forth to seek them.

To this, his highest ideal of duty, Joseph Priestley sacrificed the vulgar prizes of life, which, assuredly, were within easy reach of a man of his singular energy and varied abilities. For this object he put aside, as of secondary importance, those scientific investigations which he loved so well, and in which he showed himself so competent to enlarge the boundaries of natural knowledge and to win fame. In this cause he not only cheerfully suffered obloquy from the bigoted and the unthinking, and came within sight of martyrdom; but bore with that which is much harder to be borne than all these, the unfeigned astonishment and hardly disguised contempt of a brilliant society, composed of men whose sympathy and esteem must have been most dear to him, and to whom it was simply incomprehensible that a philosopher should seriously occupy himself with any form of Christianity.

It appears to me that the man who, setting before himself such an ideal of life, acted up to it consistently, is worthy of the deepest respect, whatever opinion may be entertained as to the real value of the tenets which he so zealously propagated and defended. But I am sure that I speak not only for myself, but for all this assemblage, when I say that our purpose to-day is to do honour, not to Priestley, the Unitarian divine, but to Priestley, the fearless defender of rational freedom in thought and in action: to Priestley, the philosophic thinker; to that Priestley who held a foremost place among "the swift runners who hand over the lamp of life," and transmit from one generation to another the fire kindled, in the childhood of the world, at the Promethean altar of Science.

The main incidents of Priestley's life are so well known that I need dwell upon them at no great length. Born in 1733, at Fieldhead, near Leeds, and brought up among Calvinists of the straitest orthodoxy, the boy's striking natural ability led to his being devoted to the profession of a minister of religion; and, in 1752, he was sent to the Dissenting Academy at Daventry--an institution which authority left undisturbed, though its existence contravened the law. The teachers under whose instruction and influence the young man came at Daventry, carried out to the letter the injunction to "try all things: hold fast that which is good," and encouraged the discussion of every imaginable proposition with complete freedom, the leading professors taking opposite sides; a discipline which, admirable as it may be from a purely scientific point of view, would seem to be calculated to make acute, rather than sound, divines. Priestley tells us, in his "Autobiography," that he generally found himself on the unorthodox side: and, as he grew older, and his faculties attained their maturity, this native tendency towards heterodoxy grew with his growth and strengthened with his strength. He passed from Calvinism to Arianism; and finally, in middle life, landed in that very broad form of Unitarianism by which his craving after a credible and consistent theory of things was satisfied.

What can be inferred from the passage about the early life of Priestly?

A) It had an deep and incongruous impact on the thinking of the boy and this had a significant contribution in his later life
B) Priestley was driven by early childhood experiences and these were the bedrock upon his Unitarian thoughts were based
C) Priestley's exposure in his formative years to unorthodox ways had a contributory role to play in the overall formation of his thoughts
D) Priestley's early work in unorthodox ways was further exacerbated by his surroundings and this helped in his development as a philosopher

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The author of the passage would agree with the statement:

A) the doctrines of Priestley are candidly objective in their nature
B) the theological doctrines of Priestley were generally disagreed with
C) the philosophical doctrines of Priestley found vast acceptance
D) many of Priestley's doctrines were argumentatively deliberated

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It can be said that the author of the passage is trying to:

A) challenge a convention   B) honour an inspiration   C) highlight unorthodox views   D) rectify a grievous error

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

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From the information provided in the passage, it can be inferred that Unitarianism would imply:

A) revering Christ and trusting Christian values   B) going by the tenets of the Church

C) rejecting some of the core orthodox Christian beliefs
D) adopting a plucky approach in one's thoughts related to Christian beliefs

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

Question No. : 5

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It can be inferred from the passage that the phrase 'the Promethean altar of Science' refers to:

A) the benchmarks against which science is tested   B) the established podium at which science is celebrated
C) the boundaries of original thought which science tests and propagates   D) both options (2) and (3)

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

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It can be deduced from the passage:

A) the author agrees with the ideas and doctrines of Joseph Priestley
B) the authordisagrees with the ideas and doctrines of Joseph Priestley
C) the author appreciates the ideas and doctrines of Joseph Priestley
D) the author appreciates the work and approach of Joseph Priestley

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

Question No. : 7

â€œSoak the richâ€ policies have seldom been popular among the less well-off in America, not necessarily because they have great sympathy for the rich but perhaps because the poor see themselves eventually becoming rich. Although such optimism may always have been unrealistic, the gulf between the possible and the practical might have been small enough in the past that Americans could continue dreaming. The great observer of America, Alexis de Tocqueville, remarked that in America, â€œwealth circulates with astounding rapidity and experience shows it is rare to find two successive generations in the full enjoyment of it.â€

If Americans no longer have a chance to be upwardly mobile, they are less likely to be optimistic about the future or to be tolerant of the mobility of others â€" because the immobile are hurt when the others move up. When others in town become richer, the cost of everything goes up, and the real income of the economically immobile falls. Envy has historically been un-American, largely because it was checked by self-confidence. As self-confidence withers, can envy, and its close cousin, hatred, be far behind?

Politicians have recognized the problem posed by rising inequality. Because African Americans and Hispanics have been harder hit by poor schooling than other groups, their lack of progress is also conflated with race. Nevertheless, politicians have understood that better education is part of the solution. A number of Presidents have taken up the cause, but without making much of a dent. Moreover, even if they could make a difference, the changes would take effect too late to alter the lives of todayâ€™s adults. Politicians are coming to terms with something Aristotle pointed out: that although quarrels are more likely in an unequal society, striving to rectify the inequality may precipitate the very conflict that the citizenry wants to avoid.

So politicians have looked for other ways to improve the lives of their voters. Since the early 1980â€™s, the most seductive answer has been easier credit. In some ways, it is the path of least resistance. Government-supported credit does not arouse as many concerns from the Right at the outset as outright income redistribution would â€" though, as we have experienced, it may end up as a very costly way to redistribute, imposing harm on the recipient and costs on the taxpayer.

Easy credit has large, positive, immediate, and widely distributed benefits, whereas the costs all lie in the future. It has a payoff structure that is precisely one desired by politicians, which is why so many countries have succumbed to its lure. Rich countries have, over time, built institutions such as financial-sector regulators and supervisors, which can stand up to politicians and deflect such short-term myopia. The problem in the United States this time was that the politicians found a way around these regulatory structures, and eventually public support for housing credit was so widespread that few regulators, if any, dared oppose it.

Referring to the last paragraph, which of the below could represent a way that politicians used to get around regulatory structures?

A) By introducing the Federal Housing Safety and Soundness Act to reform the regulation of the agencies and partly to promote homeownership for low-income and minority groups explicitly
B) By turning a Nelsonâ€™s eye to loans that should have been categorized as sub-prime by Freddie Mac and Fannie Mae, but were not classified as such
C) By reducing volatility in the high-income housing segments vis-a-vis the low-income housing segment
D) By creating institutions that guarantee credit to home-owners, but being partially privately owned, are not subject to Congress scrutiny

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

Question No. : 8

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All of the following actions of the Government can be construed to have achieved a more equitable distribution of income, except

A) The closure of the Second Bank of the United States because of accusations of political meddling
B) The creation of the Federal Reserve in 1913 so that banks had an alternative to J P Morgan as the lender of last resort
C) Anti-trust investigations against John D Rockefeller's Standard Oil and Bill Gates's Microsoft
D) The reduction in the punitive marginal tax on high incomes from a top rate of 91 percent through the 1950's and 60's to 35 percent today

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

Question No. : 9

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Excerpted from 'Fault Lines' by Raghuram Rajan.

All of the following could have contributed to inequality in the United States today, except?

A) Differences in educational attainment of its population
B) Increased regulation which leads to fewer entry and exits of firms, thereby reducing the volatility of each worker's earnings
C) Greater immigration and trade as immigrants competing directly for unskilled jobs, and unskilled workers far away, competing through trade, serve to hold down wages of unskilled US workers
D) The entry of women into the workforce and "assortative mating", which means the well-connected and educated tend to mate more often with each other

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

Question No. : 10

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So politicians have looked for other ways to improve the lives of their voters. Since the early 1980's, the most seductive answer has been easier credit. In some ways, it is the path of least resistance. Government-supported credit does not arouse as many concerns from the Right at the outset as outright income redistribution would – though, as we have experienced, it may end up as a very costly way to redistribute, imposing harm on the recipient and costs on the taxpayer.

Easy credit has large, positive, immediate, and widely distributed benefits, whereas the costs all lie in the future. It has a payoff structure that is precisely one desired by politicians, which is why so many countries have succumbed to its lure. Rich countries have, over time, built institutions such as financial-sector regulators and supervisors, which can stand up to politicians and deflect such short-term myopia. The problem in the United States this time was that the politicians found a way around these regulatory structures, and eventually public support for housing credit was so widespread that few regulators, if any, dared oppose it.

Excerpted from 'Fault Lines' by Raghuram Rajan.

Based on your reading of the passage please complete the sentence: As more and more Americans realize they are simply not equipped to compete, and as they come to terms with their own diminished expectations, the words *economic freedom* _____

A) conjure up vistas of unlimited opportunity   B) will lead to destructive class warfare
C) offer a nightmare vision of great and continuing insecurity
D) will push up house prices, and allow them to finance more consumption

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

Question No. : 11

"Soak the rich" policies have seldom been popular among the less well-off in America, not necessarily because they have great sympathy for the rich but perhaps because the poor see themselves eventually becoming rich. Although such optimism may always have been unrealistic, the gulf between the possible and the practical might have been small enough in the past that Americans could continue dreaming. The great observer of America, Alexis de Tocqueville, remarked that in America, "wealth circulates with astounding rapidity and experience shows it is rare to find two successive generations in the full enjoyment of it." If Americans no longer have a chance to be upwardly mobile, they are less likely to be optimistic about the future or to be tolerant of the mobility of others – because the immobile are hurt when the others move up. When others in town become richer, the cost of everything goes up, and the real income of the economically immobile falls. Envy has historically been un-American, largely because it was checked by self-confidence. As self-confidence withers, can envy, and its close cousin, hatred, be far behind? Politicians have recognized the problem posed by rising inequality. Because African Americans and Hispanics have been harder hit by poor schooling than other groups, their lack of progress is also conflated with race. Nevertheless, politicians have understood that better education is part of the solution. A number of Presidents have taken up the cause, but without making much of a dent. Moreover, even if they could make a difference, the changes would take effect too late to alter the lives of today's adults. Politicians are coming to terms with something Aristotle pointed out: that although quarrels are more likely in an unequal society, striving to rectify the inequality may precipitate the very conflict that the citizenry wants to avoid. So politicians have looked for other ways to improve the lives of their voters. Since the early 1980's, the most seductive answer has been easier credit. In some ways, it is the path of least resistance. Government-supported credit does not arouse as many concerns from the Right at the outset as outright income redistribution would – though, as we have experienced, it may end up as a very costly way to redistribute, imposing harm on the recipient and costs on the taxpayer. Easy credit has large, positive, immediate, and widely distributed benefits, whereas the costs all lie in the future. It has a payoff structure that is precisely one desired by politicians, which is why so many countries have succumbed to its lure. Rich countries have, over time, built institutions such as financial-sector regulators and supervisors, which can stand up to politicians and deflect such short-term myopia. The problem in the United States this time was that the politicians found a way around these regulatory structures, and eventually public support for housing credit was so widespread that few regulators, if any, dared oppose it.

The tone of the author of the passage can be said to be:

A) alarmist and non-conformist   B) dispassionate and undemonstrative   C) objective and critical   D) none of the above

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

Question No. : 12

â€œSoak the richâ€ policies have seldom been popular among the less well-off in America, not necessarily because they have great sympathy for the rich but perhaps because the poor see themselves eventually becoming rich. Although such optimism may always have been unrealistic, the gulf between the possible and the practical might have been small enough in the past that Americans could continue dreaming. The great observer of America, Alexis de Tocqueville, remarked that in America, â €œwealth circulates with astounding rapidity and experience shows it is rare to find two successive generations in the full

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According to the information given in the passage,

   I. Trying to solve a contentious issue might actually trigger a negative outcome.
  II. The Right does not necessarily have problems in programs which involve the government spending money.
  III. Inflation and rising costs adversely impact the real incomes for the economically immobile.

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

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

Question No. : 13

The seeds of the financial crisis of 2008 had been planted with measures such as: the deregulation of the banks in the late 1990s; the push to increase home ownership, which encouraged lax mortgage standards; historically low interest rates, which created a liquidity bubble; and the system of Wall Street compensation that rewarded short-term risk taking. To his credit, treasury secretary Paulson did speak openly about formalizing the government's authority to "wind down" a failing investment bank. The sad reality is that Washington typically tends not to notice much until an actual crisis is at hand.

Once the crisis was unavoidable, did the government's response mitigate it or make it worse? If the government had done nothing, the result would have been a market cataclysm. On the other hand, federal officials contributed to market turmoil through a series of inconsistent decisions. They offered a safety net to Bear Sterns and backstopped Fannie Mae and Freddie Mac but allowed Lehman to fall into Chapter 11, only to rescue AIG soon after. There didn't appear to be any rules, and when investors grew confused, they, not surprisingly, began to panic.

It is by any account, a tragedy that Lehman was not saved – not because the firm deserved saving but because of the damage its failure ultimately wreaked on the market and the world economy. While hindsight suggests that the federal government should have taken some action to prop Lehman, it is also true that the federal government did lack an established system for winding down an investment bank that was threatened with failure. The government was forced to what MIT professor Simon Johnson has called "policy by deal." But deals, unlike rules, have to be improvised – and the hastier ones tend by their very nature to be imperfect.

It wasn't the fate of the US operations of Lehman Brothers that caused the white-knuckled panic that quickly spread throughout the world. To its credit, the Fed wisely decided to permit Lehman's broker-dealer to remain open after the parent company filed for bankruptcy, which allowed for a fairly orderly unwinding of trades in the US. Outside the country, however, there was pandemonium. Rules in the UK and Japan forced Lehman's brokerage units there to shut down completely, freezing billions of dollars of assets. Many hedge funds were suddenly short of cash, forcing them to sell assets to meet <u>margin</u> calls. That pushed down asset prices, which only sparked more selling as the cycle fed on itself.

Washington was totally unprepared for these secondary effects, as policy makers had seemingly neglected to consider the international impact of their actions – an oversight that offers a strong argument for more effective global coordination of financial regulations.

Excerpted from 'Too Big to Fail: Inside the Battle to save Wall Street' by Andrew Ross Sorkin.

According to the author, what should have been the main lesson that the US government should have learnt from the bankruptcy of Lehman Brothers?

A) The federal government should have a system in place for winding down an investment bank that was threatened with failure
B) The federal government needs to think about the impact of its actions both on a national and on a global scale
C) The federal government's ostrich approach of ignoring the portents leads to disaster
D) Decisions taken without necessary scrutiny leads to an aggravation of matters

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

Question No. : 14

The seeds of the financial crisis of 2008 had been planted with measures such as: the deregulation of the banks in the late 1990s; the push to increase home ownership, which encouraged lax mortgage standards; historically low interest rates, which created a liquidity bubble; and the system of Wall Street compensation that rewarded short-term risk taking. To his credit, treasury secretary Paulson did speak openly about formalizing the government's authority to "wind down" a failing investment bank. The sad reality is that Washington typically tends not to notice much until an actual crisis is at hand.

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Excerpted from 'Too Big to Fail: Inside the Battle to save Wall Street' by Andrew Ross Sorkin.

What particular action is suggested as the cause of the downward spiral in global share prices in the Financial crisis of 2008?

A) The inconsistent decisions taken by the federal officials confused the people and caused the people to panic
B) Many hedge funds were suddenly short of cash, forcing them to sell assets to meet margin calls
C) Deregulation of the financial markets   D) Indiscriminate sanctions of home loans at very low rates of interest

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

Question No. : 15

The seeds of the financial crisis of 2008 had been planted with measures such as: the deregulation of the banks in the late 1990s; the push to increase home ownership, which encouraged lax mortgage standards; historically low interest rates, which created a liquidity bubble; and the system of Wall Street compensation that rewarded short-term risk taking. To his credit, treasury secretary Paulson did speak openly about formalizing the government's authority to "wind down" a failing investment bank. The sad reality is that Washington typically tends not to notice much until an actual crisis is at hand.

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Excerpted from 'Too Big to Fail: Inside the Battle to save Wall Street' by Andrew Ross Sorkin.

What is the basis for the criticism of the treasury secretary doing a 'policy by deal'?

A) With no buffer plan to tackle financial failure, the government took an action that was remedial and hence hasty
B) The lack of rules led to investors not being sure of government reaction, which in turn led to mayhem in the share market
C) Deals when carried out without an action plan are always doomed from their inception
D) By eking out a deal only with *Bear Sterns* and *Fannie Mae and Freddie Mac*, the government was showing preferential bias

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

Question No. : 16

I heartily accept the motto,—"That government is best which governs least"; and I should like to see it acted up to more rapidly and systematically. Carried out, it finally amounts to this, which also I believe,—"That government is best which governs not at all"; and when men are prepared for it, that will be the kind of government which they will have. Government is at best but an expedient; but most governments are usually, and all governments are sometimes, inexpedient. The objections which have been brought against a standing army, and they are many and weighty, and deserve to prevail, may also at last be brought against a standing government. The standing army is only an arm of the standing government. The government itself, which is only the mode which the people have chosen to execute their will, is equally liable to be abused and perverted before the people can act through it. Witness the present Mexican war, the work of comparatively a few individuals using the standing government as their tool; for, in the outset, the people would not have consented to this measure.

This American government—what is it but a tradition, though a recent one, endeavoring to transmit itself unimpaired to posterity, but each instant losing some of its integrity? It has not the vitality and force of a single living man; for a single man can bend it to his will. It is a sort of wooden gun to the people themselves. But it is not the less necessary for this; for the people must have some complicated machinery or other, and hear its din, to satisfy that idea of government which they have. Governments show thus how successfully men can be imposed on, even impose on themselves, for their own advantage. It is excellent, we must all allow. Yet this government never of itself furthered any enterprise, but by the alacrity with which it got out of its way. *It* does not keep the country free. *It* does not settle the West. *It* does not educate. The character inherent in the American people has done all that has been accomplished; and it would have done somewhat more, if the government had not sometimes got in its way. For government is an expedient by which men would fain succeed in letting one another alone; and, as has been said, when it is most expedient, the governed are most let alone by it. Trade and commerce, if they were not made of India rubber, would never manage to bounce over the obstacles which legislators are continually putting in their way; and, if one were to judge these men wholly by the effects of their actions, and not partly by their intentions, they would deserve to be classed and punished with those mischievous persons who put obstructions on the railroads. But, to speak practically and as a citizen, unlike those who call themselves no-government men, I ask for, not at once no government, but *at once* a better government. Let every man make known what kind of government would command his respect, and that will be one step toward obtaining it.

It can be inferred from the passage that:

A) Governments are never able to truly achieve their ends as citizens come in its way and the overzealous methods of a view cost the multitude
B) Governments, through a subtle sleight of hand and skills of deception, are able to control the masses and paint a future

picture of themselves as they deem fit
C) Governments are prone to hubris and this is the sentiment that they convey to the future generations
D) Even though the government may wish to transfer its legacy to the future without any harm, it continues to lose its integrity in the present moments

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

Question No. : 17

I heartily accept the motto,—"That government is best which governs least"; and I should like to see it acted up to more rapidly and systematically. Carried out, it finally amounts to this, which also I believe,—"That government is best which governs not at all"; and when men are prepared for it, that will be the kind of government which they will have. Government is at best but an expedient; but most governments are usually, and all governments are sometimes, inexpedient. The objections which have been brought against a standing army, and they are many and weighty, and deserve to prevail, may also at last be brought against a standing government. The standing army is only an arm of the standing government. The government itself, which is only the mode which the people have chosen to execute their will, is equally liable to be abused and perverted before the people can act through it. Witness the present Mexican war, the work of comparatively a few individuals using the standing government as their tool; for, in the outset, the people would not have consented to this measure.

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What does the author wish to imply when he says 'Government is an expedient'?

A) Governments are simply meant to serve as a means to an end, though this fact is not observed in practical reality
B) Governments are the ends for which men seek numerous means and this is something they are not able to achieve
C) Governments are the ends for which men seek numerous means and this is something they are able to achieve
D) Governments are simply meant to serve as a means to an end and this fact is observed in practical reality

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

Question No. : 18

I heartily accept the motto,—"That government is best which governs least"; and I should like to see it acted up to more rapidly and systematically. Carried out, it finally amounts to this, which also I believe,—"That government is best which governs not at all"; and when men are prepared for it, that will be the kind of government which they will have. Government is at best but an expedient; but most governments are usually, and all governments are sometimes, inexpedient. The objections which have been brought against a standing army, and they are many and weighty, and deserve to prevail, may also at last be brought against a standing government. The standing army is only an arm of the standing government. The government itself, which is only the mode which the people have chosen to execute their will, is equally liable to be abused and perverted before the people can act through it. Witness the present Mexican war, the work of comparatively a few individuals using the standing government as their tool; for, in the outset, the people would not have consented to this measure.

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The author of the passage would agree with the statement

A) Governments should be all powerful agents of change in society
B) Governments should only serve the minimum cursory functions required of them
C) Governments are indispensible with regards to the goals of society   D) Governments have no real practical utility

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

Question No. : 19

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It can be inferred from the passage that:

A) The American government has done well to defeat the Mexicans
B) Not all governments around the world do not have vested interests
C) The American governments' interference has hindered the progress of America
D) Governments are never intransigent to understand the views of their populace

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

Question No. : 20

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What does the author mean when he refers to trade and commerce to be made of India rubber?

A) The primary object of American trade is Indian rubber
B) Trade and commerce has shown rubber-like adaptability in order to cope with the issues created by the Government
C) Trade and commerce has show rubber-like pliability in order to deal with tough market conditions
D) Trade and commerce has successfully managed to mould itself to varying market conditions

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

Question No. : 21

I heartily accept the motto,â€""That government is best which governs least"; and I should like to see it acted up to more rapidly and systematically. Carried out, it finally amounts to this, which also I believe,â€""That government is best which governs not at all"; and when men are prepared for it, that will be the kind of government which they will have. Government is at best but an expedient; but most governments are usually, and all governments are sometimes, inexpedient. The objections which have been brought against a standing army, and they are many and weighty, and deserve to prevail, may also at last be brought against a standing government. The standing army is only an arm of the standing government. The government itself, which is only the mode which the people have chosen to execute their will, is equally liable to be abused and perverted before the people can act through it. Witness the present Mexican war, the work of comparatively a few individuals using the standing government as their tool; for, in the outset, the people would not have consented to this measure.

This American governmentâ€"what is it but a tradition, though a recent one, endeavoring to transmit itself unimpaired to posterity, but each instant losing some of its integrity? It has not the vitality and force of a single living man; for a single man can bend it to his will. It is a sort of wooden gun to the people themselves. But it is not the less necessary for this; for the people must have some complicated machinery or other, and hear its din, to satisfy that idea of government which they have. Governments show thus how successfully men can be imposed on, even impose on themselves, for their own advantage. It is excellent, we must all allow. Yet this government never of itself furthered any enterprise, but by the alacrity with which it got out of its way. *It* does not keep the country free. *It* does not settle the West. *It* does not educate. The character inherent in the American people has done all that has been accomplished; and it would have done somewhat more, if the government had not sometimes got in its way. For government is an expedient by which men would fain succeed in letting one another alone; and, as has been said, when it is most expedient, the governed are most let alone by it. Trade and commerce, if they were not made of India rubber, would never manage to bounce over the obstacles which legislators are continually putting in their way; and, if one were to judge these men wholly by the effects of their actions, and not partly by their intentions, they would deserve to be classed and punished with those mischievous persons who put obstructions on the railroads.But, to speak practically and as a citizen, unlike those who call themselves no-government men, I ask for, not at once no government, but *at once* a better government. Let every man make known what kind of government would command his respect, and that will be one step toward obtaining it.

Which of the following best describes the structure of the passage?

A) An discrepancy is quantified, deliberated and fixed.   B) A condition is confronted, took apart and examined.
C) A concept is emphasized, and followed up with conceivableconsequences.
D) An observation is given and then evidence is provided for the same.

Question No. : 22

I do not pretend that the development of trust in leadership is a science or something that may be perfected â€" far from it. And I am not suggesting that the development of genuine humility, and finally trust, in leadership is by any means easy. It is the hardest thing the human creature called man can do. Anyone suggesting that he is, in fact, a person or leader of humility, moves farther from it.

Warren Bennis argues that leaders rarely fail because of technical incompetence. Instead, where leaders predominantly fail is weakness on the softer issues such as â€œpeople skills, taste, judgment, and above all, character.â€

The most compelling leaders lead and keep their trust when they start with a proper view of themselves. By embracing this essential humility, leaders will not only influence and lead, but will transform the lives of those around them, reproducing leadership in others. This essence is what Professor Lewis would have referred to as â€œmerenessâ€.

Applied to leadership, this mereness occurs, first, when leaders develop a core understanding of their humanity; second, when they understand their depraved nature; and third, when leaders finally grasp that the purpose of leadership is not leadership itself. When this mereness is revealed in leaders, they build trust. This, is turn, properly allows them to serve others.

Whether you hold a materialistic view of the universe (that matter and space have always existed and nobody know why) or the theistic view (that there is something behind the universe that has a mind and a conscious purpose) we are in fact alike. Nothing like stating the obvious, but it must be stated in leadership. It is the foundation.

Even Sigmund Freud, who rejected a theistic view of the universe in favour of a materialistic or â€œscientific â€œ one, still seemed to acknowledge some kind of unexplainable force in the universe. Freud experienced â€œstrange, secret longingsâ€ that he described as *sechsucht*. C.S. Lewis characterized his *sechsucht* as an â€œunsatisfied desire which is itself more desirable than any other satisfaction.â€

Whether we are born in poverty or into wealth; whether we are born in Beverly Hills or in Calcutta; whether we are born with disabilities or not; whether we are born white, yellow, brown, or black; we are, in terms of these longings, and our human nature, intrinsically alike.

In terms of pain â€" regardless of our backgrounds, lifestyles, and worldviews â€" we all have, like the apostle Paul, a â€œthornâ€ somewhere in our flesh. While some acknowledge those thorns, others bury them deep within their souls not only to conceal them from others, but also to pretend that they do not exist. Do not deny for a minute that they are not real. We are the creatures called man.

Moreover, there are certain decent moral behaviours to which we all adhere. There are, in fact, laws of decent behaviour that without formal moral or religious instruction ought to naturally govern our behaviour.

Men have differed as regards what people who ought to be unselfish to â€" whether it was your family, or your fellow countrymen, or everyone,â€ wrote Lewis. â€œBut they have always agreed that you ought not to put yourself first. Selfishness has never been admired.â€

Look at the corporate life: one of the common business practices over the last decade has been to manipulate accounting rules in order to maximize the earnings of public companies. Enronâ€™s former treasurer Jeffrey McMahon declared that Enron decided to obey only the accounting rules that got them the results they wanted. Inherent in his argument is the insinuation that rules may have been broken, but until he is caught or told otherwise, he will continue to practice.

While other energy companies also practised such accounting, it didnâ€™t make Enronâ€™s use of â€œ mark to marketâ€, and other creative accounting gimmicks (such as hiding debt in special-purpose entities), any more correct. Some of the blame for the corporate fraud of the 90s must be placed at the feet of regulators who made changes in the method of accounting standards, the culture of Wall Street that demanded aggressive earnings growth, and executives whose compensation targets were tied to the price of their own personal options.

Blame could be spread far and wide, but the fact remains that at some point some leader (not accounting rule) had to make a conscious decision to inflate earnings. Whether other competitors were doing it or not or whether the accounting standards were loose enough to enable them, most leaders knew such actions were questionable, if not outright wrong.
Excerpted from: â€˜Trustâ€™ by Les T. Csorba.

 The primary focus of the passage is on

A) Humility, morality and integrity   B) Leadership, humility and ratiocination   C) Humanity, materialism and rationalization
D) Humility, leadership and moral behaviour

Question No. : 23

hardest thing the human creature called man can do. Anyone suggesting that he is, in fact, a person or leader of humility, moves farther from it.

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While other energy companies also practised such accounting, it didnâ€™t make Enronâ€™s use of â€œ mark to marketâ€, and other creative accounting gimmicks (such as hiding debt in special-purpose entities), any more correct. Some of the blame for the corporate fraud of the 90s must be placed at the feet of regulators who made changes in the method of accounting standards, the culture of Wall Street that demanded aggressive earnings growth, and executives whose compensation targets were tied to the price of their own personal options.

Blame could be spread far and wide, but the fact remains that at some point some leader (not accounting rule) had to make a conscious decision to inflate earnings. Whether other competitors were doing it or not or whether the accounting standards were loose enough to enable them, most leaders knew such actions were questionable, if not outright wrong.
Excerpted from: â€˜Trustâ€™ by Les T. Csorba.

By giving example of Enronâ€™s Jeffrey McMahon, the author wants to highlight the fact that

A) In the 1990s most large corporations followed disputable accountancy practices and hence underscoring only Enron is incorrect.
B) Questionable actions by the leader cannot be justified even in adverse circumstances or conditions
C) At that time, the culture of Wall Street made it mandatory for leaders to follow aggressive tactics
D) If not caught, a company should follow improper practices for financial gains

Question No. : 24

DIRECTIONS *for the question:* The passages given below are followed by a set of question. Choose the most appropriate answer to each question.

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Excerpted from: â€˜Trustâ€™ by Les T. Csorba.

According the passage we can infer all of the following, except

A) Good leaders are interested in their followers and the organisation.
B) Leaderâ€™s performance depends upon personal character
C) Humility is rarely present in a person who says he possesses it.
D) Mereness in a leader signifies them being â€œselflessâ€ or â€œservileâ€ in their disposition.

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.*

Question No. : 25

1. For todayâ€™s embattled humanities, the sciences have come to stand for the antithesis of what is now understood to constitute the content and values of a liberal education, namely: the cultivation of the intellectual and artistic traditions of diverse cultures past and present, the assertion of the generalistâ€™s prerogatives over those of the specialist, and the defense of non-utilitarian values as preparation for civic engagement in the cause of the commonweal.
2. The term â€œliberal educationâ€ derives from the seven medieval *artesliberales*(rhetoric, grammar, logic, astronomy, music, geometry and arithmetic), the knowledge necessary to a free man, by which was usually meant an adult, property-owning male

who exercised the rights of citizen in the polity and pater familias in the household.
3. Some of you may be mentally re-parsing my title to something more like â€œCan Liberal Education Be Saved from the Sciences?â€
4. In contrast, what are currently known as the STEM disciplinesâ€"science, technology, engineering and mathematicsâ€"stand for knowledge that is presumed universal and uniform, for narrow specialization and, above all, for applications that are useful and often lucrative.

A) 2   B)   C)   D)

Question No. : 26

1. True or not, a case can certainly be made that the best popular art has long aspired to, and often attained, a degree of aesthetic and emotional seriousness that is comparable to all but the greatest works of high art.
2. Yet it continues to be used widely, albeit in ways that would puzzle art lovers of the past.
3. I recently Googled â€œmasterpiece,â€ curious to see how it had been used in the preceding month.
4. The word â€œmasterpieceâ€ ought by all rights to be under assault, since it is, in the current parlance of political correctness, gender-specific.

A) 1   B)   C)   D)

Question No. : 27

1. This is the true synthesis of sciences. The humanistic or social sciences are supposed to take cognizance of these personal relations.
2. The physical sciences also forget their relation to man and their human origin.
3. Facts are related to our Personality and our Personalities are related to the Perfect Personality.
4. The relation between groups of facts established by persons and progressing towards the Absolute Self is the corrective principle of science.

A) 2   B)   C)   D)

Question No. : 28

1. This is why the Internet has eased the life of those who like to â€œhook upâ€ for sex in any form, â€œjust for funâ€ or just for company, with chat messaging and chance encounters sped up, naturally filtered, and as anonymous as one might wish.
2. Newspaper personals worked quite well, too, even in the 1700s, but back then the call for sex had to masquerade as high-minded purpose.
3. While *LRB* ads celebrate a literary culture, their presumed goal second only to the display of wit, blatantly sexual ads are the most monotonous and least rich in literary inventiveness.
4. But words that are preparatory to nonverbal encounters, whether skin-deep or all-encompassing, always matterâ€"sometimes even more than action.
5. The banality of purpose had to be perforce couched in beautifully evasive yet suggestive expression designed to convey a lot without telling much about the suitorâ€™s primal instincts.

A) 34125   B)   C)   D)

Question No. : 29

1. But wrongful use of scarce resources by the public sector should not hide the fact that there are PSUs that have been doing well (such as in the space and shipbuilding sectors).
2. True, one should not damn everyone in the private sector but there are not too many like the Eicher group, which enjoys

credibility for enlightened self-interest.

3. A common argument of the proponents of the private sector is that it is the public sector that has been splurging and shown itself to be incapable of meeting the country's defence needs.

4. Defence is a sector where there is one buyer and several suppliers and while private suppliers will be keen to corner more and more funds, the goals of PSUs are qualitatively different in that it is indigenous development, not profit that guides them.

5. However, in general, the PSUs have been overstaffed and a bloated officer cadre but depleting workforce cannot be a good way to improve defence PSUs.

A) 31542   B)   C)   D)

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.*

Question No. : 30

1. The family is a largely fragmented institution today despite all sociologists' protestations to the contrary.

2. The social cohesion once envisioned by our forefathers through its most outstanding social institution of the family seems to have taken a backseat what with rapidly rising rates of divorce and people moving out of families.

3. To many, broken homes represent the symptoms of a deep malaise afflicting the society i.e. a deep, long-held desire for more and more individual self-assertion and freedom.

4. That we have not been able to even think of an alternative to the institution of marriage or family goes without staying and does not need to be overemphasized.

A) 4   B)   C)   D)

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.*

Question No. : 31

1. If your quality of life is suffering, and you are feeling stressed and overwhelmed much of the time, and you don't feel like you can fix it yourself, you are likely to be "stuck" in a pattern of being "chronically" disorganized.

2. When life throws you a curveball, most of us tend to accumulate clutter and become rather disorganized for a while.

3. We become ill, a family member becomes ill, we are assigned a project at work that requires a lot of travel, or has a ridiculous deadline.

4. We move, get married, have kids, or start a new job and during such times of transition, a certain amount of chaos, clutter and disorganization is natural.

A) 1   B)   C)   D)

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

Question No. : 32

Julia believed that because each person was equally valuable, she was not entitled to care more for herself than for anyone else; she believed that she was therefore obliged to spend much of her life working for the benefit of others. That was the core of it; as she grew older, she worked out the implications of this principle in greater detail. In college, she thought she might want to work in development abroad somewhere, but then she realised that probably the most useful thing she could do was not to become a white aid worker telling people in other countries what to do, but, instead, to earn a salary in the US and give it to NGOs that could use it to pay for several local workers who knew what their countries needed better than she did. She reduced her expenses to the absolute minimum so she could give away 50% of what she earned. She felt that nearly every penny she spent on herself should have gone to someone else who needed it more. She gave to whichever charity seemed to her (after researching the matter) to relieve the most suffering for the least money. All this made her worry that she might be wrong. How likely was it that everyone else was wrong and she was right? But she was also suspicious of that worry: after all, it would be quite convenient to be wrong — she would not have to give so much. Although her beliefs seemed to her not only reasonable but clearly true, and she could argue for them in a rational way, they were not entirely the result of conscious thinking: the essential impulse that gave rise to all the rest was simply a part of her. She could not help it; she had always been this way, since she was a child.

1.The basic thought and neural structures that define a given person and how she manages to deal with deals

2. The sum total of thoughts of a person as reflected by her actions and how these actions further lead to the formation of

thoughts and complete a circular process of thought and action backing each other
3. The basic impulses of a given person and how these drive the choices and acts of a person
4. The innate thought mechanisms and being of a given person define her said actions and the way she operates in and deals with the world

A) 4   B)   C)   D)

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

Question No. : 33

Globalization is one of the great issues facing universities today, particularly in humanities departments. It means different things to different people, but most agree that globalization pluralizes. In the words of Jonathan Arac, globalization â€œopens up every local, national or regional culture to others and thereby produces â€˜many worlds.â€™â€However, this rapid pluralization is occurring in the age of English, when a single language has achieved a dominance hitherto unknown in world history. As a result, the many worlds opened up by globalization are increasingly likely to be known through that single language alone.

1. The English language is bound to become more complicated with the coming in a globalized world that heavily promotes a culture of pluralization
2. Even the English language cannot escape globalization and pluralization
3. In a globalized world, characterized by pluralization, English assumes an even more significant position as a tool for people to communicate amongst themselves
4. In a globalized world, English, with its language dominance of the world, is in prime position to become the carrier of local, national and regional cultures across the world

A) 4   B)   C)   D)

DIRECTIONS for the 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.*

Question No. : 34

1. If words like black and white were involved, instead of the jargon words dead and living, he would see at once that language was being used in an improper way.
2. In certain kinds of writing, particularly in art criticism and literary criticism, it is normal to come across long passages which are almost completely lacking in meaning.
3. When one critic writes, "The outstanding feature of Mr. X's work is its living quality," while another writes, "The immediately striking thing about Mr. X's work is its peculiar deadness," the reader accepts this as a simple difference opinion.
4. Many political words are similarly abused. The word Fascism has now no meaning except in so far as it signifies "something not desirable."
5. Words like romantic, plastic, values, human, dead, sentimental, natural, vitality, as used in art criticism, are strictly meaningless, in the sense that they not only do not point to any discoverable object, but are hardly ever expected to do so by the reader.

A) 25314   B)   C)   D)

Section : DI & Reasoning

DIRECTIONS for the question: *Go through the graph and the information given below and answer the question that follows.*

Question No. : 35

Based on the performance appraisal of their employees, the HR department of the BDCIC Bank has recently increased the salaries of six employees at the M1 level – A, B, C, D, E and F – by 10% each. Before the appraisal, the salaries of these six employees were Rs. 12,000, Rs. 15,000, Rs. 18,000, Rs. 22,000, Rs. 25,000 and Rs. 27,000, not necessarily in the same order.

Each of these employees, hoping to be promoted to the M2 level, has taken five mandatory exams – AMFI, CFP, IRDA, NCFM (Commodities) and NCFM (Derivatives). Each of these exams has a different weightage and an employee's final score is calculated as the sum of the weighted marks in each exam. The two NCFM papers are combined as one and the marks for calculating the final score are the average marks in the two papers. The weightage for AMFI, CFP, IRDA, NCFM are 3, 5, 4 and 2 respectively. An employee is promoted to level M2 if the final score is more than 80% of the maximum possible final score. An employee who is promoted to level M2 receives an increment which is 100 times the value by which his or her final score is greater than the bare minimum score required to qualify for promotion. This increment is over and above the 10% increment received after the appraisal.

The maximum possible final score is calculated as $(3 \times 80) + (5 \times 150) + (4 \times 120) + \left(2 \times \dfrac{[75+75]}{2}\right)$
= 1620. If an employee scores a, b, c, d and e marks in AMFI, CFP, IRDA, NCFM(C) and NCFM(D) respectively, then the employee's final score is calculated as $3a + 5b + 4c + \left(2 \times \dfrac{[d+e]}{2}\right)$.

While printing her report, the HR manager used a printer cartridge with low toner and some of the data was missing. She printed the following table which shows the percentage of total marks scored by each of these six employees in these exams. The figures in brackets represent the total marks for each exam.

	AMFI (80)	CFP (150)	IRDA (120)	NCFM – Commodities (75)	NCFM – Derivatives (75)
A	85	80	90	80	68
B	80	84	95	72	72
C	65			84	88
D		92	60	68	80
E	65	84		64	68
F	80	76	95	76	60

The HR Manager remembered that the average marks of the six employees in AMFI and IRDA were 74.16% and 81.66% respectively while the average final score of all six employees was 1300. Employee C, who was not promoted to level M2, had a final score which was 51 less than the bare minimum required to qualify for promotion.

Among those employees who were promoted to level M2, what could be the difference between the maximum and minimum salary after the promotion?

A) Rs. 23,100   B) Rs. 7,600   C) Rs. 25,200   D) Rs. 18, 600

DIRECTIONS for the question: *Study the table/s given below and answer the question that follows.*

Question No. : 36

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E	65	84		64	68
F	80	76	95	76	60

The HR Manager remembered that the average marks of the six employees in AMFI and IRDA were 74.16% and 81.66% respectively while the average final score of all six employees was 1300. Employee C, who was not promoted to level M2, had a final score which was 51 less than the bare minimum required to qualify for promotion.

How many employees were promoted to level M2? (in numerical value)

A) 3   B)   C)   D)

DIRECTIONS for the question: *Go through the graph and the information given below and answer the question that follows.*

Question No. : 37

Based on the performance appraisal of their employees, the HR department of the BDCIC Bank has recently increased the salaries of six employees at the M1 level – A, B, C, D, E and F – by 10% each. Before the appraisal, the salaries of these six employees were Rs. 12,000, Rs. 15,000, Rs. 18,000, Rs. 22,000, Rs. 25,000 and Rs. 27,000, not necessarily in the same order.

Each of these employees, hoping to be promoted to the M2 level, has taken five mandatory exams – AMFI, CFP, IRDA, NCFM (Commodities) and NCFM (Derivatives). Each of these exams has a different weightage and an employee's final score is calculated as the sum of the weighted marks in each exam. The two NCFM papers are combined as one and the marks for calculating the final score are the average marks in the two papers. The weightage for AMFI, CFP, IRDA, NCFM are 3, 5, 4 and 2 respectively. An employee is promoted to level M2 if the final score is more than 80% of the maximum possible final score. An employee who is promoted to level M2 receives an increment which is 100 times the value by which his or her final score is greater than the bare minimum score required to qualify for promotion. This increment is over and above the 10% increment received after the appraisal.

The maximum possible final score is calculated as $(3 \times 80) + (5 \times 150) + (4 \times 120) + \left(2 \times \dfrac{[75+75]}{2}\right)$

$= 1620$. If an employee scores a, b, c, d and e marks in AMFI, CFP, IRDA, NCFM(C) and NCFM(D) respectively, then the employee's final score is calculated as $3a + 5b + 4c + \left(2 \times \dfrac{[d+e]}{2}\right)$.

While printing her report, the HR manager used a printer cartridge with low toner and some of the data was missing. She printed the following table which shows the percentage of total marks scored by each of these six employees in these exams. The figures in brackets represent the total marks for each exam.

	AMFI (80)	CFP (150)	IRDA (120)	NCFM – Commodities (75)	NCFM – Derivatives (75)
A	85	80	90	80	68
B	80	84	95	72	72
C	65			84	88
D		92	60	68	80
E	65	84		64	68
F	80	76	95	76	60

The HR Manager remembered that the average marks of the six employees in AMFI and IRDA were 74.16% and 81.66% respectively while the average final score of all six employees was 1300. Employee C, who was not promoted to level M2, had a final score which was 51 less than the bare minimum required to qualify for promotion.

Before the performance appraisal, all the employees who got promoted to level M2 had salaries in excess of Rs. 15,000. What is the maximum possible average salary of those promoted to level M2 after the promotions?

A) Rs. 28,450   B) Rs. 29,425   C) Rs. 25,300   D) Rs. 32,633

Question No. : 38

Prof. Hariharan came across an interesting article on the recent elections in the town of Narsingpur and decided to use the article in his class on Data Analysis. Answer the questions on the basis of the article below.

The 54 lakh voters in Narsingpur are divided into 5 categories - Unemployed Uneducated, Employed Uneducated, Unemployed Graduates, Employed Graduates and Others. A voter from a particular category can cast his or her vote only in favour of a candidate from that particular category. Each of the 5 categories had fielded 8 candidates. A survey conducted by the Census Board revealed that the number of voters belonging to the Unemployed Uneducated, Employed Uneducated, Unemployed Graduates, Employed Graduates and Others categories formed 60%, 9%, 27%, 1% and 3% of the total number of voters respectively. The survey further revealed that the ratios of female voters to male voters in these categories were A, B, C, D and E respectively. Interestingly, A, B, C, D and E formed an increasing arithmetic progression such that the sum of their cubes was less than 250 and three of these values happened to be prime numbers.

The data collected at the polling stations revealed the following:

- In the Unemployed Uneducated category, only 60% of the males cast their votes and of these, 90% cast their votes in favour of the winning candidate. In this category, of the females who cast their votes, only 25% voted for the winning candidate.
- In the Employed Uneducated category, only 50% of the males cast their votes and of these, 80% favoured the winning candidate. Surprisingly only 10% of the females in this category cast their votes.
- Only 20% of the males in the Unemployed Graduates category cast their votes and of these a mere 10% voted for the winning candidate. In stark contrast, 60% of the females in this category cast their votes and half of them favoured the winning candidate.
- Though only 30% of the males in the Employed Graduates category cast their votes, half of them favoured the winning candidate. The number of females in this category who turned up to cast their votes was only 5%, but 10% of those who cast their vote voted for the winning candidate.
- Only 10% of the males in the Others category cast their votes and none of them voted for the winning candidate. In this category 10% of the 5% females who cast their votes, cast their votes in favour of the winning candidate.

The number of female votes polled by the winning candidate in the Employed Uneducated category was half the number of male votes cast in the Employed Graduates category. What is the ratio of the number of female voters in the Unemployed Uneducated category to the number of female voters who cast their votes in favour of the winning candidate in the Employed Uneducated category?

A) 800 : 1   B) 700 : 1   C) 1000 : 1   D) Cannot be determined

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

Question No. : 39

Prof. Hariharan came across an interesting article on the recent elections in the town of Narsingpur and decided to use the article in his class on Data Analysis. Answer the questions on the basis of the article below.

The sum of male votes cast in the Unemployed Graduates category and twice the number of male votes cast in the Employed Uneducated category equals the number of female votes cast in the Unemployed Uneducated category. What percent of the

female voters in the Unemployed Uneducated category cast their votes? (in percentage)

A) 14.5   B)   C)   D)

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

Question No. : 40

Prof. Hariharan came across an interesting article on the recent elections in the town of Narsingpur and decided to use the article in his class on Data Analysis. Answer the questions on the basis of the article below.

The 54 lakh voters in Narsingpur are divided into 5 categories - Unemployed Uneducated, Employed Uneducated, Unemployed Graduates, Employed Graduates and Others. A voter from a particular category can cast his or her vote only in favour of a candidate from that particular category. Each of the 5 categories had fielded 8 candidates. A survey conducted by the Census Board revealed that the number of voters belonging to the Unemployed Uneducated, Employed Uneducated, Unemployed Graduates, Employed Graduates and Others categories formed 60%, 9%, 27%, 1% and 3% of the total number of voters respectively. The survey further revealed that the ratios of female voters to male voters in these categories were A, B, C, D and E respectively. Interestingly, A, B, C, D and E formed an increasing arithmetic progression such that the sum of their cubes was less than 250 and three of these values happened to be prime numbers.

The data collected at the polling stations revealed the following:

- In the Unemployed Uneducated category, only 60% of the males cast their votes and of these, 90% cast their votes in favour of the winning candidate. In this category, of the females who cast their votes, only 25% voted for the winning candidate.
- In the Employed Uneducated category, only 50% of the males cast their votes and of these, 80% favoured the winning candidate. Surprisingly only 10% of the females in this category cast their votes.
- Only 20% of the males in the Unemployed Graduates category cast their votes and of these a mere 10% voted for the winning candidate. In stark contrast, 60% of the females in this category cast their votes and half of them favoured the winning candidate.
- Though only 30% of the males in the Employed Graduates category cast their votes, half of them favoured the winning candidate. The number of females in this category who turned up to cast their votes was only 5%, but 10% of those who cast their vote voted for the winning candidate.
- Only 10% of the males in the Others category cast their votes and none of them voted for the winning candidate. In this category 10% of the 5% females who cast their votes, cast their votes in favour of the winning candidate.

The total number of male votes polled by the winning candidates across all categories approx. formed what percent of the total number of male votes polled across all categories?

A) 37%   B) 83%   C) 57%   D) 46%

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

Question No. : 41

Prof. Hariharan came across an interesting article on the recent elections in the town of Narsingpur and decided to use the article in his class on Data Analysis. Answer the questions on the basis of the article below.

The 54 lakh voters in Narsingpur are divided into 5 categories - Unemployed Uneducated, Employed Uneducated, Unemployed Graduates, Employed Graduates and Others. A voter from a particular category can cast his or her vote only in favour of a candidate from that particular category. Each of the 5 categories had fielded 8 candidates. A survey conducted by the Census Board revealed that the number of voters belonging to the Unemployed Uneducated, Employed Uneducated, Unemployed Graduates, Employed Graduates and Others categories formed 60%, 9%, 27%, 1% and 3% of the total number of voters respectively. The survey further revealed that the ratios of female voters to male voters in these categories were A, B, C, D and E respectively. Interestingly, A, B, C, D and E formed an increasing arithmetic progression such that the sum of their cubes was less than 250 and three of these values happened to be prime numbers.

The data collected at the polling stations revealed the following:

- In the Unemployed Uneducated category, only 60% of the males cast their votes and of these, 90% cast their votes in favour of the winning candidate. In this category, of the females who cast their votes, only 25% voted for the winning candidate.
- In the Employed Uneducated category, only 50% of the males cast their votes and of these, 80% favoured the winning

candidate. Surprisingly only 10% of the females in this category cast their votes.

- Only 20% of the males in the Unemployed Graduates category cast their votes and of these a mere 10% voted for the winning candidate. In stark contrast, 60% of the females in this category cast their votes and half of them favoured the winning candidate.
- Though only 30% of the males in the Employed Graduates category cast their votes, half of them favoured the winning candidate. The number of females in this category who turned up to cast their votes was only 5%, but 10% of those who cast their vote voted for the winning candidate.
- Only 10% of the males in the Others category cast their votes and none of them voted for the winning candidate. In this category 10% of the 5% females who cast their votes, cast their votes in favour of the winning candidate.

What percent of the total male voters cast their votes across all categories approx.?

A) 51%   B) 44%   C) 85%   D) 73%

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

Question No. : 42

Frieda was fond of visiting exotic locations. On her visit to the island of Yippiekaiyay, she was surprised that the natives of the island could be classified into one of two categories – Truth-Tellers and Liars. The natives had a favourite game called High Cards. This game is played with four players, each holding nine cards, numbered 1 through 9. The game is played in nine rounds. On each round each player places one of his or her cards face down on a table. The four cards are then turned face up and the player having the highest card wins all of the cards in that round. These cards are collected and kept in a separate pile. If there are two or more cards tied for highest then each player takes back the card he or she played and adds it to his or her respective pile. Then the next round begins. In this manner, all cards will be won by someone. After all nine rounds, each player calculates his or her score by adding up the values of the cards in his or her pile and the player with the highest score wins the game.

Frieda spoke to Harakiri, Khiun, Teraki and Wapilipi, four players who had just concluded a game of High Cards and recorded the four statements made by each of the players.

Harakiri : I scored more than 100. I won exactly 3 rounds. Exactly 2 rounds ended in a tie. At least 2 players won the same number of rounds.

Khiun   : I scored more than 47. I won only 1 round. Exactly 3 rounds ended in a tie. None of the scores were divisible by the square of a prime number.
Teraki   : I scored more than 12. The winner won less than 3 rounds. 4 different cards were played on each of the winning rounds. I did not win any of the rounds.

Wapilipi : I scored less than 14. The winner scored less than 63. Exactly 1 round ended in a tie. I won exactly 2 rounds.

Who won the game?

A) Harakiri   B) Khiun   C) Teraki   D) Wapilipi

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

Question No. : 43

Frieda was fond of visiting exotic locations. On her visit to the island of Yippiekaiyay, she was surprised that the natives of the island could be classified into one of two categories – Truth-Tellers and Liars. The natives had a favourite game called High Cards. This game is played with four players, each holding nine cards, numbered 1 through 9. The game is played in nine rounds. On each round each player places one of his or her cards face down on a table. The four cards are then turned face up and the player having the highest card wins all of the cards in that round. These cards are collected and kept in a separate pile. If there are two or more cards tied for highest then each player takes back the card he or she played and adds it to his or her respective pile. Then the next round begins. In this manner, all cards will be won by someone. After all nine rounds, each player calculates his or her score by adding up the values of the cards in his or her pile and the player with the highest score wins the game.

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Khiun : I scored more than 47. I won only 1 round. Exactly 3 rounds ended in a tie. None of the scores were divisible by the square of a prime number.

Teraki : I scored more than 12. The winner won less than 3 rounds. 4 different cards were played on each of the winning rounds. I did not win any of the rounds.

Wapilipi : I scored less than 14. The winner scored less than 63. Exactly 1 round ended in a tie. I won exactly 2 rounds.

Which of the following could not be Harakiri's score?

A) 67   B) 66   C) 65   D) 61

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

Question No. : 44

Frieda was fond of visiting exotic locations. On her visit to the island of Yippiekaiyay, she was surprised that the natives of the island could be classified into one of two categories – Truth-Tellers and Liars. The natives had a favourite game called High Cards. This game is played with four players, each holding nine cards, numbered 1 through 9. The game is played in nine rounds. On each round each player places one of his or her cards face down on a table. The four cards are then turned face up and the player having the highest card wins all of the cards in that round. These cards are collected and kept in a separate pile. If there are two or more cards tied for highest then each player takes back the card he or she played and adds it to his or her respective pile. Then the next round begins. In this manner, all cards will be won by someone. After all nine rounds, each player calculates his or her score by adding up the values of the cards in his or her pile and the player with the highest score wins the game.

Frieda spoke to Harakiri, Khiun, Teraki and Wapilipi, four players who had just concluded a game of High Cards and recorded the four statements made by each of the players.

Harakiri : I scored more than 100. I won exactly 3 rounds. Exactly 2 rounds ended in a tie. At least 2 players won the same number of rounds.

Khiun : I scored more than 47. I won only 1 round. Exactly 3 rounds ended in a tie. None of the scores were divisible by the square of a prime number.

Teraki : I scored more than 12. The winner won less than 3 rounds. 4 different cards were played on each of the winning rounds. I did not win any of the rounds.

Wapilipi : I scored less than 14. The winner scored less than 63. Exactly 1 round ended in a tie. I won exactly 2 rounds.

Which of the following statements are definitely true?

I. Harakiri and Teraki are both Liars.
II. In one of the tied rounds, Teraki played a 9.
III. Harakiri won the game with a score of 67.
IV. Khiun is a Truth-Teller and Wapilipi is a Liar.

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

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

Question No. : 45

Frieda was fond of visiting exotic locations. On her visit to the island of Yippiekaiyay, she was surprised that the natives of the island could be classified into one of two categories â€" Truth-Tellers and Liars. The natives had a favourite game called High Cards. This game is played with four players, each holding nine cards, numbered 1 through 9. The game is played in nine rounds. On each round each player places one of his or her cards face down on a table. The four cards are then turned face up and the player having the highest card wins all of the cards in that round. These cards are collected and kept in a separate pile. If there are two or more cards tied for highest then each player takes back the card he or she played and adds it to his or her respective pile. Then the next round begins. In this manner, all cards will be won by someone. After all nine rounds, each player calculates his or her score by adding up the values of the cards in his or her pile and the player with the highest score wins the game.

Frieda spoke to Harakiri, Khiun, Teraki and Wapilipi, four players who had just concluded a game of High Cards and recorded

the four statements made by each of the players.

Harakiri : I scored more than 100. I won exactly 3 rounds. Exactly 2 rounds ended in a tie. At least 2 players won the same number of rounds.

Khiun   : I scored more than 47. I won only 1 round. Exactly 3 rounds ended in a tie. None of the scores were divisible by the square of a prime number.
Teraki   : I scored more than 12. The winner won less than 3 rounds. 4 different cards were played on each of the winning rounds. I did not win any of the rounds.

Wapilipi : I scored less than 14. The winner scored less than 63. Exactly 1 round ended in a tie. I won exactly 2 rounds.

What was Khiunâ€™s score? (in numerical value)

A) 51   B)   C)   D)

DIRECTIONS for the question: *Study the table/s given below and answer the question that follows.*

Question No. : 46

Industry	2001								2002				
	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May
Total Private	3792	3463	3330	3321	3194	2867	2544	2396	2488	2595	2739	2779	2930
Mining	9	12	10	10	8	8	5	9	8	7	3	5	4
Const-ruction	240	177	189	131	125	129	91	69	83	81	106	110	126
Manufacturing	275	304	296	274	269	227	183	167	205	226	233	249	278
Durable Goods	169	190	172	168	150	119	94	92	110	132	134	142	157
Non-durable Goods	106	114	124	106	119	108	88	75	95	94	99	107	121
Transpor-tation	160	163	156	155	128	164	132	102	116	107	120	137	132
Whole-sale Trade	143	167	120	108	107	84	84	69	105	109	139	113	115
Retail Trade	891	724	755	779	790	683	575	484	448	481	558	547	576
Finance	230	231	188	193	202	150	177	189	182	191	209	195	189
Services	1845	1686	1616	1670	1564	1422	1298	1308	1341	1394	1371	1424	1508
Total Govt.	647	592	578	632	458	465	470	424	427	434	449	479	525
Central	61	64	40	43	42	40	54	46	37	54	59	52	65
State	486	528	538	490	416	425	416	378	389	381	390	426	460

In the month of July 2001, what percent of the total job openings, did the Government job openings constitute approximately? (To the nearest integer in percentage)

A) 15   B)   C)   D)

Question No. : 47

Industry	2001								2002				
	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May
Total Private	3792	3463	3330	3321	3194	2867	2544	2396	2488	2595	2739	2779	2930
Mining	9	12	10	10	8	8	5	9	8	7	3	5	4
Const-ruction	240	177	189	131	125	129	91	69	83	81	106	110	126
Manufacturing	275	304	296	274	269	227	183	167	205	226	233	249	278
Durable Goods	169	190	172	168	150	119	94	92	110	132	134	142	157
Non-durable Goods	106	114	124	106	119	108	88	75	95	94	99	107	121
Transpor-tation	160	163	156	155	128	164	132	102	116	107	120	137	132
Whole-sale Trade	143	167	120	108	107	84	84	69	105	109	139	113	115
Retail Trade	891	724	755	779	790	683	575	484	448	481	558	547	576
Finance	230	231	188	193	202	150	177	189	182	191	209	195	189
Services	1845	1686	1616	1670	1564	1422	1298	1308	1341	1394	1371	1424	1508
Total Govt.	547	592	578	532	458	465	470	424	427	434	449	479	525
Central	61	64	40	43	42	40	54	46	37	54	59	52	65
State	486	528	538	490	416	425	416	378	389	381	390	426	460

In which two consecutive month period is the percentage increase in total job openings the highest?

A) Feb – Mar 2002   B) Dec 2001 – Jan 2002   C) Jan – Feb 2002   D) Apr – May 2002

Question No. : 48

In the period May 2001 to May 2002, which private sector industry had the largest cumulative job openings?

A) Manufacturing   B) Retail Trade   C) Construction   D) Services

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

Question No. : 49

Pool A of the European Cup qualifying matches has eight countries – Austria, Bulgaria, Czech Republic, Denmark, England, France, Germany and Spain. In the first round, each of these countries plays a match with every other country. In every match, the winning country is awarded 10 points, the losing country is awarded 0 points and in case of a draw, each of the countries is awarded 5 points. The top three countries, in terms of points, will advance to the next round. After the first round, it was observed that:

- The number of matches won by Austria was a perfect square, while exactly two of her matches ended in a draw.
- Bulgaria won exactly two of her matches and lost her matches against Austria and Spain.
- France lost exactly three of her matches. Each country lost at least one match and six matches ended in a draw.
- The sum of points won by Austria and twice the points won by the Czech Republic equal four times the points won by Bulgaria.
- The difference between the points won by Austria and England equals the difference between the points won by Bulgaria

and Denmark.

- The sum of the points won by Spain and five times the points won by France equals the sum of points won by Denmark and six times the points won by Germany.
- The sum of points won by Bulgaria and twice the points won by the Czech Republic equals twice the points won by Austria.
- Six times the points won by Germany equals seven times the points won by Spain.

How many points did England score? (in numerical value)

A) 40   B)   C)   D)

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

Question No. : 50

Pool A of the European Cup qualifying matches has eight countries â€" Austria, Bulgaria, Czech Republic, Denmark, England, France, Germany and Spain. In the first round, each of these countries plays a match with every other country. In every match, the winning country is awarded 10 points, the losing country is awarded 0 points and in case of a draw, each of the countries is awarded 5 points. The top three countries, in terms of points, will advance to the next round. After the first round, it was observed that:

- The number of matches won by Austria was a perfect square, while exactly two of her matches ended in a draw.
- Bulgaria won exactly two of her matches and lost her matches against Austria and Spain.
- France lost exactly three of her matches. Each country lost at least one match and six matches ended in a draw.
- The sum of points won by Austria and twice the points won by the Czech Republic equal four times the points won by Bulgaria.
- The difference between the points won by Austria and England equals the difference between the points won by Bulgaria and Denmark.
- The sum of the points won by Spain and five times the points won by France equals the sum of points won by Denmark and six times the points won by Germany.
- The sum of points won by Bulgaria and twice the points won by the Czech Republic equals twice the points won by Austria.
- Six times the points won by Germany equals seven times the points won by Spain.

What is the maximum number of matches lost by any country? (in numerical value)

A) 5   B)   C)   D)

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

Question No. : 51

Pool A of the European Cup qualifying matches has eight countries – Austria, Bulgaria, Czech Republic, Denmark, England, France, Germany and Spain. In the first round, each of these countries plays a match with every other country. In every match, the winning country is awarded 10 points, the losing country is awarded 0 points and in case of a draw, each of the countries is awarded 5 points. The top three countries, in terms of points, will advance to the next round. After the first round, it was observed that:

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- The difference between the points won by Austria and England equals the difference between the points won by Bulgaria and Denmark.
- The sum of the points won by Spain and five times the points won by France equals the sum of points won by Denmark and six times the points won by Germany.
- The sum of points won by Bulgaria and twice the points won by the Czech Republic equals twice the points won by Austria.
- Six times the points won by Germany equals seven times the points won by Spain.

If Spain won three matches, which of the following cannot be the number of matches lost by the Czech Republic?

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

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

Question No. : 52

After the recent elections, pundits have predicted that the new government will give a tremendous boost to industry. Cashing in on this prediction, Guru feels that there will be a bullish run on the stock market and has accordingly asked his clients to invest heavily in shares of Cryogenic Technologies. When the stock market opened on Monday, Guru received calls from 5 of his clients – Amit, Kritika, Namita, Ravindra and Shantanu – each of whom placed an order for a different number of shares of Cryogenic Technologies. The last names of the clients are Dighe, Joshi, Karmarkar, Patwardhan and Wagh, not necessarily in the same order.

1. Ravindra and Patwardhan placed orders for a different number of shares of Cryogenic Technologies.
2. The last call to Guru was not Joshi's, who ordered half as many shares as Namita.
3. Amit is not Wagh, who ordered 3000 shares of Cryogenic Technologies.
4. Kritika, who called Guru some time after Karmarkar, ordered 1500 more shares of Cryogenic technologies than Karmarkar.
5. Dighe's order for shares of Cryogenic Technologies was placed before that of Ravindra.
6. Patwardhan, who ordered 2500 more shares of Cryogenic Technologies than Amit, had placed his call just before Amit.
7. Dighe, who ordered 1250 more shares of Cryogenic Technologies than Shantanu, called Guru just after Shantanu.
8. One of the clients ordered 250 more shares of Cryogenic Technologies than another client and the difference between the number of shares ordered by any two of the other clients was more than 250.

Which of the following is the correct order, from the first to the last, in which Guru's clients made their calls?

A) Namita, Shantanu, Kritika, the person who ordered 3500 shares of Cryogenic Technologies, Amit
B) The person who ordered 4500 shares of Cryogenic Technologies, Amit, Joshi, Ravindra, Dighe
C) Namita, Karmarkar, the person who ordered 2250 shares of Cryogenic Technologies, Dighe, Ravindra
D) Ravindra, Joshi, Kritika, Karmarkar, the person who ordered 3000 shares of Cryogenic Technologies

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

Question No. : 53

After the recent elections, pundits have predicted that the new government will give a tremendous boost to industry. Cashing in on this prediction, Guru feels that there will be a bullish run on the stock market and has accordingly asked his clients to invest heavily in shares of Cryogenic Technologies. When the stock market opened on Monday, Guru received calls from 5 of his clients – Amit, Kritika, Namita, Ravindra and Shantanu – each of whom placed an order for a different number of shares of Cryogenic Technologies. The last names of the clients are Dighe, Joshi, Karmarkar, Patwardhan and Wagh, not necessarily in the same order.

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4. Kritika, who called Guru some time after Karmarkar, ordered 1500 more shares of Cryogenic technologies than Karmarkar.
5. Dighe's order for shares of Cryogenic Technologies was placed before that of Ravindra.
6. Patwardhan, who ordered 2500 more shares of Cryogenic Technologies than Amit, had placed his call just before Amit.
7. Dighe, who ordered 1250 more shares of Cryogenic Technologies than Shantanu, called Guru just after Shantanu.
8. One of the clients ordered 250 more shares of Cryogenic Technologies than another client and the difference between the number of shares ordered by any two of the other clients was more than 250.

Which of the following statements is not true?

A) Amit placed an order for 3000 shares of Cryogenic Technologies
B) Karmarkar placed an order for 2000 shares of Cryogenic Technologies
C) Kritika placed an order for 3500 shares of Cryogenic Technologies
D) Patwardhan placed an order for 4500 shares of Cryogenic Technologies

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

Question No. : 54

After the recent elections, pundits have predicted that the new government will give a tremendous boost to industry. Cashing in on this prediction, Guru feels that there will be a bullish run on the stock market and has accordingly asked his clients to invest heavily in shares of Cryogenic Technologies. When the stock market opened on Monday, Guru received calls from 5 of his clients – Amit, Kritika, Namita, Ravindra and Shantanu – each of whom placed an order for a different number of shares of Cryogenic Technologies. The last names of the clients are Dighe, Joshi, Karmarkar, Patwardhan and Wagh, not necessarily in the same order.

1. Ravindra and Patwardhan placed orders for a different number of shares of Cryogenic Technologies.
2. The last call to Guru was not Joshi's, who ordered half as many shares as Namita.
3. Amit is not Wagh, who ordered 3000 shares of Cryogenic Technologies.
4. Kritika, who called Guru some time after Karmarkar, ordered 1500 more shares of Cryogenic technologies than Karmarkar.
5. Dighe's order for shares of Cryogenic Technologies was placed before that of Ravindra.
6. Patwardhan, who ordered 2500 more shares of Cryogenic Technologies than Amit, had placed his call just before Amit.
7. Dighe, who ordered 1250 more shares of Cryogenic Technologies than Shantanu, called Guru just after Shantanu.
8. One of the clients ordered 250 more shares of Cryogenic Technologies than another client and the difference between the number of shares ordered by any two of the other clients was more than 250.

Which of the following statements is true?

A) Namita made the first call and placed an order for 2000 shares of Cryogenic Technologies
B) Wagh made the third call and placed an order for 3000 shares of Cryogenic Technologies
C) Karmarkar made the fifth call and placed an order for 2000 shares of Cryogenic Technologies
D) Shantanu made the third call and placed an order for 2250 shares of Cryogenic Technologies

DIRECTIONS for the question: The question below is followed by two statements marked I and II. Mark as your answer.

Question No. : 55

A car dealer sold 4/5 of the total cars in his garage for an average value of 6000. How many cars did he have in stock in the beginning?

I.   He sold all the cars for a value of 58000.
II. The remaining cars were sold for an average value of 5000.

A) if the question can be answered with the help of information contained in statement I alone;
B) if the question can be answered with the help of information contained in statement II alone;
C) if the question can be answered with the help of information contained in both statements I and II together; and,
D) if the question cannot be answered even with the help of information contained in both statement I and II together

DIRECTIONS for the question: The question below is followed by two statements marked I and II. Mark as your answer.

Question No. : 56

10 numbers are arranged in ascending order. What is the value of the 6th number?

I.   The median of the 10 numbers is 120.
II. If the last number is dropped, the median of the remaining numbers reduces by 10%.

A) if the question can be answered with the help of information contained in statement I alone;
B) if the question can be answered with the help of information contained in statement II alone;
C) if the question can be answered with the help of information contained in both statements I and II together; and,
D) if the question cannot be answered even with the help of information contained in both statement I and II together

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

Question No. : 57

Santosh is preparing the weekly schedule for Math and English at Bulls Eye. The sessions can be conducted in the mornings on Mondays, Tuesdays and Thursdays, and in the evenings on Wednesdays, Fridays and Saturdays. The office is closed on Sundays. Math sessions are conducted thrice a week, but no two Math sessions can be conducted on consecutive days. The English sessions are conducted twice a week, but not on consecutive days.

If a Math session is scheduled for Monday and an English session is scheduled for Friday, then which of the following is not true?

A) A Math session is scheduled on Wednesday or Thursday   B) An English session is scheduled on Tuesday or Wednesday
C) A Math session is scheduled on Thursday and an English session is scheduled on Tuesday
D) A Math session is scheduled on Tuesday and an English session is scheduled on Wednesday

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

Question No. : 58

Santosh is preparing the weekly schedule for Math and English at Bulls Eye. The sessions can be conducted in the mornings on Mondays, Tuesdays and Thursdays, and in the evenings on Wednesdays, Fridays and Saturdays. The office is closed on Sundays. Math sessions are conducted thrice a week, but no two Math sessions can be conducted on consecutive days. The English sessions are conducted twice a week, but not on consecutive days.

If a Math session is scheduled on Wednesday, which of the following must be true?

A) An English session cannot be scheduled on Tuesday   B) An English session cannot be scheduled on Monday
C) A Math session is scheduled on Friday   D) A Math session is scheduled on Saturday

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

Question No. : 59

Santosh is preparing the weekly schedule for Math and English at Bulls Eye. The sessions can be conducted in the mornings on Mondays, Tuesdays and Thursdays, and in the evenings on Wednesdays, Fridays and Saturdays. The office is closed on Sundays. Math sessions are conducted thrice a week, but no two Math sessions can be conducted on consecutive days. The English sessions are conducted twice a week, but not on consecutive days.

If an English session is not scheduled on Friday, which of the following must be true?

A) A Math session is scheduled on Friday   B) An English session is scheduled on Thursday
C) An English session is scheduled on Wednesday   D) None of these

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

Question No. : 60

Five persons, Raghunandan, Gitesh, Nupur, Aditi and Shishir have gathered to play a game called *Slaves and Masters*. Four players play in each round, with one person sitting out. Each round is played by two competing teams, called *Slaves* and *Masters*, of two players each. No round ends in a tie. The other rules of the game are:

- Nupur and Shishir are siblings and cannot be on the same team.
- No two players can play on the same team in consecutive rounds.
- After each round, one person from the losing team must sit out the next round.
- After a round, the person who has sat out that round and a person from the winning team in that round join to form the team known as *Slaves* for the next round.
- After a round, one person from the losing team in that round and one person from the winning team in that round join to form the team known as *Masters* for the next round.

The first round is won by Raghunandan and Shishir. If Nupur sat out the first round, which of the following must be a team in the second round?

A) Raghunandan and Nupur   B) Gitesh and Nupur   C) Gitesh and Aditi   D) Aditi and Shishir

---

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

Question No. : 61

Five persons, Raghunandan, Gitesh, Nupur, Aditi and Shishir have gathered to play a game called *Slaves and Masters*. Four players play in each round, with one person sitting out. Each round is played by two competing teams, called *Slaves* and *Masters*, of two players each. No round ends in a tie. The other rules of the game are:

- Nupur and Shishir are siblings and cannot be on the same team.
- No two players can play on the same team in consecutive rounds.
- After each round, one person from the losing team must sit out the next round.
- After a round, the person who has sat out that round and a person from the winning team in that round join to form the team known as *Slaves* for the next round.
- After a round, one person from the losing team in that round and one person from the winning team in that round join to

form the team known as *Masters* for the next round.

In the first round, Gitesh and Nupur formed the winning team while Raghunandan sat out the round. Which of the following could be a team in the second round?

A) Raghunandan and Shishir   B) Gitesh and Nupur   C) Gitesh and Shishir   D) Aditi and Shishir

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

Question No. : 62

Five persons, Raghunandan, Gitesh, Nupur, Aditi and Shishir have gathered to play a game called *Slaves and Masters.* Four players play in each round, with one person sitting out. Each round is played by two competing teams, called *Slaves* and *Masters*, of two players each. No round ends in a tie. The other rules of the game are:

- Nupur and Shishir are siblings and cannot be on the same team.
- No two players can play on the same team in consecutive rounds.
- After each round, one person from the losing team must sit out the next round.
- After a round, the person who has sat out that round and a person from the winning team in that round join to form the team known as *Slaves* for the next round.
- After a round, one person from the losing team in that round and one person from the winning team in that round join to form the team known as *Masters* for the next round.

If Raghunandan and Aditi form the winning team in the first round, who of the following cannot be a member of *Slaves* in the second round?

A) Raghunandan   B) Gitesh   C) Nupur   D) Aditi

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

Question No. : 63

The table below shows values of four financial parameters – Revenue, Operating Profit, Net Worth and Total Assets – of 10 companies for 2012, in Rs. crores and the bar chart shows the percentage change in the values of these parameters as compared to 2011.

	Revenue	Operating Profit	Net Worth	Total Assets
IOC	420,500	15,500	58,500	141,000
BPCL	215,000	6,500	15,000	47,000
HPCL	188,000	5,000	13,500	59,500
ONGC	155,000	45,500	134,500	178,000
NTPC	69,000	18,500	74,000	138,000
BHEL	51,000	11,500	25,500	38,500
SAIL	50,000	8,500	40,500	62,500
GAIL	45,000	8,000	24,000	37,000
NHPC	8,500	6,000	27,000	51,500
NALCO	7,500	1,800	12,000	12,000

Percentage change as compared to 2011

Percentage

IOC BPCL HPCL ONGC NTPC BHEL SAIL GAIL NHPC NALCO

■ Revenue ■ Operating Profit □ Net Worth □ Total Assets

In rupee terms, which of the following companies had the highest increase in Revenue in 2012 as compared to 2011?

A) IOC   B) HPCL   C) GAIL   D) BPCL

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

Question No. : 64

The table below shows values of four financial parameters — Revenue, Operating Profit, Net Worth and Total Assets — of 10 companies for 2012, in Rs. crores and the bar chart shows the percentage change in the values of these parameters as compared to 2011.

	Revenue	Operating Profit	Net Worth	Total Assets
IOC	420,500	15,500	58,500	141,000
BPCL	215,000	6,500	15,000	47,000
HPCL	188,000	5,000	13,500	59,500
ONGC	155,000	45,500	134,500	178,000
NTPC	69,000	18,500	74,000	138,000
BHEL	51,000	11,500	25,500	38,500
SAIL	50,000	8,500	40,500	62,500
GAIL	45,000	8,000	24,000	37,000
NHPC	8,500	6,000	27,000	51,500
NALCO	7,500	1,800	12,000	12,000

Percentage change as compared to 2011

Percentage

IOC BPCL HPCL ONGC NTPC BHEL SAIL GAIL NHPC NALCO

■ Revenue ■ Operating Profit □ Net Worth □ Total Assets

If the companies are ranked from highest to lowest across all four parameters in 2012, with the highest getting rank 1 and the lowest getting rank 10, how many companies will have the same rank across at least three of the four parameters? (in numerical value)

A) 2   B)   C)   D)

Question No. : 65

The table below shows values of four financial parameters – Revenue, Operating Profit, Net Worth and Total Assets – of 10 companies for 2012, in Rs. crores and the bar chart shows the percentage change in the values of these parameters as compared to 2011.

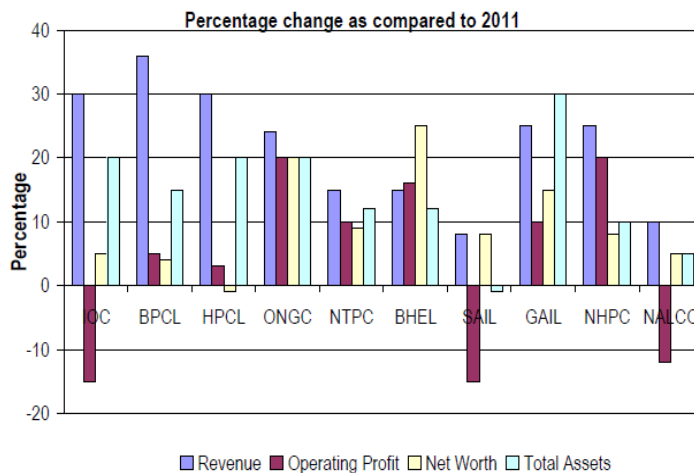|	Revenue	Operating Profit	Net Worth	Total Assets
IOC	420,500	15,500	58,500	141,000
BPCL	215,000	6,500	15,000	47,000
HPCL	188,000	5,000	13,500	59,500
ONGC	155,000	45,500	134,500	178,000
NTPC	69,000	18,500	74,000	138,000
BHEL	51,000	11,500	25,500	38,500
SAIL	50,000	8,500	40,500	62,500
GAIL	45,000	8,000	24,000	37,000
NHPC	8,500	6,000	27,000	51,500
NALCO	7,500	1,800	12,000	12,000

Percentage change as compared to 2011

If the companies are ranked from highest to lowest on the basis of Revenue, with the highest Revenue ranked as 1 and the lowest Revenue ranked as 10, how many companies have improved their rank in 2012 as compared to 2011? (in numerical value)

A) 2   B)   C)   D)

Question No. : 66

The table below shows values of four financial parameters – Revenue, Operating Profit, Net Worth and Total Assets – of 10 companies for 2012, in ₹ crores and the bar chart shows the percentage change in the values of these parameters as compared to 2011.

	Revenue	Operating Profit	Net Worth	Total Assets
IOC	420,500	15,500	58,500	141,000
BPCL	215,000	6,500	15,000	47,000
HPCL	188,000	5,000	13,500	59,500
ONGC	155,000	45,500	134,500	178,000
NTPC	69,000	18,500	74,000	138,000

BHEL	51,000	11,500	25,500	38,500
SAIL	50,000	8,500	40,500	62,500
GAIL	45,000	8,000	24,000	37,000
NHPC	8,500	6,000	27,000	51,500
NALCO	7,500	1,800	12,000	12,000

Percentage change as compared to 2011

Legend: ■ Revenue ■ Operating Profit □ Net Worth □ Total Assets

Which of the following statement is true?

A) In 2012, the Operating Profit of HPCL as a percentage of its Revenue was greater than the Operating Profit of BPCL as a percentage of its revenue.
B) In 2012 the Revenue of NHPC as a percentage of its Total Asset was approximately 14 times the Revenue of GAIL as a percentage of its Total Assets.
C) NTPC's Operating Profit as a percentage of its Net Worth was greater in 2011 than in 2012.
D) In 2012, IOC's Revenue as a percentage of its Total Assets was approximately 3.42 times ONGC's Revenue as a percentage of its Total Assets.

Section : Quantitative Ability

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

Question No. : 67

15 friends went to a restaurant for dinner. 11 of them contributed an average of Rs. 121 towards their bill. The 12th friend contributed Rs. 27 more than the average contribution of all 15. The 13th friend contributed Rs. 36 more than the average contribution of all 15. The 14th friend contributed Rs. 49 more than the average contribution of all 15. The 15th friend contributed Rs. 64 more than the average contribution of all 15. What was the total amount spent at the restaurant? (in Rs.)

A) 2055   B)   C)   D)

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

Question No. : 68

The Sahyadri Express starts from Mumbai to Pune at 6:00 a.m. An hour later, the Koyna Express starts from Pune to Mumbai on a parallel track. When the two trains start to cross each other, a guard starts walking at a speed of 2 m/s from the rear of the Sahyadri Express towards its front, while a guard starts walking at 3 m/s from the front of the Koyna Express towards its rear. If the lengths of the Sahyadri Express and the Koyna Express are 340 m and 500 m respectively and their speeds are 54 kmph and 72 kmph respectively, what are the distances walked by the guards before they cross each other?

A) 20 m, 30 m   B) 48 m, 72 m   C) 168 m, 252 m   D) 170 m, 230 m

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

Question No. : 69

In the figure below, three congruent semicircles with centres P, Q and R are drawn on one side each of three equilateral triangles. These semicircles touch the semicircle with diameter DE at points A, B and C. If the diameter of the outer semicircle is 12 cm, what is the area of the shaded region?
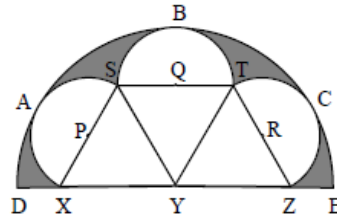
A) 22.72 cm^2 B) 27.53 cm^2 C) 6.26 cm^2 D) 8.74 cm^2

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

Question No. : 70

For $n \geq 1$, $a_n = \alpha^n - \beta^n$, where α and β are the roots of $x^2 - 6x - 2 = 0$ such that $\alpha > \beta$. What is the value of $\dfrac{a_{10} - 2a_8}{2a_9}$? (in numerical value)

A) 3   B)   C)   D)

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

Question No. : 71

A dealer buys an article for Rs. 2,000. He wants to sell it at a discount of 12 Â½ %. At what price should he fix the marked price so that he may get a profit of 9 $^3/_8$ % by selling the article? (in Rs.)

A) 2500   B)   C)   D)

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

Question No. : 72

A bag contains 3 white and 2 red balls and a box contains only 1 white ball. A fair coin is tossed. If heads appears, then 1 ball is drawn at random from the bag and placed in the box and if tails appears, then 2 balls are drawn at random from the bag and placed in the box. 1 ball is now drawn at random from the box. What is the probability that it is white?

A) $\dfrac{13}{30}$ B) $\dfrac{23}{30}$ C) $\dfrac{19}{30}$ D) $\dfrac{2}{3}$

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

Question No. : 73

A circular board of radius 98 cm is converted into a dart board by drawing 4 concentric circles and 4 diameters as shown below. The 8 regions formed in each of the 4 circular areas are painted white, black, red, green, blue, yellow, orange and pink in a sequence. A dart thrown at the board has an equal probability of landing on any of the 32 regions so formed. What is the approximate ratio of the perimeter of the region labelled pink in the outermost circular region to the perimeter of the region labelled red in the innermost circular region?

A) 4/5   B) 17/19   C) 7/8   D) 13/19

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

Question No. : 74

A pipe connected to a tank lets in 10 l in the first hour, 20 l in the second hour, 40 l in the third hour, 80 l in the fourth hour... and so on. After 6 hours, the tank is only $1/4^{th}$ full. How long will it take to fill the tank approximately?

A) 24 hours   B) 8 hours   C) 12 hours   D) 16 hours

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

Question No. : 75

In right-angled $\triangle ABC$, a and b are the lengths of the legs of the right angle and c is the length of the hypotenuse. If the length of the median to the hypotenuse is the geometric mean of the lengths of the legs of the right angle, which of the following is true?

A) $(a - b)^2 = 2ab$ B) $(a - b)^2 = 4ab$ C) $(a + b)^2 = 4ab$ D) $(a + b)^2 = 2ab$

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

Question No. : 76

A natural number N, when divided by 6, 8 or 12 leaves a remainder of 2 in each case, but when divided by 9, 10 and 15, leaves remainders of 5, 6 and 11 respectively. If N is a 4-digit number, how many different values can N take? (in numerical value)

A) 25   B)   C)   D)

DIRECTIONS for the question: Solve the following question and mark the best possible option.
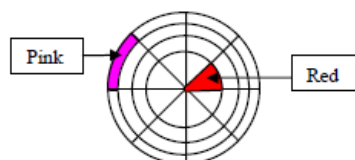
Question No. : 77

Rahul and Vijay are playing a game with a 12-sided die, where both of them lay bets on the outcome of a roll of the die. They start by betting Rs. 5 each on the first round of the game and the amount bet in each subsequent round is thrice the amount bet in the previous round. The game ends when Rahul wins a round. Rahul wins only when the die shows a 10, 11 or 12; Vijay wins for all other outcomes. If the game ended after the nth round, which of the following cannot be the sums of money won by Rahul and Vijay respectively?

A) Rs. 10,935, Rs. 5,465   B) Rs. 3,645, Rs. 1,820   C) Rs. 32,805, Rs. 49,205   D) Rs. 1,215, Rs. 605

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

Question No. : 78

A, B and C play a card game. The starting amount of money each has is such that 12 times the amount of money A has is equal to 15 times the amount of money B has and 20 times the amount of money C has. By the time they are finished the amount of money left with them is such that 6 times the amount of money A has is equal to 8 times the amount of money B has and 12 times the amount of money C has. The winner among them has won Rs 36. Find how much money he (winner) had in the beginning. (in Rs.)

A) 540   B)   C)   D)

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

Question No. : 79

A company introduces a scheme to control the rate of work (i.e., work done per unit time) of its employees. According to this scheme, a standard rate of work is specified. If an employee works at a lower rate than this, he would receive 8% of the standard rate of pay (in Rs/hr) less for every 5% (of the standard rate of work) drop in his rate of work. Ashok, an employee of that company completed a job in exactly three hours. If he would have taken 25% less time had he worked at the standard rate of work, and the standard rate of pay is Rs.6 /hr, how much was he actually paid for the job?

A) Rs. 8.40   B) Rs. 12.24   C) Rs. 10.8   D) Rs. 9.00

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

Question No. : 80

A survey was conducted on 2,260 people who have invested in either banks or businesses or shares. It showed that there are 1,361 people who invested in banks and 1,255 people who invested in businesses. 20 % of the total number of people surveyed invested in businesses and banks but not in shares. Find the number of people who invested in all the three types of investment options if 456, 407 and 288 people invested only in businesses or banks or shares respectively. (in numerical value)

A) 192   B)   C)   D)

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

Question No. : 81

The sum of two non–co-prime numbers added to their HCF gives us 221. How many such unordered pairs are possible? (in numerical value)

A) 12   B)   C)   D)

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

Question No. : 82

What is the remainder when $22^{23} + 10^{35}$ is divided by 45? (in numerical value)

A) 8   B)   C)   D)

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

Question No. : 83

If $|x| < 1$ and $|y| < 1$, find the sum to infinity of the series $(x + y) + (x^2 + xy + y^2) + (x^3 + x^2y + xy^2 + y^3) + \ldots\ldots$

A) $\dfrac{x + y - xy}{(1 - x)(1 - y)}$ B) $\dfrac{x - y + xy}{(1 + x)(1 - y)}$ C) $\dfrac{x + y - xy}{(1 + x)(1 - y)}$ D) $\dfrac{x - y^2}{(1 + x)(1 - y)}$

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

Question No. : 84

A regular hexagon of side 6 cm is rotated through 60° along a line passing through its longest diagonal. What is the volume of the figure thus generated?

A) $108\,\pi\ \text{cm}^3$ B) $72\pi\ \text{cm}^3$ C) $486\,\pi\ \text{cm}^3$ D) $81\,\pi\ \text{cm}^3$

DIRECTIONS for the question: Solve the following question and mark the best possible option.
Question No. : 85

A company producing brass alloy buys copper and zinc from another firm, the price of the copper being twice that of zinc. The company sells the brass at Rs. 196 per kg, thereby making a profit of 40 %. If the ratio of copper to zinc in brass is 2 : 3 and brass contains only these two metals, find the cost price per kg of each metal.

A) Rs.200, Rs.100   B) Rs.140, Rs.70   C) Rs.196, Rs.98   D) Rs.100, Rs.50

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

Question No. : 86

Let A = 101 102 103 ……. 199
B = 1001 1002 1003 …….. 1099
C = 10001 10002 10003 ……. 10099
Remainder of A, B and C by 18 are (say) r, s and t respectively. Find $2r – s – t$. (in numerical value)

A) 0   B)   C)   D)

Question No. : 87

Find the remainder when 327 327 327 ..... upto (165 digits) is divided by 36? (in numerical value)

A) 3   B)   C)   D)

Question No. : 88

Find remainder when $\dfrac{625^{100} + 125^{100} + 25^{100} + 5^{100} + 1}{5^{100} + 1}$ (in numerical value)

A) 1   B)   C)   D)

Question No. : 89

The n students in a class are allotted roll numbers 1, 2, 3, ..., n, alphabetically according to their first names. These students are divided into three houses – Red, Blue and Green. Students with roll numbers 1, 4, 7, 10, ... are members of Red House; students with roll numbers 2, 5, 8, 11, ... are members of Blue House and the remaining students are members of Green house. While recording these details, the class teacher realised that the averages of the roll numbers of the students for two of the houses were the same as one of the roll numbers in the respective houses while the average of the roll numbers in the third house was different from any of the roll numbers in that house. Which of the following cannot be the total number of students in the class?

A) 196   B) 602   C) 132   D) 442

Question No. : 90

Consider 100 terms in arithmetic progression with first term as 3 and common difference d. S_n and S_m denote the sum of the first n terms and the first m terms of the progression respectively. If $1 \leq n \leq 20$, $m = 5n$ and the ratio $S_m : S_n$ is constant irrespective of the value of n, which of the following cannot be a term of the progression?

A) 81   B) 371   C) 105   D) 57

Question No. : 91

If $\log_{b^2} a^3 = c$ and $\log_{\sqrt{a}} \sqrt[3]{b} = 1$, where, $c < a < b$ and a, b and c are real numbers, what is the minimum value of n?

A) 1   B) 2   C) 3   D) None of these

Question No. : 92

The difference between simple and compound interest (compounded annually) on a sum of money for 2 years at 10% per annum is Rs. 65. The sum is (in Rs.)

A) 6500   B)   C)   D)

Question No. : 93

Let N = 252525 ……. (upto 638 digits)
Find remainder of N by 99.

A) 10   B) 33   C) 44   D) 55

Question No. : 94

Three circles with centres A, B and C and radii 1 cm, 2 cm and 3 cm respectively are drawn tangent to each other. The common tangents through points of contact L, M and N intersect in point P. What is the difference between the circum-radius and the in-radius of the triangle formed by joining the centres of these three circles?

A) 1.3 cm   B) 1.625 cm   C) 0.75 cm   D) 1.5 cm

Question No. : 95

For how many values of x will $3^{x+2} = 3^x + 216$? (in numerical value)

A) 1   B)   C)   D)

Question No. : 96

A function is defined as $f(x + y) = f(x).f(y)$, for all natural numbers x and y. If $f(1) = 2$ and a and n are natural numbers such that $f(a + 1) + f(a + 2) + f(a + 3) + â€¦ + f(a + n) = 16(2^n â€" 1)$, what is the value of a? (in numerical value)

A) 3   B)   C)   D)

Question No. : 97

$[A^2] + [\sqrt{7}] + [\sqrt{7}] = 13$, where $[x]$ denotes the greatest integer less than or equal to x. What is the value of A?

A) 9.0   B) 4.18   C) 3.12   D) 3.75

Question No. : 98

Vishal, who stands 5'10" tall is digging a pit. He has finished digging $1/3^{rd}$ of the depth. After he is finished digging the pit, his head will be twice as far below the surface of the ground as it is now above the surface of the ground. What is the depth of the pit?

A) 16'4"   B) 13'7"   C) 17'6"   D) 10'6"

Question No. : 99

10 friends are planning to travel to Alibag in 2 cars, a Santro and a Swift. If the Swift and the Santro can accommodate 6 and 5 people respectively, in how many ways can the friends travel? (in numerical value)

A) 462   B)   C)   D)

Question No. : 100

While entering 8531 on her calculator, Shweta also typed a 4 by mistake. Instead of retyping, she decides to subtract *x* from this number in order to get back 8531 on screen. What is the maximum value that *x* can take?

A) 40,000   B) 76,900   C) 76,783   D) Cannot be determined

QNo:- 1 ,Correct Answer:- C

Explanation:-
Option 1 is incorrect on two counts: 'incongruous' does not fit in the given context and we cannot say that Priestley's early life had a significant impact on him.
Option 2 is again rejected as it is too strong an option.
Option 3 is correct as it aptly mentions that his childhood experience had a contributory role, something which cannot be denied.
Option 4 is incorrect as the passage does not mention that Priestley took up any dedicated early work in unorthodox ways

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QNo:- 2 ,Correct Answer:- D

Explanation:-
Refer to the following lines: In season and out of season, he was the steadfast champion of that hypothesis respecting the Divine nature which is termed Unitarianism by its friends and Socinianism by its foes. Regardless of odds, he was ready to do battle with all comers in that cause; and if no adversaries entered the lists, he would sally forth to seek them.
From these lines, it can clearly be seen that one thing that can be said about the work of Priestley is that it was widely debated (it had its supporters and its opponents). Considering thing, we find option 4 the apt answer for the given question. None of the other options can be conclusively proven in the given context. Option 1 essentially means that his views were objective (which means factual) in nature. This is something we cannot conclude in the given context.

QNo:- 3 ,Correct Answer:- B

Explanation:-
One simple question for you: can you provide a one line summary for the passage? What exactly is the author of the passage doing in the passage? In this passage, he highlights the positives of Priestley and goes on to explain how he deserves to be remembered and honoured. Considering this, option 2 is the best answer in the given case.

QNo:- 4 ,Correct Answer:- C

Explanation:-
The inference in this question has to be derived from a combination of lines extracted from the passage: In season and out of season, he was the steadfast champion of that hypothesis respecting the Divine nature which is termed Unitarianism by its friends and Socinianism by its foes...and to whom it was simply incomprehensible that a philosopher should seriously occupy himself with any form of Christianity...But I am sure that I speak not only for myself, but for all this assemblage, when I say that our purpose to-day is to do honour, not to Priestley, the Unitarian divine, but to Priestley, the fearless defender of rational freedom in thought and in action.
Unitarianism is defined as the Christian doctrine that stresses individual freedom of belief and rejects the Trinity.
The one good thing in the question is that each option is related to Christianity and this means our answer is related to this topic as well. From the context, we can see that option 3 is the best fit in the given case.

QNo:- 5 ,Correct Answer:- C

Explanation:-
The answer can be derived by understanding the meaning of the word 'Promethean'.
Promethean means 'daringly original; boldly inventive or creative, inspiring'. In the given context, we can see that option 3 is the best answer.

QNo:- 6 ,Correct Answer:- D

Explanation:-
In the given passage, the author clearly states that he does not necessarily agree with the ideas of Joseph Priestley but he does appreciate the person and his passion. Considering this, option 4 is the best answer. Remember, we need to reject the options which talk about the ideas/doctrines of Joseph Priestley and select an option that focuses on Joseph Priestley the person.

QNo:- 7 ,Correct Answer:- C

Explanation:-
If an institution that gives credit is initiated by the government then it would come under Congress scrutiny. However if the institution is partially privately owned then the Congress cannot inspect the same as it is not in their jurisdiction. If they introduce an act there definitely would be opposition. Reducing volatility in the high-income group vis-avis the low income group will cause the lower segment to oppose and the politicians want the lower segments to get the credit and financial help. Hence option 3 is an answer option.

QNo:- 8 ,Correct Answer:- D

Explanation:-
Option 4. The punitive marginal tax is on the high income segment and reducing that is going to create more wealth for those in the higher segment and less revenue for the government, which then would not have money to distribute to the have-nots. Hence this is not be of any use to the lower segment and hence cannot be said to be an action which will help in the equitable distribution of income.

QNo:- 9 ,Correct Answer:- B

Explanation:-
Option 2. The passage states that politicians have understood that better education is part of the solution which means at present there are differences in educational attainment and that has contributed to the inequality. If the wages of the unskilled US workers were held down then because of the competition from the immigrant unskilled workers, the unskilled US workers would have got less income. Women's entry into the workforce would take some of the jobs away from the lower income group thereby compounding the problem. A rich woman would tend to marry someone on par with her or someone richer than her. Thus the rich will marry the rich, so inequalities would increase.

QNo:- 10 ,Correct Answer:- C

Explanation:-
Option 3. When more and more people realize that they are not equipped to compete and their dreams would need to altered to a something lower or lesser , then the self confidence will wither and this will lead to the words economic freedom being more of an illusion and economic insecurity more of a reality. Hence the words won't conjure the image of vistas of unlimited opportunity. Warfare is too strong a word to be associated with the tone of the passage. House is just one of the requirements and not the only one.

QNo:- 11 ,Correct Answer:- C

Explanation:-
In the given case, the best answer here option 3, objective and critical. The author of the passage clearly adopts an impartial viewpoint wherein he explains the given situation and its ramifications. Considering his approach, option 3 is the best choice in the given case.

QNo:- 12 ,Correct Answer:- D

Explanation:-
Statement I can be derived from the lines: Politicians are coming to terms with something Aristotle pointed out: that although

quarrels are more likely in an unequal society, striving to rectify the inequality may precipitate the very conflict that the citizenry wants to avoid.

Statement II can be derived from the lines: Government-supported credit does not arouse as many concerns from the Right at the outset as outright income redistribution would â€" though, as we have experienced, it may end up as a very costly way to redistribute, imposing harm on the recipient and costs on the taxpayer.

Statement III can be derived from the lines:When others in town become richer, the cost of everything goes up, and the real income of the economically immobile falls.

QNo:- 13 ,Correct Answer:- B

Explanation:-
The impact of the bankruptcy was far reaching and way beyond the borders of America. There was a fairly orderly winding of trades in the US but elsewhere the pandemonium drove the stock market into a vicious circle.

QNo:- 14 ,Correct Answer:- B

Explanation:-
Though people panicked this was not the cause of the downward spiral. When pandemonium broke out outside the country, as assets were freezed, hedge funds had to sell assets to meet the margin calls and that pushed down asset prices and that further fuelled the cycle.

QNo:- 15 ,Correct Answer:- B

Explanation:-
By doing a policy by deal the government looked at remedial measures and as the investors has no link to what was going on, there was chaos and panic in the share market.

QNo:- 16 ,Correct Answer:- D

Explanation:-
Option 4 can be derived from the lines: This American government—what is it but a tradition, though a recent one, endeavoring to transmit itself unimpaired to posterity, but each instant losing some of its integrity?
In this case, you need to know the meanings of the words in order to derive the answer:
Endeavoring: Attempt by employing effort
Unimpaired: Not damaged or diminished in any respect
Posterity: All future generations
Using the meanings above, we can derive option 4 as the correct answer.

QNo:- 17 ,Correct Answer:- A

Explanation:-
In order to derive the answer, you need to know the meaning of the word 'expedient'. It means: A means to an end; not necessarily a principled or ethical one/ Serving to promote your interest. Using this, we can see that option 1 is the best answer in the given case.
Also keep in mind that the author is clearly critical of governments and wants their minimum interference possible in the practical world.

QNo:- 18 ,Correct Answer:- B

Explanation:-
Options 1 and 3 go against the central idea of the passage wherein the author recommends that the powers of the governments needs to be curtailed.
Option 2 is the correct answer as it gels with the central argument of the author of the passage.
Option 4 is incorrect as the author does imply that governments have a certain minimum function to fulfill in society.

QNo:- 19 ,Correct Answer:- C

Explanation:-
The answer can be derived from the lines: The character inherent in the American people has done all that has been accomplished; and it would have done somewhat more, if the government had not sometimes got in its way.
Option 1 goes against the facts provided in the passage.
Option 2 in unnecessarily convoluted and not derived from the passage.
Option 4 goes against the facts provided in the passage.

QNo:- 20 ,Correct Answer:- B

Explanation:-
Refer to the lines: Trade and commerce, if they were not made of India rubber, would never manage to bounce over the obstacles which legislators are continually putting in their way

In this question, the comparison of trade and commerce to rubber is made only to illustrate the difficult conditions being created by the government. Keeping this in mind, we find option 2 to be apt answer for the given question.

QNo:- 21 ,Correct Answer:- D

Explanation:-
In the given case, the author provides his observation that there should be no government. He then goes on to provide evidence why this is the case. Considering this, option 4 is the best answer in the given case.

QNo:- 22 ,Correct Answer:- D

Explanation:-
Option 4. The author initially says that humility is one of the important factors on which successful leadership depends as leaders are able to serve others properly. He then goes on to talk about decent moral behaviours and by giving the example of Enron says that systems and rules cannot be apportioned blame as ultimately it is a person taking them.

QNo:- 23 ,Correct Answer:- B

Explanation:-
Option 2. The author states that Jeffery insinuated that if not caught malpractices were okay. The author does not agree to this and he says that it is leaders who made decisions to inflate earnings and hence the system cannot be held at ransom. The author does not state the example of Jeffrey to state that the Enron corporation was being made a scapegoat when all others we doing the same. Wall Street culture demanded aggressive earnings growth but that didn't mean it was mandatory i.e. absolutely necessary. The author does not agree with option 4.

QNo:- 24 ,Correct Answer:- D

Explanation:-
Option 4. The author terms mereness as a quality which leaders need to transform the lives of those around them.
Hence a leader who is servile i.e. having a slave like or submissive disposition is hardly going to be able to lead.

QNo:- 25 ,Correct Answer:- 2

Explanation:-
In the given case, statements 3-1-4 form the set of connected statements. Statement 3 provides the generic introduction and then statements 1 and 4 provide further details for the same. Statement 2 is the odd one out as the definition of 'liberal education' does not fit the given context of the other statements.

QNo:- 26 ,Correct Answer:- 1

Explanation:-
In the given case, statements 4-2-3 form the set of connected statements joined by the common reference to the word â
€˜masterpieceâ€™. Statement 1 does not fit in the given context as the given statement is about a different subject.

QNo:- 27 ,Correct Answer:- 2

Explanation:-
. The true synthesis of science mentioned in 1 is that mentioned in 3, which is that facts and personality are related and our
personalities are related to Perfect Personality.
There is no mention in the other 3 sentences given about what is forgotten by the physical sciences.
The word also in statement 2 indicates that there has to be a mention before.
The missing sentence before the 2nd sentence is â€" The humanistic or social sciences are supposed to take cognizance of these
personal relations.

QNo:- 28 ,Correct Answer:- 34125

Explanation:-
Sentence 3 talks of a deficit of literary qualities in ads, an idea contrasted by sentence 4, with its but and matter (3-4). Notice this
is why in sentence 1, which explains this idea in continuation of line 4 (3-4-1).

QNo:- 29 ,Correct Answer:- 31542

Explanation:-
The passage, in totality, talks of PSUs and the defence sector comes in as a secondary reference. Therefore, line 4 cannot be a good
opener. This honour should rightfully belong to line 3, which makes a good introductory remark about the perception regarding
the PSUS. Line 3 shows good contrast with line A with its defence of PSUs.

Line E further builds on this defence and talks of the problems confronting the PSUs (3-1-5). The idea raised in line E is further
elaborated by line 4, which explains why the things work differently in the defence sector (3-1-5-4). Notice the contrast between
more and more funds in line 4 and enlightened self-interest in line 2, which completes the picture (3-1-5-4-2).

QNo:- 30 ,Correct Answer:- 4

Explanation:-
Sentence 4 makes a very general comment about family while the rest talk of a break-up of the family as an institution.

QNo:- 31 ,Correct Answer:- 1

Explanation:-
While the lines 2, 3 and 4 speak of temporary disorganization (note the words for a while), line 1 refers to chronic disorganization,
which is a different thing.

QNo:- 32 ,Correct Answer:- 4

Explanation:-
Refer to these lines: Although her beliefs seemed to her not only reasonable but clearly true, and she could argue for them in a
rational way, they were not entirely the result of conscious thinking: the essential impulse that gave rise to all the rest was simply a
part of her. She could not help it; she had always been this way, since she was a child.
Keeping the above lines in mind, we can see that option 4 is the right answer. The paragraph highlights how the person operates
and how this is something inborn in her. She does not see the world in any other way.

QNo:- 33 ,Correct Answer:- 4

Explanation:-
This is where you need to be careful about the context of the given paragraph. Remember the key concepts in the paragraph are:

- *globalization and pluralization*
- *opening up every local, national or regional culture*
- *role of English as a global language (many worlds opened up by globalization are increasingly likely to be known through that single language alone.)*

Keeping this in mind, we can see that option 4 is the apt answer here.
Option 1 highlights a negative not mentioned in the paragraph.
The paragraph does not talk about English escaping anything, hence, option 2 is rejected.
Option 3 is incorrect as English as a tool for communication is a narrow sentiment and the passage adopts a much broader outlook.

QNo:- 34 ,Correct Answer:- 25314

Explanation:-
The paragraph talks about writing in particular art criticism and literary criticism and the complete lack of meaning to the passages found therein. Hence 2 will be the first statement. The living and deadness in 3 is referred to once again in 1. Improper way used in 1 is further clarified in 4 by giving an example of a political word. Fascism.

QNo:- 35 ,Correct Answer:- A

Explanation:-
Since each of the NCFM exams has the same maximum marks, the average maximum marks will be 75.
Since NCFM has a weightage of 2, we need to only add the marks in both papers instead of calculating their average and then multiplying by 2.
The bare minimum marks, so that the employee is eligible for promotion is 80% of 1620 = 1296.
So, C's final score is 1296 – 51 = 1245.
The total % of all 6 employees in AMFI is 74.16 Ã— 6 = 445.
Suppose D scored x% in AMFI
Then, 445 = x + 375 ⇒ x = 70%.
The total % of all 6 employees in IRDA is 81.66 Ã— 6 = 490.
Suppose C and E scored y% and z% respectively in IRDA.
Then, 490 = y + z + 340 ⇒ y + z = 150%.
A's marks in NCFM – C, NCFM – D, AMFI, IRDA and CFP are 60, 51, 68, 108 and 120 respectively.
So, A's final score is 60 + 51 + (3 Ã— 68) + (4 Ã— 108) + (5 Ã— 120) = 1347.
Similarly, the final scores for B, D and F are 1386, 1257 and 1320 respectively.
We know that the total final score is 1300 Ã— 6 = 7800.
So, E's final score must be 7800 – (1347 + 1386 + 1245 + 1257 + 1320) = 1245.
Thus, the final scores and the excess of final score over bare minimum qualifying score are as follows:

A	B	C	D	E	F
1347	1386	1245	1257	1245	1320

Thus we see that only A, B and F have a final score greater than 1296 and they exceed the base minimum qualifying score by 51, 90 and 24 respectively.

To find the maximum and minimum salaries, the salaries before the appraisal must have been the maximum and minimum respectively. Since B has the maximum increment of Rs. 9000 after being promoted, let us assume that he had an initial salary of Rs. 27000. So, B's final salary after the two increments is 27000 + 2700 + 9000 = Rs. 38,700. F has the minimum increment of Rs. 2400 after the promotion. If F had an initial salary of Rs. 12000, the final salary after both increments is 12000 + 1200 + 2400 = Rs. 15,600. Thus the required difference is Rs. 23,100.

QNo:- 36 ,Correct Answer:- 3

Explanation:-
Since each of the NCFM exams has the same maximum marks, the average maximum marks will be 75. Since NCFM has a weightage of 2, we need to only add the marks in both papers instead of calculating their average and then multiplying by 2.

The bare minimum marks, so that the employee is eligible for promotion is 80% of 1620 = 1296. So, C's final score is 1296 – 51 = 1245.The total % of all 6 employees in AMFI is 74.16 × 6 = 445. Suppose D scored x% in AMFI Then, 445 = x + 375 ⇒ x = 70%. The total % of all 6 employees in IRDA is 81.66 × 6 = 490. Suppose C and E scored y% and z% respectively in IRDA. Then, 490 = y + z + 340 ⇒ y + z = 150%. A's marks in NCFM – D, NCFM – C, AMFI, IRDA and CFP are 60, 51, 68, 108 and 120 respectively. So, A's final score is 60 + 51 + (3 × 68) + (4 × 108) + (5 × 120) = 1347. Similarly, the final scores for B, D and F are 1386, 1257 and 1320 respectively. We know that the total final score is 1300 × 6 = 7800. So, E's final score must be 7800 – (1347 + 1386 + 1245 + 1257 + 1320) = 1245. Thus, the final scores and the excess of final score over bare minimum qualifying score are as follows:

A	B	C	D	E	F
1347	1386	1245	1257	1245	1320

Thus we see that only A, B and F have a final score greater than 1296 and they exceed the base minimum qualifying score by 51, 90 and 24 respectively.

Only 3 employees, A, B and F, are promoted to level M2.

QNo:- 37 ,Correct Answer:- D

Explanation:-
Since each of the NCFM exams has the same maximum marks, the average maximum marks will be 75. Since NCFM has a weightage of 2, we need to only add the marks in both papers instead of calculating their average and then multiplying by 2. The bare minimum marks, so that the employee is eligible for promotion is 80% of 1620 = 1296. So, C's final score is 1296 – 51 = 1245.The total % of all 6 employees in AMFI is 74.16 × 6 = 445. Suppose D scored x% in AMFI Then, 445 = x + 375 ⇒ x = 70%. The total % of all 6 employees in IRDA is 81.66 × 6 = 490. Suppose C and E scored y% and z% respectively in IRDA. Then, 490 = y + z + 340 ⇒ y + z = 150%. A's marks in NCFM – D, NCFM – C, AMFI, IRDA and CFP are 60, 51, 68, 108 and 120 respectively. So, A's final score is 60 + 51 + (3 × 68) + (4 × 108) + (5 × 120) = 1347. Similarly, the final scores for B, D and F are 1386, 1257 and 1320 respectively. We know that the total final score is 1300 × 6 = 7800. So, E's final score must be 7800 – (1347 + 1386 + 1245 + 1257 + 1320) = 1245. Thus, the final scores and the excess of final score over bare minimum qualifying score are as follows:

A	B	C	D	E	F
1347	1386	1245	1257	1245	1320

Thus we see that only A, B and F have a final score greater than 1296 and they exceed the base minimum qualifying score by 51, 90 and 24 respectively.

The maximum initial salaries of the 3 employees who are promoted could be Rs. 27000, Rs. 25000 and Rs. 22000. So, the maximum total salary after both increments is 1.1 × (27000 + 25000 + 22000) + 5100 + 9000 + 2400 = Rs. 97,900. Thus the required average is 97900/3 ≈ Rs. 32,633.

QNo:- 38 ,Correct Answer:- C

Explanation:-

Unemployed Uneducated ≡ UnEmUnEd   Employed Uneducated ≡ EmUnEd

Unemployed Graduates ≡ UnEmG   Employed Graduates ≡ EmG

From the given percentages, we can calculate the number of voters in the categories UnEmUnEd, EmUnEd, UnEmG, EmG and Others as 32,40,000, 4,86,000, 14,58,000, 54,000 and 1,62,000 respectively. Since A, B, C, D and E formed an increasing AP, the sum of their cubes is less than 250 and 3 of them are prime numbers, the only possibility is A = 1, B = 2, C = 3, D = 4 and E = 5.

UnEmUnEd: Since A = 1, we know that the ratio M : F = 1 : 1. So, of the 32,40,000 voters in this category, 16,20,000 are males and the remaining 16,20,000 are females. Of the males, 60% × 16,20,000 = 9,72,000 cast their votes and of these, 90% × 9,72,000 = 874,800 favoured the winning candidate.

Since we do not know the percentage of females who cast their votes, we cannot calculate similar values for the females.

UnEmG: Since C = 3, we know that the ratio M : F = 1 : 3.

So, of the 1458000 voters in this category, 364500 are males and the remaining 10,93,500 are females.

Of the males, 20% × 364500 = 72,900 cast their votes and of these, 10% × 72,900 = 7290 favoured the winning candidate. Of the females, 60% × 1093500 = 6,56,100 cast their votes and of these, 50% × 6,56,100 = 3,28,050 favoured the winning candidate. Continuing in a similar manner, we can find the number of voters for each of the other categories and tabulate this information. In the tables below, T = total voters under the category male of Female, V = number of voters who cast their votes and VW = number of voters who cast their votes in favour of the winning candidate.

UnEmUnEd
P = 60% ⟹ Voters = 32,40,000
A = 1 ⟹ M : F = 1 : 1

	Males		Females	
T	16,20,000		16,20,000	
V	60%	97200	x%	
VW	90%	87480	25%	

EmUnEd
Q = 9% ⟹ Voters = 4,86,000
B = 2 ⟹ M : F = 1 : 2

	Males		Females	
T	1,62,000		3,24,000	
V	50%	81000	10%	32400
VW	80%	64800	y%	

UnEmG
R = 27% ⟹ Voters = 14,58,000
C = 3 ⟹ M : F = 1 : 3

	Males		Females	
T	3,64,500		10,93,500	
V	20%	72900	60%	65610
VW	10%	7290	50%	32805

EmG
S = 1% ⟹ Voters = 54,000
D = 4 ⟹ M : F = 1 : 4

	Males		Females	
T	10800		43200	
V	30%	3240	5%	2160
VW	50%	1620	10%	216

Others
T = 3% ⟹ Voters = 1,62,000
E = 5 ⟹ M : F = 1 : 5

	Males		Females	
T	27,000		1,35,000	
V	10%	2700	5%	6750
VW	0%	0	10%	675

- We can now answer the question based on the values above.

The number of male votes cast in EmG was 3240. So, the number of female votes favouring the winner in EmUnEd was 1620. Since there are 16,20,000 female voters in the UnEmUnEd category, the required ratio is 16,20,000 : 1620 = 1000.

Hence, the correct answer is option C.

QNo:- 39 ,Correct Answer:- 14.5

Explanation:-

Unemployed Uneducated ≡ UnEmUnEd   Employed Uneducated ≡ EmUnEd

Unemployed Graduates ≡ UnEmG   Employed Graduates ≡ EmG

From the given percentages, we can calculate the number of voters in the categories UnEmUnEd, EmUnEd, UnEmG, EmG and Others as 32,40,000, 4,86,000, 14,58,000, 54,000 and 1,62,000 respectively. Since A, B, C, D and E formed an increasing AP, the sum of their cubes is less than 250 and 3 of them are prime numbers, the only possibility is A = 1, B = 2, C = 3, D = 4 and E = 5.

UnEmUnEd: Since A = 1, we know that the ratio M : F = 1 : 1. So, of the 32,40,000 voters in this category, 16,20,000 are males and the remaining 16,20,000 are females. Of the males, 60% × 16,20,000 = 9,72,000 cast their votes and of these, 90% × 9,72,000 = 874,800 favoured the winning candidate.

Since we do not know the percentage of females who cast their votes, we cannot calculate similar values for the females.

UnEmG: Since C = 3, we know that the ratio M : F = 1 : 3.

So, of the 1458000 voters in this category, 364500 are males and the remaining 10,93,500 are females.

Of the males, 20% × 364500 = 72,900 cast their votes and of these, 10% × 72,900 = 7290 favoured the winning candidate

Of the females, 60% × 1093500 = 6,56,100 cast their votes and of these, 50% × 6,56,100 = 3,28,050 favoured the winning candidate. Continuing in a similar manner, we can find the number of voters for each of the other categories and tabulate this information. In the tables below, T = total voters under the category male of Female, V = number of voters who cast their votes and VW = number of voters who cast their votes in favour of the winning candidate.

UnEmUnEd				
P = 60% ⇒ Voters = 32,40,000				
A = 1 ⇒ M : F = 1 : 1				
	Males		Females	
T	16,20,000		16,20,000	
V	60%	972000	x%	
VW	90%	874800	25%	

EmUnEd				
Q = 9% ⇒ Voters = 4,86,000				
B = 2 ⇒ M : F = 1 : 2				
	Males		Females	
T	1,62,000		3,24,000	
V	50%	81000	10%	32400
VW	80%	64800	y%	

UnEmG				
R = 27% ⇒ Voters = 14,58,000				
C = 3 ⇒ M : F = 1 : 3				
	Males		Females	
T	3,64,500		10,93,500	
V	20%	72900	60%	656100
VW	10%	7290	50%	328050

EmG				
S = 1% ⇒ Voters = 54,000				
D = 4 ⇒ M : F = 1 : 4				
	Males		Females	
T	10800		43200	
V	30%	3240	5%	2160
VW	50%	1620	10%	216

Others				
T = 3% ⇒ Voters = 1,62,000				
E = 5 ⇒ M : F = 1 : 5				
	Males		Females	
T	27,000		1,35,000	
V	10%	2700	5%	6750
VW	0%	0	10%	675

▪ We can now answer the question based on the values above.

The male votes cast in UnEmG and EmUnEd are 72900 and 81000 respectively.

So the female votes cast in UnEmUnEd = 72,900 + (2 × 81,000) = 2,34,900.

Since there are 16,20,000 females in this category, the required percentage is (234,900 / 16,20,000) × 100 = 14.5%.

QNo:- 40 ,Correct Answer:- B

Explanation:-

Unemployed Uneducated ≡ UnEmUnEd   Employed Uneducated ≡ EmUnEd
Unemployed Graduates ≡ UnEmG   Employed Graduates ≡ EmG

From the given percentages, we can calculate the number of voters in the categories UnEmUnEd, EmUnEd, UnEmG, EmG and Others as 32,40,000, 4,86,000, 14,58,000, 54,000 and 1,62,000 respectively. Since A, B, C, D and E formed an increasing AP, the sum of their cubes is less than 250 and 3 of them are prime numbers, the only possibility is A = 1, B = 2, C = 3, D = 4 and E = 5.

UnEmUnEd: Since A = 1, we know that the ratio M : F = 1 : 1. So, of the 32,40,000 voters in this category, 16,20,000 are males and the remaining 16,20,000 are females. Of the males, 60% × 16,20,000 = 9,72,000 cast their votes and of these, 90% × 9,72,000 = 874,800 favoured the winning candidate.

Since we do not know the percentage of females who cast their votes, we cannot calculate similar values for the females.

UnEmG: Since C = 3, we know that the ratio M : F = 1 : 3.

So, of the 1458000 voters in this category, 364500 are males and the remaining 10,93,500 are females.

Of the males, 20% × 364500 = 72,900 cast their votes and of these, 10% × 72,900 = 7290 favoured the winning candidate. Of the females, 60% × 1093500 = 6,56,100 cast their votes and of these, 50% × 6,56,100 = 3,28,050 favoured the winning candidate. Continuing in a similar manner, we can find the number of voters for each of the other categories and tabulate this information. In the tables below, T = total voters under the category male of Female, V = number of voters who cast their votes and VW = number of voters who cast their votes in favour of the winning candidate.

UnEmUnEd				
P = 60% ⇒ Voters = 32,40,000				
A = 1 ⇒ M : F = 1 : 1				
	Males		Females	
T	16,20,000		16,20,000	
V	60%	972000	x%	
VW	90%	874800	25%	

EmUnEd				
Q = 9% ⇒ Voters = 4,86,000				
B = 2 ⇒ M : F = 1 : 2				
	Males		Females	
T	1,62,000		3,24,000	
V	50%	81000	10%	32400
VW	80%	64800	y%	

UnEmG				
R = 27% ⇒ Voters = 14,58,000				
C = 3 ⇒ M : F = 1 : 3				
	Males		Females	
T	3,64,500		10,93,500	
V	20%	72900	60%	656100
VW	10%	7290	50%	328050

EmG				
S = 1% ⇒ Voters = 54,000				
D = 4 ⇒ M : F = 1 : 4				
	Males		Females	
T	10800		43200	
V	30%	3240	5%	2160
VW	50%	1620	10%	216

Others				
T = 3% ⇒ Voters = 1,62,000				
E = 5 ⇒ M : F = 1 : 5				
	Males		Females	
T	27,000		1,35,000	
V	10%	2700	5%	6750
VW	0%	0	10%	675

▪ We can now answer the question based on the values above.

The total male votes favouring the winning candidates across all categories is 874,800 + 64,800 + 7290 + 1620 = 9,48,510.
The total male votes cast across all categories is 972,000 + 81,000 + 72,900 + 3240 + 2700 = 11,31,840.
The required percentage is (948,510 / 11,31,840) × 100 ≈ 83%.

QNo:- 41 ,Correct Answer:- A

Explanation:-

Unemployed Uneducated ≡ UnEmUnEd   Employed Uneducated ≡ EmUnEd
Unemployed Graduates ≡ UnEmG   Employed Graduates ≡ EmG

From the given percentages, we can calculate the number of voters in the categories UnEmUnEd, EmUnEd, UnEmG, EmG and Others as 32,40,000, 4,86,000, 14,58,000, 54,000 and 1,62,000 respectively. Since A, B, C, D and E formed an increasing AP, the sum of their cubes is less than 250 and 3 of them are prime numbers, the only possibility is A = 1, B = 2, C = 3, D = 4 and E = 5.

UnEmUnEd: Since A = 1, we know that the ratio M : F = 1 : 1. So, of the 32,40,000 voters in this category, 16,20,000 are males and the remaining 16,20,000 are females. Of the males, 60% × 16,20,000 = 9,72,000 cast their votes and of these, 90% × 9,72,000 = 874,800 favoured the winning candidate.

Since we do not know the percentage of females who cast their votes, we cannot calculate similar values for the females.

UnEmG: Since C = 3, we know that the ratio M : F = 1 : 3.

So, of the 1458000 voters in this category, 364500 are males and the remaining 10,93,500 are females.

Of the males, 20% × 364500 = 72,900 cast their votes and of these, 10% × 72,900 = 7290 favoured the winning candidate. Of the females, 60% × 1093500 = 6,56,100 cast their votes and of these, 50% × 6,56,100 = 3,28,050 favoured the winning candidate. Continuing in a similar manner, we can find the number of voters for each of the other categories and tabulate this information. In the tables below, T = total voters under the category male of Female, V = number of voters who cast their votes and VW = number of voters who cast their votes in favour of the winning candidate.

UnEmUnEd				
P = 60% ⇒ Voters = 32,40,000				
A = 1 ⇒ M : F = 1 : 1				
	Males		Females	
T	16,20,000		16,20,000	
V	60%	972000	x%	
VW	90%	874800	25%	

EmUnEd				
Q = 9% ⇒ Voters = 4,86,000				
B = 2 ⇒ M : F = 1 : 2				
	Males		Females	
T	1,62,000		3,24,000	
V	50%	81000	10%	32400
VW	80%	64800	y%	

UnEmG				
R = 27% ⇒ Voters = 14,58,000				
C = 3 ⇒ M : F = 1 : 3				
	Males		Females	
T	3,64,500		10,93,500	
V	20%	72900	60%	656100
VW	10%	7290	50%	328050

EmG				
S = 1% ⇒ Voters = 54,000				
D = 4 ⇒ M : F = 1 : 4				
	Males		Females	
T	10800		43200	
V	30%	3240	5%	2160
VW	50%	1620	10%	216

Others				
T = 3% ⇒ Voters = 1,62,000				
E = 5 ⇒ M : F = 1 : 5				
	Males		Females	
T	27,000		1,35,000	
V	10%	2700	5%	6750
VW	0%	0	10%	675

- We can now answer the question based on the values above.

The total male votes cast across all categories is 1131840.

The total number of male voters across all categories is 16,20,000 + 162,000 + 364,500 + 10,800 + 27,000 = 21,84,300.

The required percentage is (11,31,840 / 21,84,300) × 100 ≈ 51%

QNo:- 42 ,Correct Answer:- A

Explanation:-

Harakiri said that he won 3 rounds and there were 2 ties. To calculate his maximum possible score, he must have won 3 rounds as (9, 8, 8, 8), (8, 7, 7, 7) and (7, 6, 6, 6) and tied the 2 rounds when he played a 6 and a 5. Based on this, his maximum score would have been 98. Since he claimed that he scored more than 100, we know that Harakiri is a Liar. Wapilipi said that he won 2 rounds and there was 1 tie.To calculate his minimum possible score, he must have won the 2 rounds as (2, 1, 1, 1) and (3, 2, 2, 2) and played a 4 for the tie. Based on this, his minimum score would have been 18. Since he claimed that he scored less than 14, we know that Wapilipi is a Liar. Since Harakiri and Wapilipi are liars, all their statements are false. This means that the number of tied rounds was not 1 or 2 and must have been 3 or more. Also, "At least 2players won the same number of rounds" is false. This means that all the players won a different number of rounds. Since there are 9 rounds, we know that Wins + Ties = 9. The only possibilities for Wins and Ties are 6 and 3 respectively, so that the number of rounds won by the 4 players are 0, 1, 2 and 3 in some order. Since we know that 3 rounds ended in a tie, we can conclude that Khiun is a Truth-Teller. Suppose Teraki is a Liar. Then we know that Teraki would have won at least 1 round and there were 3 ties. For the minimum score, Teraki's win would be (2, 1, 1, 1) and the cards he played for the ties would be 3, 4 and 5. So, Teraki's minimum score would be 17. This supports that statement that he scored more than 12. We can now conclude that Teraki is a Truth-Teller. We now know that Khiun won 1 round and Teraki won 0 rounds. Since Harakiri's statement "I won 3 rounds" is false, we can conclude that Harakiri won 2 rounds and Wapilipi won 3 rounds. Since Teraki is a Truth-Tellers, we know that 4 different cards were played on each winning round. Khiun has won 1 round and there are 3 ties. For maximum score, Khiun would have to win as (9, 8, 7, 6) and play 8, 7, 6 for the ties. So, Khiun's maximum score will be 51. Since Khiun scores more than 47, his possible scores are 48, 49, 50 or 51. Since 48, 49 and 50 are divisible by the square of a prime number, Khiun's score must be 51. Harakiri has won 2 rounds and has 3 ties. For maximum score, Harakiri wins 2 rounds as (9, 8, 7, 6) and (8, 7, 6, 5) and plays 5, 4 and 3 for the ties (as all the 7s and 6s have been used up). So, his maximum score is 68. Since the winning score is more than 63, we know that Harakiri is the winner and the possibilities are

64, 65, 66, 67 and 68. We can rule out 64 and 68 as both are divisible by 4. So, the winning score is one of 65, 66 and 67. Since Teraki has not won any round, his 9 must be tied with some one else's 9. We can continue the analysis to get unique values for the scores of Harakiri, Khiun, Teraki and Wapilipi as 65, 51, 17 and 47 respectively, but it is not required.

Harakiri won the game.

QNo:- 43 ,Correct Answer:- D

Explanation:-
Harakiri said that he won 3 rounds and there were 2 ties. To calculate his maximum possible score, he must have won 3 rounds as (9, 8, 8, 8), (8, 7, 7, 7) and (7, 6, 6, 6) and tied the 2 rounds when he played a 6 and a 5. Based on this, his maximum score would have been 98. Since he claimed that he scored more than 100, we know that Harakiri is a Liar. Wapilipi said that he won 2 rounds and there was 1 tie.To calculate his minimum possible score, he must have won the 2 rounds as (2, 1, 1, 1) and (3, 2, 2, 2) and played a 4 for the tie. Based on this, his minimum score would have been 18. Since he claimed that he scored less than 14, we know that Wapilipi is a Liar. Since Harakiri and Wapilipi are liars, all their statements are false. This means that the number of tied rounds was not 1 or 2 and must have been 3 or more. Also, "At least 2players won the same number of rounds" is false. This means that all the players won a different number of rounds. Since there are 9 rounds, we know that Wins + Ties = 9. The only possibilities for Wins and Ties are 6 and 3 respectively, so that the number of rounds won by the 4 players are 0, 1, 2 and 3 in some order. Since we know that 3 rounds ended in a tie, we can conclude that Khiun is a Truth-Teller. Suppose Teraki is a Liar. Then we know that Teraki would have won at least 1 round and there were 3 ties. For the minimum score, Teraki's win would be (2, 1, 1, 1) and the cards he played for the ties would be 3, 4 and 5. So, Teraki's minimum score would be 17. This supports that statement that he scored more than 12. We can now conclude that Teraki is a Truth-Teller. We now know that Khiun won 1 round and Teraki won 0 rounds. Since Harakiri's statement "I won 3 rounds" is false, we can conclude that Harakiri won 2 rounds and Wapilipi won 3 rounds. Since Teraki is a Truth-Tellers, we know that 4 different cards were played on each winning round. Khiun has won 1 round and there are 3 ties. For maximum score, Khiun would have to win as (9, 8, 7, 6) and play 8, 7, 6 for the ties. So, Khiun's maximum score will be 51. Since Khiun scores more than 47, his possible scores are 48, 49, 50 or 51. Since 48, 49 and 50 are divisible by the square of a prime number, Khiun's score must be 51. Harakiri has won 2 rounds and has 3 ties. For maximum score, Harakiri wins 2 rounds as (9, 8, 7, 6) and (8, 7, 6, 5) and plays 5, 4 and 3 for the ties (as all the 7s and 6s have been used up). So, his maximum score is 68. Since the winning score is more than 63, we know that Harakiri is the winner and the possibilities are 64, 65, 66, 67 and 68. We can rule out 64 and 68 as both are divisible by 4. So, the winning score is one of 65, 66 and 67. Since Teraki has not won any round, his 9 must be tied with some one else's 9. We can continue the analysis to get unique values for the scores of Harakiri, Khiun, Teraki and Wapilipi as 65, 51, 17 and 47 respectively, but it is not required.

Harakiri's score is one of 65, 66 or 67. So, Harakiri's score cannot be 61.

QNo:- 44 ,Correct Answer:- B

Explanation:-
Harakiri said that he won 3 rounds and there were 2 ties. To calculate his maximum possible score, he must have won 3 rounds as (9, 8, 8, 8), (8, 7, 7, 7) and (7, 6, 6, 6) and tied the 2 rounds when he played a 6 and a 5. Based on this, his maximum score would have been 98. Since he claimed that he scored more than 100, we know that Harakiri is a Liar. Wapilipi said that he won 2 rounds and there was 1 tie.To calculate his minimum possible score, he must have won the 2 rounds as (2, 1, 1, 1) and (3, 2, 2, 2) and played a 4 for the tie. Based on this, his minimum score would have been 18. Since he claimed that he scored less than 14, we know that Wapilipi is a Liar. Since Harakiri and Wapilipi are liars, all their statements are false. This means that the number of tied rounds was not 1 or 2 and must have been 3 or more. Also, "At least 2players won the same number of rounds" is false. This means that all the players won a different number of rounds. Since there are 9 rounds, we know that Wins + Ties = 9. The only possibilities for Wins and Ties are 6 and 3 respectively, so that the number of rounds won by the 4 players are 0, 1, 2 and 3 in some order. Since we know that 3 rounds ended in a tie, we can conclude that Khiun is a Truth-Teller. Suppose Teraki is a Liar. Then we know that Teraki would have won at least 1 round and there were 3 ties. For the minimum score, Teraki's win would be (2, 1, 1, 1) and the cards he played for the ties would be 3, 4 and 5. So, Teraki's minimum score would be 17. This supports that statement that he scored more than 12. We can now conclude that Teraki is a Truth-Teller. We now know that Khiun won 1 round and Teraki won 0 rounds. Since Harakiri's statement "I won 3 rounds" is false, we can conclude that Harakiri won 2 rounds and Wapilipi won 3 rounds. Since Teraki is a Truth-Tellers, we know that 4 different cards were played on each winning round. Khiun has won 1 round and there are 3 ties. For maximum score, Khiun would have to win as (9, 8, 7, 6) and play 8, 7, 6 for the ties. So, Khiun's maximum score will be 51. Since Khiun scores more than 47, his possible scores are 48, 49, 50 or 51. Since 48, 49 and 50 are divisible by the square of a prime number, Khiun's score must be 51.
Harakiri has won 2 rounds and has 3 ties. For maximum score, Harakiri wins 2 rounds as (9, 8, 7, 6) and (8, 7, 6, 5) and plays 5, 4 and 3 for the ties (as all the 7s and 6s have been used up). So, his maximum score is 68. Since the winning score is more than 63, we know that Harakiri is the winner and the possibilities are 64, 65, 66, 67 and 68. We can rule out 64 and 68 as both are divisible

by 4. So, the winning score is one of 65, 66 and 67. Since Teraki has not won any round, his 9 must be tied with some one else's 9. We can continue the analysis to get unique values for the scores of Harakiri, Khiun, Teraki and Wapilipi as 65, 51, 17 and 47 respectively, but it is not required.

Since Teraki has not won any round, his 9 must be tied with some one else's 9.
Harakiri and Wapilipi are Liars and Khiun and Teraki are Truth-Tellers.
Harakiri could have a score of 65, 66 or 67.
So, statements II and IV are true.

QNo:- 45 ,Correct Answer:- 51

Explanation:-
Harakiri said that he won 3 rounds and there were 2 ties. To calculate his maximum possible score, he must have won 3 rounds as (9, 8, 8, 8), (8, 7, 7, 7) and (7, 6, 6, 6) and tied the 2 rounds when he played a 6 and a 5. Based on this, his maximum score would have been 98. Since he claimed that he scored more than 100, we know that Harakiri is a Liar. Wapilipi said that he won 2 rounds and there was 1 tie.To calculate his minimum possible score, he must have won the 2 rounds as (2, 1, 1, 1) and (3, 2, 2, 2) and played a 4 for the tie. Based on this, his minimum score would have been 18. Since he claimed that he scored less than 14, we know that Wapilipi is a Liar. Since Harakiri and Wapilipi are liars, all their statements are false. This means that the number of tied rounds was not 1 or 2 and must have been 3 or more. Also, "At least 2players won the same number of rounds" is false. This means that all the players won a different number of rounds. Since there are 9 rounds, we know that Wins + Ties = 9. The only possibilities for Wins and Ties are 6 and 3 respectively, so that the number of rounds won by the 4 players are 0, 1, 2 and 3 in some order. Since we know that 3 rounds ended in a tie, we can conclude that Khiun is a Truth-Teller. Suppose Teraki is a Liar. Then we know that Teraki would have won at least 1 round and there were 3 ties. For the minimum score, Teraki's win would be (2, 1, 1, 1) and the cards he played for the ties would be 3, 4 and 5. So, Teraki's minimum score would be 17. This supports that statement that he scored more than 12. We can now conclude that Teraki is a Truth-Teller. We now know that Khiun won 1 round and Teraki won 0 rounds. Since Harakiri's statement "I won 3 rounds" is false, we can conclude that Harakiri won 2 rounds and Wapilipi won 3 rounds. Since Teraki is a Truth-Tellers, we know that 4 different cards were played on each winning round. Khiun has won 1 round and there are 3 ties. For maximum score, Khiun would have to win as (9, 8, 7, 6) and play 8, 7, 6 for the ties.
So, Khiun's maximum score will be 51. Since Khiun scores more than 47, his possible scores are 48, 49, 50 or 51. Since 48, 49 and 50 are divisible by the square of a prime number, Khiun's score must be 51.
Harakiri has won 2 rounds and has 3 ties. For maximum score, Harakiri wins 2 rounds as (9, 8, 7, 6) and (8, 7, 6, 5) and plays 5, 4 and 3 for the ties (as all the 7s and 6s have been used up). So, his maximum score is 68. Since the winning score is more than 63, we know that Harakiri is the winner and the possibilities are 64, 65, 66, 67 and 68. We can rule out 64 and 68 as both are divisible by 4. So, the winning score is one of 65, 66 and 67. Since Teraki has not won any round, his 9 must be tied with some one else's 9. We can continue the analysis to get unique values for the scores of Harakiri, Khiun, Teraki and Wapilipi as 65, 51, 17 and 47 respectively, but it is not required.

Khiun's score was 51.

QNo:- 46 ,Correct Answer:- 15

Explanation:-
In July 2001, government job opening were 578 and total job openings were 3330 + 578 = 3908. The required percentage is (578 × 100) / 3908 = 14.79%

QNo:- 47 ,Correct Answer:- D

Explanation:-
The total job openings in Feb 2002 were
2595 + 434 = 3029 while those in Mar 2002 were 2739 + 449 = 3188.
This is an increase of (3188 − 3029)/3029
= 5.25%.
The total job openings in Dec 2001 were
2396 + 424 = 2820 while those in Jan 2002 were 2488 + 427 = 2915.
This is an increase of (2915 − 2820)/2820
= 3.37%.

The total job openings in Jan 2002 were

2488 + 427 = 2915 while those in Feb 2002 were 2595 + 434 = 3029.

This is an increase of (3029 – 2915)/2915

= 3.91%.

The total job openings in Apr 2002 were

2779 + 479 = 3258 while those in May 2002 were 2930 + 525 = 3455.

This is an increase of (3455 – 3258)/3258

= 6.05%.
Hence, the correct answer is option D.

QNo:- 48 ,Correct Answer:- D

Explanation:-

In each of the months from May 2001 to May 2002, the number of job openings in the Services sector was the highest.

So Services will have the highest cumulative job openings.

QNo:- 49 ,Correct Answer:- 40

Explanation:-
Let the points for the countries be A, B, C, D, E, F, G and S respectively. Since there are 8 countries and each country plays a match against every other country, each country plays 7 matches and the total number of matches is $(7 \times 8)/2 = 28$ and the total points from these matches is 280. Also, since a country can win either 10 or 5 points, the total points must be a multiple of 5. Since each country loses at least 1 match, the maximum points scored will be 60. Clues 1, 2 and 3 are direct and give us the number of matches won, drawn or lost by particular countries. From clue 1, we also know that A has either 1 or 4 wins from 7 matches. From clues 4 and 7, we have $4B = A + 2C = 8A - 8C \Rightarrow 7A = 10C$. Since $A : C = 10 : 7$, A and C must be 50 and 35 respectively. Adding clues 4 and 7, we get $3A = 5B \Rightarrow A : B = 5 : 3$. Since $A = 50$, $B = 30$. Since Austria has exactly 2 draws, she must have 4 wins to get 50 points and must have lost 1 match. Since Bulgaria won exactly 2 matches, she must have drawn 2 and lost 3 to get 30 points. From clue 8, $6G = 7S \Rightarrow G : S = 7 : 6$. So, $G = 35$ and $S = 30$. Since the total points must be 280, we get $D + E + F = 280 - 50 - 30 - 35 - 35 - 30 = 100$. From clue 6, $S + 5F = D + 6G$. Substituting for G and S, we get $5F - D = 180$. Since F and D can be a maximum of 60, there are 2 possibilities $(F, D) \equiv (45, 45)$ and $(40, 20)$. From clue 5, we know that $|A - E| = |B - D| \Rightarrow E + D = 80$ or $E - D = 20$.
Substituting the possible values of D, i.e., either 45 or 20, we find that $D = 20$, $E = 40$ and $F = 40$ so that their sum is 100. Since France has lost exactly 3 matches and has 40 points, she must have won the remaining 4 matches. Based on this analysis, we can make a table:

	W	D	L	Pts
A	4	2	1	50
B	2	2	3	30
C				35
D				20
E				40
F	4	0	3	40
G				35
S				30

Since Bulgaria has lost her match against Spain, we know that Spain must have at least 1 win. Based on the points, the countries can have the following possibilities for the number of matches won, drawn and lost respectively.

20 points			30 points		
W	D	L	W	D	L
2	0	5	3	0	4
1	2	4	2	2	3
0	4	3	1	4	2
35 points			40 points		
W	D	L	W	D	L
3	1	3	4	0	3
2	3	2	3	2	2
1	5	1	2	4	1

We can take different combinations from the above tables so that 6 matches end in a draw and the remaining 22 are won.

England won 40 points.

Explanation:-
Let the points for the countries be A, B, C, D, E, F, G and S respectively. Since there are 8 countries and each country plays a match against every other country, each country plays 7 matches and the total number of matches is $(7 \times 8)/2 = 28$ and the total points from these matches is 280. Also, since a country can win either 10 or 5 points, the total points must be a multiple of 5. Since each country loses at least 1 match, the maximum points scored will be 60. Clues 1, 2 and 3 are direct and give us the number of matches won, drawn or lost by particular countries. From clue 1, we also know that A has either 1 or 4 wins from 7 matches. From clues 4 and 7, we have $4B = A + 2C = 8A - 8C \Rightarrow 7A = 10C$. Since $A : C = 10 : 7$, A and C must be 50 and 35 respectively. Adding clues 4 and 7, we get $3A = 5B \Rightarrow A : B = 5 : 3$. Since $A = 50$, $B = 30$. Since Austria has exactly 2 draws, she must have 4 wins to get 50 points and must have lost 1 match. Since Bulgaria won exactly 2 matches, she must have drawn 2 and lost 3 to get 30 points. From clue 8, $6G = 7S \Rightarrow G : S = 7 : 6$. So, $G = 35$ and $S = 30$. Since the total points must be 280, we get $D + E + F = 280 - 50 - 30 - 35 - 35 - 30 = 100$. From clue 6, $S + 5F = D + 6G$. Substituting for G and S, we get $5F - D = 180$. Since F and D can be a maximum of 60, there are 2 possibilities $(F, D) \equiv (45, 45)$ and $(40, 20)$. From clue 5, we know that $|A - E| = |B - D| \Rightarrow E + D = 80$ or $E - D = 20$.
Substituting the possible values of D, i.e., either 45 or 20, we find that $D = 20$, $E = 40$ and $F = 40$ so that their sum is 100. Since France has lost exactly 3 matches and has 40 points, she must have won the remaining 4 matches. Based on this analysis, we can make a table:

	W	D	L	Pts
A	4	2	1	50
B	2	2	3	30
C				35
D				20
E				40
F	4	0	3	40
G				35
S				30

Since Bulgaria has lost her match against Spain, we know that Spain must have at least 1 win. Based on the points, the countries can have the following possibilities for the number of matches won, drawn and lost respectively.

20 points			30 points		
W	D	L	W	D	L
2	0	5	3	0	4
1	2	4	2	2	3
0	4	3	1	4	2
35 points			40 points		
W	D	L	W	D	L
3	1	3	4	0	3
2	3	2	3	2	2
1	5	1	2	4	1

We can take different combinations from the above tables so that 6 matches end in a draw and the remaining 22 are won.

The maximum number of matches lost by any country is 5.

QNo:- 51 ,Correct Answer:- C

Explanation:-

Let the points for the countries be A, B, C, D, E, F, G and S respectively. Since there are 8 countries and each country plays a match against every other country, each country plays 7 matches and the total number of matches is $(7 \times 8)/2 = 28$ and the total points from these matches is 280. Also, since a country can win either 10 or 5 points, the total points must be a multiple of 5. Since each country loses at least 1 match, the maximum points scored will be 60. Clues 1, 2 and 3 are direct and give us the number of matches won, drawn or lost by particular countries. From clue 1, we also know that A has either 1 or 4 wins from 7 matches. From clues 4 and 7, we have $4B = A + 2C = 8A - 8C \Rightarrow 7A = 10C$. Since $A : C = 10 : 7$, A and C must be 50 and 35 respectively. Adding clues 4 and 7, we get $3A = 5B \Rightarrow A : B = 5 : 3$. Since $A = 50$, $B = 30$. Since Austria has exactly 2 draws, she must have 4 wins to get 50 points and must have lost 1 match. Since Bulgaria won exactly 2 matches, she must have drawn 2 and lost 3 to get 30 points. From clue 8, $6G = 7S \Rightarrow G : S = 7 : 6$. So, $G = 35$ and $S = 30$. Since the total points must be 280, we get $D + E + F = 280 - 50 - 30 - 35 - 35 - 30 = 100$. From clue 6, $S + 5F = D + 6G$. Substituting for G and S, we get $5F - D = 180$. Since F and D can be a maximum of 60, there are 2 possibilities $(F, D) \equiv (45, 45)$ and $(40, 20)$. From clue 5, we know that $|A - E| = |B - D| \Rightarrow E + D = 80$ or $E - D = 20$. Substituting the possible values of D, i.e., either 45 or 20, we find that $D = 20$, $E = 40$ and $F = 40$ so that their sum is 100. Since France has lost exactly 3 matches and has 40 points, she must have won the remaining 4 matches. Based on this analysis, we can make a table:

	W	D	L	Pts
A	4	2	1	50
B	2	2	3	30
C				35
D				20
E				40
F	4	0	3	40
G				35
S				30

Since Bulgaria has lost her match against Spain, we know that Spain must have at least 1 win. Based on the points, the countries can have the following possibilities for the number of matches won, drawn and lost respectively.

20 points			30 points		
W	D	L	W	D	L
2	0	5	3	0	4
1	2	4	2	2	3
0	4	3	1	4	2
35 points			40 points		
W	D	L	W	D	L
3	1	3	4	0	3
2	3	2	3	2	2
1	5	1	2	4	1

We can take different combinations from the above tables so that 6 matches end in a draw and the remaining 22 are won.

If Spain wins 3 matches and has 30 points, she must have lost the remaining 4 matches. From the tables above, we see that the Czech Republic can lose 1, 2 or 3 matches. Hence option 3.

QNo:- 52 ,Correct Answer:- C

Explanation:-

Since from the 2nd clue we know that Joshi's call was not the last and from the 4th, 5th and 6th clues, we know that Karmarkar, Dighe and Patwardhan each called Guru before someone else did, we can conclude that the 5th call was made by Wagh, who ordered 3000 shares of Cryogenic Technologies.

We know that Patwardhan called just before Amit and Shantanu called just before Dighe.

If we combine these bits of information and match them as Shantanu Patwardhan and Amit Dighe, we would reach a contradiction as the difference in the number of shares ordered is 2500 in one case and 1250 in the other.

So, we can conclude that Patwardhan, Amit, Shantanu and Dighe are four different persons and the order in which they placed their calls, from the first to the fourth could be Shantanu, Dighe, Patwardhan and Amit respectively or Patwardhan, Amit, Shantanu and Dighe respectively.

Suppose the order in which the calls were placed from the first to the fifth is Shantanu, Dighe, Patwardhan, Amit and Wagh.

From the 5th clue, we know that Dighe's call was placed before Ravindra's and therefore, Ravindra's call must be either the 3rd or the 5th.

If Ravindra's call is the 3rd, then Ravindra must be Patwardhan and this contradicts the information in the 1st clue.

Thus, Ravindra's call must be the 5th and he is Wagh, who ordered 3000 shares of Cryogenic Technologies.

Since Kritika placed her call some time after Karmarkar, we can conclude that Karmarkar placed the 1st call and therefore Joshi placed the 4th call.

This leads us to two cases as elaborated below.

Case I: The correct order in which the five people placed their calls, from the 1st to the 5th is Shantanu Karmarkar, Namita Dighe, Kritika Patwardhan, Amit Joshi and Ravindra Wagh.

If Shantanu Karmarkar ordered N shares of Cryogenic Technologies, then Namita Dighe ordered N + 1250 shares and Kritika Patwardhan ordered N + 1500 shares.

Using the 6th clue, we know that Amit Joshi ordered N + 1500 – 2500 = N – 1000 shares which is half as many as the number of shares ordered by Namita Dighe.

So, Namita Dighe's N + 1250 shares must equal 2(N – 1000), which on solving, yields N = 3250 shares.

Using this value, we can calculate that Shantanu Karmarkar ordered 3250 shares, Namita Dighe ordered 4500 shares, Kritika Patwardhan ordered 4750 shares, Amit Joshi ordered 2250 shares and Ravindra Wagh ordered 3000 shares.

Since this leads to a contradiction, as there are two pairs where the difference between the number of shares ordered is 250, this

case is ruled out.

Case II: The correct order in which the five people placed their calls, from the 1ˢᵗ to the 5ᵗʰ is Shantanu Karmarkar, Kritika Dighe, Namita Patwardhan, Amit Joshi and Ravindra Wagh.

If Shantanu Karmarkar ordered N shares of Cryogenic Technologies, then from the 4ᵗʰ clue, Kritika Patwardhan ordered N + 1500 shares, and from the 7ᵗʰ clue, she ordered N + 1250 shares.

Since this is a contradiction, we know that this case is not possible.

Since both these cases are not possible, we can conclude that Shantanu did not place the 1ˢᵗ call and therefore, the correct order of the calls, from the 1ˢᵗ to the 5ᵗʰ is Patwardhan, Amit, Shantanu, Dighe and Wagh respectively.

We have already shown that Ravindra must be Wagh.

Since Kritika placed her call some time after Karmarkar, she must have placed the 4ᵗʰ call and therefore, Namita placed the 1ˢᵗ call.

The 2ⁿᵈ and the 3ʳᵈ calls are placed by either Joshi and Karmarkar respectively or by Karmarkar and Joshi respectively.

Suppose the 2ⁿᵈ and the 3ʳᵈ calls are placed by Joshi and Karmarkar respectively, so that the correct order from the 1ˢᵗ to the 5ᵗʰ is Namita Patwardhan, Amit Joshi, Shantanu Karmarkar, Kritika Dighe and Ravindra Wagh.

From case II discussed above, we have shown that Shantanu Karmarkar followed immediately by Kritika Dighe is not possible.

Thus, the correct order in which the calls were placed, from the 1ˢᵗ to the 5ᵗʰ, is Namita Patwardhan, Amit Karmarkar, Shantanu Joshi, Kritika Dighe and Ravindra Wagh.

If Amit Karmarkar ordered N shares of Cryogenic Technologies, then from the 6ᵗʰ clue, Namita Patwardhan ordered N + 2500 shares, from the 4ᵗʰ clue, Kritika Dighe ordered N + 1500 shares and from the 7ᵗʰ clue, Shantanu Joshi ordered N + 1500 − 1250 = N + 250 shares.

Since, from the 2ⁿᵈ clue, we know that Namita's order was twice that of Joshi's, we have N + 2500 = 2(n + 250), which on solving yields N = 2000.

Using this value, we can match all the given information as:

1ˢᵗ – Namita Patwardhan – 4500 shares

2ⁿᵈ – Amit Karmarkar – 2000 shares

3ʳᵈ – Shantanu Joshi – 2250 shares

4ᵗʰ – Kritika Dighe – 3500 shares

5ᵗʰ – Ravindra Wagh – 3000 shares

QNo:- 53 ,Correct Answer:- A

Explanation:-

The easy thing to do here is to know that Amit is not Wagh – and Wagh has 3000 shares.

So 1 is out.

Since from the 2ⁿᵈ clue we know that Joshi's call was not the last and from the 4ᵗʰ, 5ᵗʰ and 6ᵗʰ clues, we know that Karmarkar, Dighe and Patwardhan each called Guru before someone else did, we can conclude that the 5ᵗʰ call was made by Wagh, who ordered 3000 shares of Cryogenic Technologies.

We know that Patwardhan called just before Amit and Shantanu called just before Dighe.

If we combine these bits of information and match them as Shantanu Patwardhan and Amit Dighe, we would reach a contradiction as the difference in the number of shares ordered is 2500 in one case and 1250 in the other.

So, we can conclude that Patwardhan, Amit, Shantanu and Dighe are four different persons and the order in which they placed their calls, from the first to the fourth could be Shantanu, Dighe, Patwardhan and Amit respectively or Patwardhan, Amit, Shantanu and Dighe respectively.

Suppose the order in which the calls were placed from the first to the fifth is Shantanu, Dighe, Patwardhan, Amit and Wagh.

From the 5ᵗʰ clue, we know that Dighe's call was placed before Ravindra's and therefore, Ravindra's call must be either the 3ʳᵈ or the 5ᵗʰ.

If Ravindra's call is the 3ʳᵈ, then Ravindra must be Patwardhan and this contradicts the information in the 1ˢᵗ clue.

Thus, Ravindra's call must be the 5ᵗʰ and he is Wagh, who ordered 3000 shares of Cryogenic Technologies.

Since Kritika placed her call some time after Karmarkar, we can conclude that Karmarkar placed the 1ˢᵗ call and therefore Joshi placed the 4ᵗʰ call.

This leads us to two cases as elaborated below.

Case I: The correct order in which the five people placed their calls, from the 1ˢᵗ to the 5ᵗʰ is Shantanu Karmarkar, Namita Dighe, Kritika Patwardhan, Amit Joshi and Ravindra Wagh.

If Shantanu Karmarkar ordered N shares of Cryogenic Technologies, then Namita Dighe ordered N + 1250 shares and Kritika Patwardhan ordered N + 1500 shares.

Using the 6ᵗʰ clue, we know that Amit Joshi ordered N + 1500 − 2500 = N − 1000 shares which is half as many as the number of shares ordered by Namita Dighe.

So, Namita Dighe's N + 1250 shares must equal 2(N − 1000), which on solving, yields N = 3250 shares.

Using this value, we can calculate that Shantanu Karmarkar ordered 3250 shares, Namita Dighe ordered 4500 shares, Kritika

Patwardhan ordered 4750 shares, Amit Joshi ordered 2250 shares and Ravindra Wagh ordered 3000 shares.

Since this leads to a contradiction, as there are two pairs where the difference between the number of shares ordered is 250, this case is ruled out.

<u>Case II</u>: The correct order in which the five people placed their calls, from the 1st to the 5th is Shantanu Karmarkar, Kritika Dighe, Namita Patwardhan, Amit Joshi and Ravindra Wagh.

If Shantanu Karmarkar ordered N shares of Cryogenic Technologies, then from the 4th clue, Kritika Patwardhan ordered N + 1500 shares, and from the 7th clue, she ordered N + 1250 shares.

Since this is a contradiction, we know that this case is not possible.

Since both these cases are not possible, we can conclude that Shantanu did not place the 1st call and therefore, the correct order of the calls, from the 1st to the 5th is Patwardhan, Amit, Shantanu, Dighe and Wagh respectively.

We have already shown that Ravindra must be Wagh.

Since Kritika placed her call some time after Karmarkar, she must have placed the 4th call and therefore, Namita placed the 1st call.

The 2nd and the 3rd calls are placed by either Joshi and Karmarkar respectively or by Karmarkar and Joshi respectively.

Suppose the 2nd and the 3rd calls are placed by Joshi and Karmarkar respectively, so that the correct order from the 1st to the 5th is Namita Patwardhan, Amit Joshi, Shantanu Karmarkar, Kritika Dighe and Ravindra Wagh.

From case II discussed above, we have shown that Shantanu Karmarkar followed immediately by Kritika Dighe is not possible.

Thus, the correct order in which the calls were placed, from the 1st to the 5th, is Namita Patwardhan, Amit Karmarkar, Shantanu Joshi, Kritika Dighe and Ravindra Wagh.

If Amit Karmarkar ordered N shares of Cryogenic Technologies, then from the 6th clue, Namita Patwardhan ordered N + 2500 shares, from the 4th clue, Kritika Dighe ordered N + 1500 shares and from the 7th clue, Shantanu Joshi ordered N + 1500 – 1250 = N + 250 shares.

Since, from the 2nd clue, we know that Namita's order was twice that of Joshi's, we have N + 2500 = 2(n + 250), which on solving yields N = 2000.

Using this value, we can match all the given information as:

1st – Namita Patwardhan – 4500 shares

2nd – Amit Karmarkar – 2000 shares

3rd – Shantanu Joshi – 2250 shares

4th – Kritika Dighe – 3500 shares

5th – Ravindra Wagh – 3000 shares

QNo:- 54 ,Correct Answer:- D

Explanation:-

Since from the 2nd clue we know that Joshi's call was not the last and from the 4th, 5th and 6th clues, we know that Karmarkar, Dighe and Patwardhan each called Guru before someone else did, we can conclude that the 5th call was made by Wagh, who ordered 3000 shares of Cryogenic Technologies.

We know that Patwardhan called just before Amit and Shantanu called just before Dighe.

If we combine these bits of information and match them as Shantanu Patwardhan and Amit Dighe, we would reach a contradiction as the difference in the number of shares ordered is 2500 in one case and 1250 in the other.

So, we can conclude that Patwardhan, Amit, Shantanu and Dighe are four different persons and the order in which they placed their calls, from the first to the fourth could be Shantanu, Dighe, Patwardhan and Amit respectively or Patwardhan, Amit, Shantanu and Dighe respectively.

Suppose the order in which the calls were placed from the first to the fifth is Shantanu, Dighe, Patwardhan, Amit and Wagh.

From the 5th clue, we know that Dighe's call was placed before Ravindra's and therefore, Ravindra's call must be either the 3rd or the 5th.

If Ravindra's call is the 3rd, then Ravindra must be Patwardhan and this contradicts the information in the 1st clue.

Thus, Ravindra's call must be the 5th and he is Wagh, who ordered 3000 shares of Cryogenic Technologies.

Since Kritika placed her call some time after Karmarkar, we can conclude that Karmarkar placed the 1st call and therefore Joshi placed the 4th call.

This leads us to two cases as elaborated below.

<u>Case I</u>: The correct order in which the five people placed their calls, from the 1st to the 5th is Shantanu Karmarkar, Namita Dighe, Kritika Patwardhan, Amit Joshi and Ravindra Wagh.

If Shantanu Karmarkar ordered N shares of Cryogenic Technologies, then Namita Dighe ordered N + 1250 shares and Kritika Patwardhan ordered N + 1500 shares.

Using the 6th clue, we know that Amit Joshi ordered N + 1500 – 2500 = N – 1000 shares which is half as many as the number of shares ordered by Namita Dighe.

So, Namita Dighe's N + 1250 shares must equal 2(N – 1000), which on solving, yields N = 3250 shares.

Using this value, we can calculate that Shantanu Karmarkar ordered 3250 shares, Namita Dighe ordered 4500 shares, Kritika Patwardhan ordered 4750 shares, Amit Joshi ordered 2250 shares and Ravindra Wagh ordered 3000 shares.

Since this leads to a contradiction, as there are two pairs where the difference between the number of shares ordered is 250, this case is ruled out.

Case II: The correct order in which the five people placed their calls, from the 1st to the 5th is Shantanu Karmarkar, Kritika Dighe, Namita Patwardhan, Amit Joshi and Ravindra Wagh.

If Shantanu Karmarkar ordered N shares of Cryogenic Technologies, then from the 4th clue, Kritika Patwardhan ordered N + 1500 shares, and from the 7th clue, she ordered N + 1250 shares.

Since this is a contradiction, we know that this case is not possible.

Since both these cases are not possible, we can conclude that Shantanu did not place the 1st call and therefore, the correct order of the calls, from the 1st to the 5th is Patwardhan, Amit, Shantanu, Dighe and Wagh respectively.

We have already shown that Ravindra must be Wagh.

Since Kritika placed her call some time after Karmarkar, she must have placed the 4th call and therefore, Namita placed the 1st call.

The 2nd and the 3rd calls are placed by either Joshi and Karmarkar respectively or by Karmarkar and Joshi respectively.

Suppose the 2nd and the 3rd calls are placed by Joshi and Karmarkar respectively, so that the correct order from the 1st to the 5th is Namita Patwardhan, Amit Joshi, Shantanu Karmarkar, Kritika Dighe and Ravindra Wagh.

From case II discussed above, we have shown that Shantanu Karmarkar followed immediately by Kritika Dighe is not possible.

Thus, the correct order in which the calls were placed, from the 1st to the 5th, is Namita Patwardhan, Amit Karmarkar, Shantanu Joshi, Kritika Dighe and Ravindra Wagh.

If Amit Karmarkar ordered N shares of Cryogenic Technologies, then from the 6th clue, Namita Patwardhan ordered N + 2500 shares, from the 4th clue, Kritika Dighe ordered N + 1500 shares and from the 7th clue, Shantanu Joshi ordered N + 1500 – 1250 = N + 250 shares.

Since, from the 2nd clue, we know that Namita's order was twice that of Joshi's, we have N + 2500 = 2(n + 250), which on solving yields N = 2000.

Using this value, we can match all the given information as:

1st – Namita Patwardhan – 4500 shares

2nd – Amit Karmarkar – 2000 shares

3rd – Shantanu Joshi – 2250 shares

4th – Kritika Dighe – 3500 shares

5th – Ravindra Wagh – 3000 shares

QNo:- 55 ,Correct Answer:- C

Explanation:-
Suppose the total number of cars is 5x. Since 4x cars are sold for an average of 6000, they are sold for a value of 24000x. From statement I, we know that the remaining x cars are sold for a value of 58000 – 24000x. Since we cannot find the value of x, statement I alone is not sufficient to answer the question.

From statement II, we know that the remaining cars are sold for a value of 5000x. Since we do not know the value of x, statement II alone is not sufficient to answer the question. If we combine both statements, we know that 24000x + 5000x = 58000.
Thus, both statements together are required to answer the question.

QNo:- 56 ,Correct Answer:- C

Explanation:-
From statement I, we know that the average of the 5th and 6th number is 120, i.e., the sum of the 5th and the 6th numbers is 240. Since we cannot find the value of the 6th number, statement I alone is not sufficient to answer the question.

Statement II alone is not sufficient as we do not know the value of the median before the last number is dropped. If we combine both statements, we know that the median becomes 120 – 12 = 108. Since there are only 9 numbers now, the median must be the 5th number. So, the 6th number must be 240 – 108 = 132.
Thus both statements together are required to answer the question.

QNo:- 57 ,Correct Answer:- D

Explanation:-
Suppose X denotes the day when there is no session scheduled. If a Math session is scheduled on Monday and an English session is scheduled on Friday, then the possible weekly schedule is: MEXMEM, MXEMEM or MEMXEM. We can observe that a Math and an

English session cannot be scheduled on Tuesday and Wednesday respectively. Hence option 4.

QNo:- 58 ,Correct Answer:- B

Explanation:-
If a Math session is scheduled on Wednesday, one of the other Math sessions must be scheduled on Monday and the other on Friday or Saturday. Thus, an English session cannot be scheduled on Monday.

QNo:- 59 ,Correct Answer:- D

Explanation:-
If an English session is not scheduled on Friday, then the weekly schedule could be MEMEMX, MEMXME, MXMEME, MEMEXM or EMEMXM. From this we can observe that options A, B and C need not be true.
Hence, the correct answer is option D.

QNo:- 60 ,Correct Answer:- A

Explanation:-
Since N sat out the 1st round and (R, S) won the round, the losing team must be (G, A). In the 2nd round, one team must be (N, R) as N and S cannot be on the same team. The other team could be (A, S) or (G, S).
Hence, the correct answer is option A.

QNo:- 61 ,Correct Answer:- C

Explanation:-
Since R sat out the 1st round and (G, N) won the round, the losing team was (A, S). In the 2nd round, if 1 team is (R, N), the other team is (S, G) or (A, G), depending on whether A or S sits out the round. If, instead, 1 team is (R, G), the other team will be (A, N) as S and N cannot be on the same team. Thus, (G, S) can be a team in the 2nd round.

QNo:- 62 ,Correct Answer:- B

Explanation:-
Since (R, A) won the 1st round, the losing team was (G, N) or (G, S). If S sat out the 1st round, Slaves is (S, R) or (S, A) and if N sat out the 1st round, Slaves is (N, R) or (N, A). Thus, G cannot be a member of Slaves in the 2nd round.

QNo:- 63 ,Correct Answer:- A

Explanation:-
In 2012, IOC had the largest revenue of Rs. 420,500 crores, which was approximately twice that of BPCL at Rs. 215,000 crores. Though BPCL had a higher growth of 36%, IOC's growth of 30% will be much larger in rupee terms. GAIL and HPCL have lower Revenues and lower growth rates. Hence answer will be IOC.

QNo:- 64 ,Correct Answer:- 2

Explanation:-
Looking at the graph, we can rank the companies on the four parameters as follows:

Company	Revenue	Op. Profit	Net profit	Total Assets
IOC	1	3	3	2
BPCL	2	7	8	7
HPCL	3	9	9	5
ONGC	4	1	1	1
NTPC	5	2	2	3
BHEL	6	4	6	8
SAIL	7	5	4	4
GAIL	8	6	7	9
NHPC	9	8	5	6
NALCO	10	10	10	10

ONGC has the same rank across three of the parameters and NALCO has the same rank across all four parameters. Thus 2 companies have the same rank across at least three of the four parameters.

QNo:- 65 ,Correct Answer:- 2

Explanation:-

IOC's Revenue of ₹ 420,500 crores in 2012 was 30% more than its Revenue in 2011. So IOC's Revenue in 2011 was 420500/1.3 = ₹ 323,460 crores. Similarly, we can calculate the 2011 Revenue for the other companies and rank them as shown below:

	2012		**2011**	
	Revenue	**Rank**	**Revenue**	**Rank**
IOC	420,500	1	323,460	1
BPCL	215,000	2	158,088	2
HPCL	188,000	3	144,615	3
ONGC	155,000	4	125,000	4
NTPC	69,000	5	60,000	5
BHEL	51,000	6	44,347	7
SAIL	50,000	7	46,296	6
GAIL	45,000	8	36,000	8
NHPC	8,500	9	6,800	10
NALCO	7,500	10	6,818	9

BHEL has improved its rank from 7 in 2011 to 6 in 2012 while NHPC has improved its rank from 10 in 2011 to 9 in 2012. Thus only 2 companies have improved their rank from 2011 to 2012.

QNo:- 66 ,Correct Answer:- D

Explanation:-

In 2012 the Operating Profit as a percentage of Revenue of HPCL was 5000/188000 = 2.65% while that of BPCL was 6500/215000 = 3.02%.
So option 1 is false.

In 2012, the Revenue as a percentage of Total Assets of NHPC was 8500/51500 = 16.5 % while that of GAIL was 45000/37000 = 121.62%.
The ratio NHPC : GAIL is 16.5: 121.62 = 1/7.37.
So option 2 is false.

In 2012 the NTPC's Operating Profit as a percentage of its Net Worth was 18500/74000 = 25%.
In 2011 NTPC's Operating Profit was 18500/1.1 = 16818 and Net Worth was 74000 /1.09 = 67889.
The Operating Profit as a percentage of Net Worth in 2011 was 16818/67889 = 24.77.
So option 3 is false.
Alternately, since Net Worth grow by only 9% and Operating Profit grow by 10%, the denominator is larger, hence the value is smaller.

In 2012 the Revenue as percentage of Total Assets of IOC was 420500/141000 = 298.22% while that of ONGC was

155000/178000 = 87.08%.
The value for IOC is 298.22/87.008 = 3.42 times that of ONGC. Hence 4th is true.

QNo:- 67 ,Correct Answer:- 2055

Explanation:-
Suppose the average contribution of all 15 friends is x.
The total sum of money spent is 15x
The total sum paid by 11 friends is 11 Ã— 121 = 1331.
The sums of money paid by the 12th, 13th, 14th and 15th friends are (x + 27), (x + 36), (x + 49) and (x + 64) respectively.
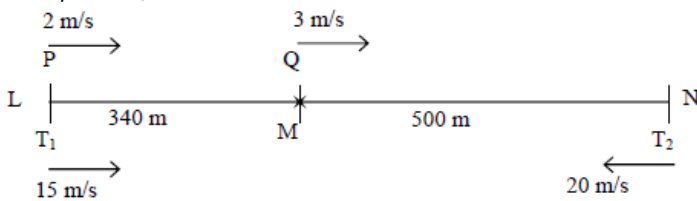So, 15x = 1331 + x + 27 + x + 36 + x + 49 + x + 64 â‡' 15x = 1507 + 4x â‡' x = 137.
Thus the total sum of money spent is 15x = 15 Ã— 137 = Rs. 2055.

QNo:- 68 ,Correct Answer:- A

Explanation:-
The speeds of the trains are 15 m/s and 20 m/s.

Suppose the trains start crossing at point M.
The guard P starts moving from L towards M at a speed of 2 m/s.
Since he is travelling in the same direction as the train, his effective speed will be (2 + 15) = 17 m/s towards M.
At the same time, the guard Q, starts moving from M towards N at a speed of 3 m/s.
Since he is travelling in the direction opposite to that of the train, his effective speed is (20 â€" 3) = 17 m/s towards L.
When the trains start crossing each other at M, the distance between P and Q is 340 m and their relative speed is (17 + 17) = 34 m/s.
Thus, the time taken by P and Q to meet is 340/34 = 10 seconds.
In these 10 seconds, the actual distances walked by P and Q are 20 m and 30 m respectively.

QNo:- 69 ,Correct Answer:- D

Explanation:-
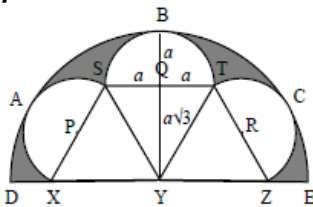
The radius of the outer semicircle is 6 cm. Suppose the radius of the smaller semicircle is a.
Then the side of the equilateral triangle is $2a$ and its height is $a\sqrt{3}$.
So, $a\sqrt{3} + a = 6 \Rightarrow a = 3(\sqrt{3} - 1)$.
The area of the outer semicircle is $\frac{1}{2} \times \pi \times 6^2 = 18\pi \approx 56.52$ cm^2.
The sum of the areas of the 3 equilateral triangle is $3 \times \frac{\sqrt{3}}{4}\left[6(\sqrt{3}-1)\right]^2 \approx 25.057$.
The sum of the areas of the 3 smaller semicircles is $3 \times \frac{1}{2} \times \pi \times [3(\sqrt{3}-1)]^2 \approx 22.721$ cm^2.
Thus the area of the shaded region is $56.52 - 25.057 - 22.721 = 8.74$ cm^2.

QNo:- 70 ,Correct Answer:- 3

Explanation:-

Since α and β satisfy $x^2 - 6x - 2 = 0$, substituting $x = \alpha$ and $x = \beta$, we get $\alpha^2 - 2 = 6\alpha$ and $\beta^2 - 2 = 6\beta$.

Now, $\dfrac{a_{10} - 2a_8}{2a_9} = \dfrac{\alpha^{10} - \beta^{10} - 2(\alpha^8 - \beta^8)}{2(\alpha^9 - \beta^9)} = \dfrac{\alpha^8(\alpha^2 - 2) - \beta^8(\beta^2 - 2)}{2(\alpha^9 - \beta^9)} = \dfrac{\alpha^8(6\alpha) - \beta^8(6\beta)}{2(\alpha^9 - \beta^9)} = \dfrac{6(\alpha^9 - \beta^9)}{2(\alpha^9 - \beta^9)} = \dfrac{6}{2} = 3$.

QNo:- 71 ,Correct Answer:- 2500

Explanation:-

Selling price $= 2000 \times \left(1 + \dfrac{75}{8 \times 100}\right)$

$= 2000 + \left(2000 \times \dfrac{3}{4 \times 8}\right) = 2187.5$

Marked Price $= 2187.5 \times \left(\dfrac{100}{100 - 12.5}\right) = $ Rs. 2500.

QNo:- 72 ,Correct Answer:- B

Explanation:-

The probability of getting heads is ½.
We can now move 1 white ball from the bag and place it in the box and then draw 1 white ball from the box with probability $\dfrac{3}{5} \times 1$.

Otherwise, we can now move 1 red ball from the bag and place it in the box and then draw 1 white ball from the box with probability $\dfrac{2}{5} \times \dfrac{1}{2}$.

So, if heads appears, then the probability of moving 1 ball from the bag to the box and then drawing a white ball from the box is $\dfrac{1}{2}\left(\dfrac{3}{5} + \dfrac{1}{5}\right) = \dfrac{2}{5}$.

The probability of getting tails is ½.
We can now move 2 white balls from the bag and place them in the box and then draw 1 white ball from the box with probability $\dfrac{3 \times 2}{5 \times 4} \times 1 = \dfrac{3}{10}$.

We could instead move 2 red balls from the bag to the box and then draw 1 white ball from the box with probability $\dfrac{2 \times 1}{5 \times 4} \times \dfrac{1}{3} = \dfrac{1}{30}$.

Or, we could move 1 white and 1 red ball, in 2 ways, from the bag and place them in the box and then draw 1 white ball from the box with probability $2 \times \dfrac{3 \times 2}{5 \times 4} \times \dfrac{2}{3} = \dfrac{2}{5}$.

So, if tails appears, then the probability of moving 2 balls from the bag to the box and then drawing a white ball from the box is $\dfrac{1}{2}\left(\dfrac{3}{10} + \dfrac{1}{30} + \dfrac{2}{5}\right) = \dfrac{11}{30}$.

Thus the required probability is $\dfrac{2}{5} + \dfrac{11}{30} = \dfrac{23}{30}$.

QNo:- 73 ,Correct Answer:- A

Explanation:-
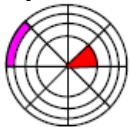
Since the probabilities for any of the regions are equal, we know that the areas are equal.
Let the radii of the innermost circle to the outermost circle be R_1, R_2, R_3 and R_4 respectively.
We know that $R_4 = 98$.
Then, $\pi R_1^2 = \dfrac{1}{4} \times \pi \times 98^2$
$\Rightarrow R_1 = 49$.
In a similar fashion, we can find the values of R_2 and R_3.
Alternately, we can use similarity to find the values of the radii.
Since the areas of each of the circular regions are equal, we get the areas of the innermost circle to the outermost circle as $A_1 = 1$, $A_2 = 2$, $A_3 = 3$ and $A_4 = 4$.
Since $A_1 : A_4 = 1 : 4 \Rightarrow R_1 : R_4 = 1 : 2 \Rightarrow R_4 = 98$.
Since $A_3 : A_4 = 3 : 4 \Rightarrow R_3 : R_4 = \sqrt{3} : 2 \Rightarrow R_3 = 49\sqrt{3}$.

The innermost red region is a sector with central angle 45°.

So, its perimeter is $\frac{1}{8} \times 2 \times 49\pi + 2 \times 49 = 136.5$

The perimeter of the outermost pink region is $2(98 - 49\sqrt{3}) + \frac{1}{8} \times 2\pi \times (98 + 49\sqrt{3}) = 169.94$

The required ratio is approximately 136 : 170 = 4 : 5.

QNo:- 74 ,Correct Answer:- B

Explanation:-
The volumes of water filled every hour form a GP with a = 10 and r = 2.
In 6 hours, the volume of water filled is 10 + 20 + 40 + 80 + 160 + 320 = 630 litres.
Since this is ¼ of the tank, the volume of the tank must be 4 × 630 = 2520 litres.
The volumes of water filled in the 7th and 8th hours are 640 litres and 1280 litres.
So, in 8 hours, the total volume of water will be 2550 litres.
Since this is slightly more than the volume of the tank, the total time taken will be slightly less than 8 hours. The best answer is option 2.

QNo:- 75 ,Correct Answer:- A
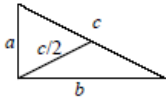
Explanation:-

Since the median $c/2$ is the GM of a and b, we have $ab = (c/2)^2 \Rightarrow 4ab = c^2$. Using the Pythagorean theorem, we know that $c^2 = a^2 + b^2 \Rightarrow a^2 + b^2 = 4ab \Rightarrow a^2 - 2ab + b^2 = 2ab \Rightarrow (a - b)^2 = 2ab$.

QNo:- 76 ,Correct Answer:- 25

Explanation:-
When divided by 6, 8 and 12, N leaves remainder 2 in each case. So, N is of the form $[x \times \text{LCM} (6, 8, 12) + 2] = 24x + 2$. When divided by 9, 10 and 15, N leaves remainders 5, 6 and 11 respectively. The difference between the divisor and the remainder is 4 in each case.

So, N is of the form $[y \times \text{LCM}(9, 10, 15) - 4] = 90y - 4$. Since N must satisfy both cases, we have $24x + 2 = 90y - 4 \Rightarrow 90y - 24x = 6 \Rightarrow 15y - 4x = 1$.

The 1st set of values (x, y) that satisfies this equation is (11, 3).

Subsequent values of y will keep increasing by 4. In other words, the values of y that satisfy the equation form an AP with 1st term 3 and common difference 4.

Since N is a 4-digit number, $N > 990 - 4 \Rightarrow y > 11 \Rightarrow y = 15$ and the smallest value of N is 1350 − 4 = 1346. Similarly, the largest value of $N = 9990 - 4 = 9986$, so that $y = 111$.

Now, $y = 15$ and $y = 111$ both belong to an AP with $a = 3$ and $d = 4$.

So, $15 = 3 + 4(n - 1) \Rightarrow n = 4$ and $111 = 3 + 4(n - 1) \Rightarrow n = 28$.

So, n can take $28 - 4 + 1 = 25$ different values. Thus, N can have 25 different values.

QNo:- 77 ,Correct Answer:- C

Explanation:-

If Rahul wins the 1st round, he would win Rs. 5. If Rahul does not win the 1st round, then starting with the 1st round, the sums bet on the rounds are $5, 5 \times 3, 5 \times 3^2, 5 \times 3^3, 5 \times 3^4, ..., 5 \times 3^{n-1}$. Rahul would win $5 \times 3^{n-1}$ in the nth round, while Vijay will win all the sums bet up to the $(n-1)^{th}$ round. So, Vijay would win $\dfrac{5(3^{n-1}-1)}{(3-1)}$. Referring to the answer choices, option 3 does not satisfy these results since it yields 2 different values of n.

QNo:- 78 ,Correct Answer:- 540

Explanation:-
Let the total amount of money involved is M.
The initial amount of money is such that 12A = 15B = 20C, solving this we get ratio of A:B:C = 5:4:3.
The finishing money is such that 6A = 8B = 12C, solving this we get ratio of A:B:C = 4:3:2.
Now B initially has 4/12 × M and afterwards also 3/9 × M. So he has not lost anything or gained anything.
A initially had 5/12 M and later had 4/9 M, so he has clearly gained something and C would have lost something.
Difference in amount A had in the beginning and in the end = 4/9 M – 5/12 M = 1/36 M = Rs 36. Hence M = Rs 1296, initial money A had = 5/12 × 1296 = Rs 540.

QNo:- 79 ,Correct Answer:- C

Explanation:-
Let the time taken by Ashok to complete the job be x hours.
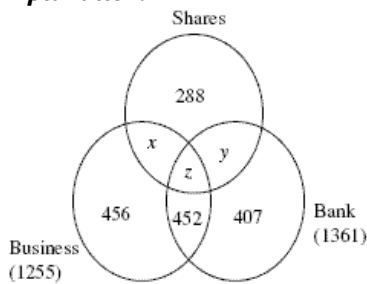The standard time would be $\dfrac{3x}{4}$ hours
∴ Ashok's actual rate of work was 25% less than the standard rate.

$$\therefore \text{His actual hourly wage} = 6 - \left[\dfrac{\frac{25}{5} \times 8}{100} \times 6\right] = 3.6$$

Since he took exactly three hours, he was paid
3.6×3 = Rs. 10.80

QNo:- 80 ,Correct Answer:- 192

Explanation:-

Now, we have X = 1255 – (456 + 452 + z) = 347 – z and Y = 1361 – (452 + 407 + z) = 502 – z
And we know that total 2,260 people were surveyed
∴ X + Y + Z + 288 + 456 + 452 + 407 = 2,260
∴ X + Y + Z = 657 i.e., 347 – z + 502 – z + z = 657 i.e., z = 192
Thus, there are 192 number of people who have invested in all the three options.
Hence the answer is option B

QNo:- 81 ,Correct Answer:- 12

Explanation:-
Let HCF is h (≠ 1). So, numbers can be taken as ha & hb where a, b are co-prime.
Given ha + hb + h = 221
⇒ h (a + b + 1) = 221 ⇒ h = 13 or 17
Case 1:– h = 13⇒ a + b + 1 = 17
⇒ a + b = 16.
⇒ (1, 15), (3,13), (5, 11), (7, 9) pairs are possible.
Case 2:– h = 17 ⇒ a + b + 1 = 13
⇒ a + b = 12

â‡' (1, 11), (5, 7) â‡' only 2 pairs are possible
â‡' In total 6 pairs are possible.
â‡' 12 unordered pairs are possible.

QNo:- 82 ,Correct Answer:- 8

Explanation:-
Powers of 10 when divided by 45 will always leave a remainder of 10. When 22^1, 22^2, 22^3, 22^4 and 22^5 are divided by 45, the remainders are 22, 34, 28, 31 and 7 respectively. In this manner, 22^{10} will leave remainder 49, which will reduce to 4. So, $22^{23} = 22^{10} \times 22^{10} \times 22^3$ when divided by 45 will leave a remainder of $4 \times 4 \times 28 = 448$. This can be further reduced to 43. So the effective remainder will be $43 + 10 = 53$ which can be further reduced to 8.

QNo:- 83 ,Correct Answer:- A

Explanation:-
We have $(x + y) + (x^2 + xy + y^2) + (x^3 + x^2y + xy^2 + y^3) + \_\_\_\_\_ \infty$

$= \dfrac{1}{(x-y)} [(x^2 - y^2) + (x^3 - y^3) + (x^4 - y^4) + \_\_\_\_\_ \infty]$

$[\because \dfrac{x^n - a^n}{x - a} = x^{n-1} + x^{n-2}a + x^{n-3}a^2 + \_\_\_\_\_ a^{n-1}, n \in N]$

$= \dfrac{1}{(x-y)}\left[\dfrac{x^2}{1-x} - \dfrac{y^2}{1-y}\right]$

$= \dfrac{1}{(x-y)}\left[\dfrac{x^2 - x^2y - y^2 + xy^2}{(1-x)(1-y)}\right]$

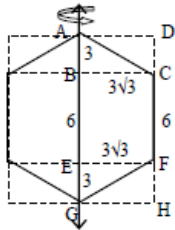$= \dfrac{1}{(x-y)}\left[\dfrac{(x^2 - y^2) - xy(x-y)}{(1-x)(1-y)}\right]$

$= \dfrac{(x-y)[x+y-xy]}{(x-y)(1-x)(1-y)}$

$= \dfrac{x+y-xy}{(1-x)(1-y)}$

Hence the answer is option A

QNo:- 84 ,Correct Answer:- B

Explanation:-

In the figure above, the triangles at the top and bottom of the figure will form cones of radii $3\sqrt{3}$ cm and height 3 cm while the rectangular part in the centre will form a cylindrical shape of radius $3\sqrt{3}$ cm and height 6 cm.

Since there are 2 identical solids on opposite sides of AD, we can consider both together as one solid with a central angle of 120°.

So, the required volume will be $2 \times \dfrac{120}{360} \times \dfrac{1}{3}\pi(3\sqrt{3})^2 \times 3 + \dfrac{120}{360}\pi(3\sqrt{3})^2 \times 6 = 72\,\pi$ cm³.

QNo:- 85 ,Correct Answer:- A

Explanation:-

The cost of the alloy $= \dfrac{196 \times 100}{140} = $ Rs. 140 per kg.

Ratio in which the cheaper and dearer is mixed = 3 : 2. Let zinc be price at Rs. x per kg. so that copper is priced at Rs. 2x per kg. By

applying the allegation rule,

$$\frac{3}{2} = \frac{2x - 140}{140 - x}$$

∴ 420 − 3x = 4x − 280 ∴ 7x = 700, ∴ x = 100, ∴ Copper is Rs. 200 / kg and zinc is Rs. 100/kg.
Hence the answer is option A

QNo:- 86 ,Correct Answer:- 0

Explanation:-
A, B, C leave remainder 1 when divided by 2. (because all are odd.)
Since sum of digits is same in A, B and C, So, remainder by 9 are also same.
So, A, B, C leave same remainders when divided by 2 & 9.
⇒ A, B, C leave same remainders when divided by 18.
⇒ r = s = t
So, 2r − s − t = 0

QNo:- 87 ,Correct Answer:- 3

Explanation:-
Let N = 327327 .... (165 digits)

$$\frac{165}{3} = 55 \text{ blocks of } 327$$

Remainder of N by $4 = \dfrac{27}{4} \sim 3$

Remainder of N by 9 = (3 + 2 + 7)55 ~ 3 × 1 ~ 3
N is a number which when divided by 4 & 9, remainder is 3 always.
So, by applying LCM, N will leave a remainder of 3 when divided by 36.

QNo:- 88 ,Correct Answer:- 1

Explanation:-
$625^{100} + 125^{100} + 25^{100} + 5^{100} + 1$
$= (5^{100})^4 + (5^{100})^3 + (5^{100})^2 + (5^{100})^1 + 1$
$\equiv (−1)^4 + (−1)^3 + (−1)^2 + (−1)^1 + 1 \quad (\text{mod } 5^{100} + 1)$
$\equiv 1 − 1 + 1 − 1 + 1 \quad (\text{mod } 5^{100} + 1)$
$= 1 \quad (\text{mod } 5^{100} + 1)$

QNo:- 89 ,Correct Answer:- C

Explanation:-
The roll number in each of the houses will form APs with a common difference of 3. We know that if the number of terms in AP is odd, the average is the middle number and if the number of terms is even, then the average is the average of the middle 2 numbers. Since the average for 2 of the houses is the same as one of the roll numbers in those houses respectively, we know that 2 of the houses should have an odd number of students and the 3rd house must have an even number of students. Thus, the total number of students must be even. If the Red house has an even number of students, then the other 2 houses will have an odd number of students. If the Green house has an even number of students, then the other 2 houses will have an odd number of students. If the Blue house has an even number of students, then the Red house will also have an even number of students while the green house will have an odd number of students. So, this scenario is not possible. Consider the allocation of the 1st 20 roll numbers to these houses.

Red	Blue	Green
1	2	3
4	5	6
7	8	9

10	11	12
13	14	15
16	17	18
19	20	

From the above table, we observe that if the Red house has an even number of students and the other 2 houses have an odd number of students, then the total number of students could be 4, 10 or 16. If the Green house has an even number of students and the other 2 houses have an odd number of students, then the total number of students could be 8, 14 or 20. In either case, the total number of students can be written in the form 6x ± 2.
From the options,196 = 6 × 33 – 2,
602 = 6 × 100 + 2,
132 = 6 × 22 and
442 = 6 × 74 – 2.
Thus, the total number of students cannot be 132.

QNo:- 90 ,Correct Answer:- B

Explanation:-

$S_n = \frac{n}{2}[2a + (n-1)d]$ and

$S_m = S_{5n} = \frac{5n}{2}[2a + (5n-1)d]$.

Substituting $a = 3$, the ratio is $\frac{5[(6-d)+5nd]}{(6-d)+nd}$.

Since this ratio is constant, i.e., it does not depend on n, (6 − d) = 0
⇒ d = 6.
If a number belongs to this AP, then it must be of the form 3 + 6(n − 1).
Going by the options,
81 = 3 + 6(n − 1) ⇒ n = 14;
371 = 3 + 6(n − 1) ⇒ n = 62.33;
105 = 3 + 6(n − 1) ⇒ n = 18;
57 = 3 + 6(n − 1) ⇒ n = 10.
Thus, 371 cannot be a term of this AP.

QNo:- 91 ,Correct Answer:- B

Explanation:-

$\log_{\sqrt[n]{a}} \sqrt[3]{b} = 1 \Rightarrow \sqrt[n]{a} = \sqrt[3]{b} \Rightarrow a^{\frac{1}{n}} = b^{\frac{1}{3}} \Rightarrow \left(a^3\right)^{\frac{1}{n}} = b \Rightarrow a^3 = b^n$

Since $\log_{b^2} a^3 = c \Rightarrow b^{2c} = a^3$. So, $b^{2c} = b^n \Rightarrow n = 2c$.

We know that n must be a natural number (as we have nth root of a), it seems that the minimum value of n is 1 and $c = 0.5$. However, we know that for numbers between 0 and 1, the values of squares and cubes keep on reducing. Since $c < a < b$, c cannot be 0.5 (if $c = 0.5$ and $a = 0.6$, then $b = a^3 = 0.216 \Rightarrow b < a$). So, c must be at least 1 and therefore the minimum value of $n = 2$.

QNo:- 92 ,Correct Answer:- 6500

Explanation:-
Using the formula of difference for 2 years
P = D/(R/100)^2, where D= difference between simple and compound interest
P = 65/(10/100)^2
P = Rs 6500.

QNo:- 93 ,Correct Answer:- D

Explanation:-

N = 252525 .... (upto 638 digits)

= 25 × (100)³¹⁸ + ... 25 × 100² + 25 × 100 + 25   (because 319 blocks of 25)

= 25 × (1)³¹⁸ + ...+ 25 × (1)² + 25 × (1) + 25   (mod 99)

= 25 + 25 + ... + 25 (319 times)

= 25 × 319 (mod 99)

= 55 (mod 99)

QNo:- 94 ,Correct Answer:- D

Explanation:-
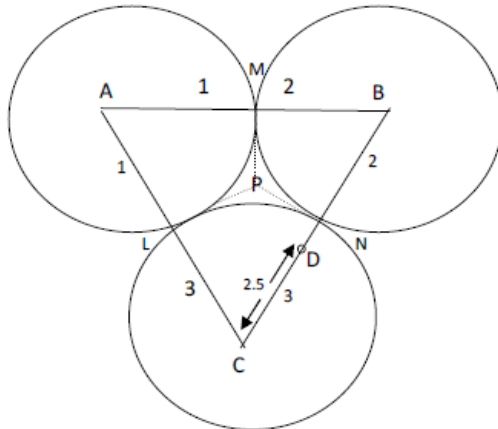
If we join the centres of the circles, we get △ABC with sides 3, 4 and 5.

This means that △ABC is right-angled.

The circum-centre of △ABC will be the mid-point of the hypotenuse.

So, the circum-radius, R, is 5/2 = 2.5 cm.

The area of △ABC = Â½ 3 Ã— 4 = 6.

The semi-perimeter is (3 + 4 + 5) / 2 = 6.

Since r = A/s where A is the area, s is semi perimeter and r is inradius, so 6 = 6r ⇒ r = 1.

Thus the required difference is R â€" r = 2.5 â€" 1 = 1.5 cm.

QNo:- 95 ,Correct Answer:- 1

Explanation:-

$3^{x+2} = 3^x \times 3^2 = 3^x + 216$

$\Rightarrow 3^x(3^2 - 1) = 216$

$\Rightarrow 3^x \times 8 = 216$

$\Rightarrow 3^x = 27$

$\Rightarrow x = 3.$

Thus there is only one value that satisfies the equation.

QNo:- 96 ,Correct Answer:- 3

Explanation:-

$f(a + 1) = f(a).f(1) = 2f(a)$. $f(a + 2) = f(a + 1 + 1) = f(a + 1).f(1) = 2 \times 2f(a)$. $f(a + 3) = f(a + 2 + 1) = f(a + 2).f(1) = 2 \times 2^2 f(a)$. $f(a + 4) = f(a + 3 + 1) = f(a + 3).f(1) = 2 \times 2^3 f(a)$.

Continuing in this fashion, $f(a + n) = 2 \times 2^{n-1} f(a) = 2^n f(a)$.

We observe that the above values form a GP with 1st term $2f(a)$ and common ratio 2.

The sum of this GP is $\dfrac{2f(a)(2^n - 1)}{(2-1)} = 16(2^n - 1)$.

So, $2f(a) = 16$

$\Rightarrow f(a) = 8$.

Now, $f(a) = f(a - 1 + 1)$

$= f(a - 1).f(1)$

$= 2f(a - 1) = 8$

$\Rightarrow f(a - 1) = 4$.

$f(a - 1) = f(a - 2 + 1) = f(a - 2).f(1)$

$= 2f(a - 2) = 4$

$\Rightarrow f(a - 2) = 2$.

But we know that $f(1) = 2$.

Since both values are equal to 2, the respective arguments must be equal.

So, $a - 2 = 1$

$\Rightarrow a = 3$.

QNo:- 97 ,Correct Answer:- C

Explanation:-
Since √7 lies between 2 and 3, [√7] = 2.
So, [A²] + [√7] + [√7] = [A²] + 2 + 2 = 13 ⇒ [A²] = 9.
This means that 9 ≤ A² < 10.
From the answer choices, only option 3 satisfies the conditions.

QNo:- 98 ,Correct Answer:- D

Explanation:-
Vishal's height is 70″. Suppose the depth of the pit is 3x″. Vishal's head is (70 – x)″ above the surface. After he is finished digging, his head will be 2(70 – x)″ below the surface. So, 2(70 – x) + 70 = 3x ⇒ x = 42″. So, the depth of the pit is 42 × 3 = 126″ = 10′6″.

QNo:- 99 ,Correct Answer:- 462

Explanation:- If 6 friends travel in the Swift and 4 travel in the Santro, they can do this in $^{10}C_6$ = 210 ways. If 5 friends travel in the Swift and 5 travel in the Santro, they can do this in $^{10}C_5$ = 252 ways. Thus the total number of ways is 210 + 252 = 462.

QNo:- 100 ,Correct Answer:- B

Explanation:-
If x has to be as large as possible, then the incorrect number must be as large as possible, i.e., 85431. In order to get back 8531, she must subtract 85431 – 8531 = 76,900.