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## SI. QUESTIONS

NO

1. A city has a population of $\mathbf{3 , 0 0}$, 000 out of which $1,80,000$ are males. $50 \%$ of the population is literate. If $\mathbf{7 0} \%$ of the males are literate, the number of literate females is
a. $24,000 \mathrm{~b}$. 30,000 c. $54,000 \mathrm{~d}$. 60,000
2. In a survey, it was found that $80 \%$ of those surveyed owned a car while $60 \%$ of those surveyed owned a mobile phone. If 55\% owned both a car and a mobile phone, what per cent of those surveyed owned a car or a mobile phone or both?
a. $65 \%$ b. $80 \%$ c. $85 \%$ d. $97.5 \%$
3. In 1930, a persons age was 8 times that of his son. In 1938, the fathers age became ten times that of his sons age in 1930. The ages of the son and father in 1940 were, respectively.
a. 16 years, 58 years b. 15 years, 50 years c. 14 years, 42 years d. 13 years, 34 years
4. 



A circle of 1 m radius is drawn inside a square as shown in the igure given above. What is the area of the shaded portion in m2?
(a) $(4-\pi)$
(b) $(1-\pi / 2)$
(c) $(1 / 4-\pi / 4)$
(d) $(1-\pi / 4)$
5.


In the above igure, $A B C D$ is a cyclic quadrilateral, $\mathrm{AB}=\mathrm{BC}$ and TriBAC $=700$, then $T r i$ ADC is
(a) $40^{\circ}$
(b) $80^{\circ}$
(c) $110^{\circ}$
(d) $140^{\circ}$
6. The mass of a body on earth is 100 kg (acceleration due to

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gravity ge $=10 \mathrm{~m} / \mathrm{s} 2$ ) . If acceleration due to gravity on the moon is (ge/6), then the mass of the body on the moon is
a. $100 / 6 \mathrm{kgb} .60 \mathrm{kgc} .100 \mathrm{kgd}$. 600 kg
7. The following table shows the percentage change in the consumption of electricity by ive towns $\mathbf{P}, \mathbf{Q}, \mathrm{R}, \mathrm{S}, \mathrm{T}$ from 1986 to 1988:

| Town | foom | from |
| :---: | :---: | :---: |
|  | 1986601987 | $19870_{0} 1988$ |
| - | +8 | ${ }^{18}$ |
| - | ${ }^{15}$ | +11 |
| ${ }^{\text {R }}$ | +6 | +9 |
| 5 | 1 | 5 |
| ${ }^{\top}$ | +13 | 6 |
| Per | cent | change |
| Town | From 198 | 86 to 1987 |
| From | 1987 | to 1988 |
| P | + 8 | 18 |
| Q | 15 | $+\quad 11$ |
| R | $+6$ | + 9 |
| S | 7 | 5 |
| T | + 13 | - 6 |

If town T consumed 500,000 units in 1986, how much did it consume in 1988
a. 371,000 unitsb. 531,000 unitsc. 551,100 unitsd. 571,100 units
8. A person travels from $\mathbf{X}$ to $\mathbf{Y}$ at a speed of 40 kmph and returns by increasing his speed
his $50 \%$. What is his average speed for both the trips?
a. 36 kmphb. 45 kmphc. 48 kmphd. 50 kmph
9. Solve the given equations: $\mathbf{x} 2+$ $\mathrm{y} 2=34 \times 4-\mathrm{y} 2=544$ he values of $x$ and $y$ are
a. $\pm 4, \pm 3 \mathrm{~b} . \pm 5, \pm 3 \mathrm{c} . \pm 3, \pm 5 \mathrm{~d} . \pm$ $3, \pm 4$
10. A worker reaches his factory 3 minutes late if his speed from his house to the factory is 5 $\mathrm{km} / \mathrm{hr}$. If he walks at a speed of $6 \mathrm{~km} / \mathrm{hr}$, then he reaches the factory 7 minutes early. The distance of the factory from his house is:
a. 4 kmb .5 kmc .6 kmd .7 km
11. Solution $A$ is $20 \%$ salt and Solution B is $\mathbf{8 0 \%}$ salt. If you have 30 ounces of solution $A$ and 60 ounces of solution $B$, in what ratio could you mix Solution A with Solution B to produce 50 ounces of a $50 \%$ salt solution?
(a) 6:4(b)
(b) 6: 14(c) 4:6(d)
(d) $4: 4$
12. In what time a cistern is filled by three pipes of diameter $2 \mathrm{~cm}, \quad 4 \mathrm{~cm}$ and 6 cm respectively, if the time taken by largest pipe to fill the tank

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is 40 minutes. Amount of water flowing through the pipe is proportional to the diameter of the pipe?

$$
\begin{aligned}
& \text { (a) } 25(5 / 7) \min (\text { b) } 25 \quad(3 / 7) \\
& \min (\text { c) } 23(5 / 7) \min (\text { d }) 23(4 / 7) \\
& \min
\end{aligned}
$$

13. The happy man is the man who lives objectively, who has free affections and wide interests, who secures his happiness through these interests and affections and through the fact that they, in turn, make him an object of interest and affection to many others. To be the recipient of affection is a potent cause of happiness, but the man who demands affection is not the man upon whom it is bestowed. The man who receives affection is, speaking broadly, the man who gives it. But it is useless to attempt to give it as a calculation, in the way in which one might lend money at interest, for a calculated affection is not genuine and is not felt to be so by the recipient.
According to the passage, calculated affection.
(a) Appears to be false and fabricated.(b) Makes another person love you.(c) Turns into
permanent affection over a period of time.(d) Leads to selfpity
14. Vivek: Madan has become a better boxer since he started meditating.
Vani: Impossible, a boxer's most important asset is his aggressiveness.
It can be inferred from Vani's statement that:
(a) She believes that meditation has little or no effect.(b) She believes that meditation tends to lessen a person's aggressiveness.(c) She believes that Madan was previously a better boxer because he did not meditate.(d) She believes that Madan will not really meditate in order to retain his aggressiveness.
15. For which of the following " $n$ " is the number $2^{74}+2^{2058}+2^{2 n} a$ perfect square?
(a) 2012(
(b) 2100(
(c) 2011
(d) 2020
16. "As a result of the increase in age eligible for girls to write Engineering Entrance Exam from 16 years to 18 years, number of girls engineers have increased substantially" claimed an Education Department official. Which of

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the following, if true, will provide support to the claim made above?
(a) most of the girls pass XII, minimum qualification for admission in engineering, when they are more than 17 year old(b) most of the girls pass XII, minimum qualification for admission in engineering, before they are 16 year old(c) in some cases, girls join engineering due to negligence of the opportunity in the field of engineering(d) the reason for this change in entrance examination age of the girls is majorly political
17. The greenhouse effect is a natural occurrence that is directly affected by human activities such as new Industrial processes, more extensive agriculture and a rapid increase in the world's population causing global warming While the greatest creators of greenhouses gases are produced from industry, $10 \%$ of the total comes from cattle farming specifically in rainforest countries of Middle and South America. Although cows aren't normally found $m$ the rainforest, some individuals and companies are clearing rainforest land and
raising cows on it because the land is somewhat cheap. However, the rainforest soil isn't very good for growing the grasses cattle eat; usually after a few years the cattle farmers have to move on to new areas of the rainforest, cut down more trees, and start over again. Their presence provides a significant of lack rainforest regeneration, which means that carbon that should be in the biomass is in the atmosphere instead. The author's view point can be best summed up in which of the following statements?
(a) Human activities are greatly responsible for affecting the greenhouse gases.(b)
Greenhouse effect 1s a natural occurrence and does not get affected by any activity around.(c) Rainforest countries of middle and South America are used for cattle farming which is responsible for $10 \%$ of green gas emission.(d) Industry above only does not produce greenhouse gases, cattle farming also contributed toward greenhouse gases and rainforests are full of carbon that should be in the biomass.

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18. The researches on animal intelligence raise important questions. If animals are smarter than one thought. Would that change the way humans interact with them? Would humans stop hunting them for sport or survival? Would animals still be used for food? Clothing or medical experimentation? Finding the answer to these tough questions makes a difficult puzzle even for a large-brained, problem - solving species like our own.
Which of the following can be assumed from the given passage?

1. Humans hunt animal for sport or survival.
2. If animals are smarter than humans thought then humans must stop using them as food.
(a) 1 only(b) 2 only(c) Both 1 and 2(d) Neither 1 nor 2
3. What number should replace the question mark?

(a) 8 (b) 6(c) 4(d) 1
4. Sixty percent of the rats included $m$ an experiment were female rats. If some of the rats died during an experiment and 70 percent of the rats that died were male rats, what was the ratio of the death rate among the male rats to the death rate among the female rats?
(a) 7: 2
2(b) 7: 3(
(c) 2: 7
(d) 3: 7
5. The concept of harmonious world encompassing broad notions of multilateralism, prosperity for all through common development and tolerance for diversity has left world opm10n perplexed. These are commendable objectives but the theory is short on specifics regarding the means to achieve them. China's recent willingness to be a more active player internationally stems from complex factors. The country's economic strength- having acquired the largest foreign exchange reserves $m$ the world-is undeniable and reports favour it to be the largest economy in the next quarter of the century. For sustained
double-digit

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economic growth China thus has no choice but to become more active internationally.
What has been the fallout of China's increased participation m world affairs?
(a) International scrutiny of its economic policies(b) Growth of corruption among politicians(c) Its influence and prestige have grown substantially(d) Its growth rate has stabilized
22. The sociological argument that establishes marriage as a legitimate institution is as follows, marriage prior to being an act of mutual and sustained affection, between partners, is an act of mutual and sustained commitment, for the partners, to find reasons for being and remaining affectionate. There are two major highlights of this argument. First, marriage is a form of relationship that is not essentially founded on emotions but something more fundamental in human nature, which is the ability to generate emotions as a condition for fulfilling an obligation; this is what makes marriage a legitimate subject for social sciences, as an institution, because it is not purely emotion based. Second,
emotions are a sufficient if not a necessary condition for the sustainability of marriage, that's why the provision of divorce is an indispensable contingency within the institution of marriage. According to the passage, which of the following is correct?
(a) The principal intention of the author is to describe the reasons for the institution of marriage being considered as a legitimate social institution(b) The principal intention of the author is to persuade the reader to have faith $m$ the institution of marriage(c) The principal intention of the author is to justify the concept of divorce(d) The principal intention of the author is to create a social theory based on marriage
23.


How many dots are there on the dice face opposite the one with three dots?
(a) 5(b) 6(c) 4(d) 2
24. If the letters of the word SACHIN are arranged in all possible ways and these words

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are written out as in dictionary, then the word 'SACHIN' appears at serial number
(a) 601 (b)
b) 603(
(c) 600(d)
d) 602
25. In the following representation:

| A |  | D |
| :---: | :---: | :---: |
| B | G | E |
| C |  | F |

Each of the seven digits from $0,1,2,3,4,5,6,7,8$, and 9 is: 1) Represented by a different letter in the figure above.
2) Positioned in the figure above so that $\mathrm{A}^{*} \mathrm{~B}^{*} \mathrm{C}, \mathrm{B}^{*} \mathrm{G}^{*} \mathrm{E}$, and $D * E * F$ are equal.
Which digit does $\mathbf{G}$ represent?
(a) 1(b) 3(c) 2(d) None of these
26. A survey of $\mathbf{4 0 0}$ doctors passed out from the city's premier medical college in last five years shows that 142 joined government service, 160 took up private practice and 120 joined nursing home as junior doctor. 40 of them who joined the government service also had private practice, 32 of them worked as junior doctor and had private practice. 20 of
them worked in government services as well as in nursing homes. 12 of them worked in all the three areas.
Assuming that the statement is true, which among the given alternatives the follows from the statement?
(a) Doctors' main aim in the life is to earn money as they are greedy persons as professional(b) Doctors often break the rule to earn money(c) A single profession does not provide enough money(d) Most of the doctors can do justice in two separate jobs
27. There is a difference in how commercial agents and economic agents perceive productivity. For commercial agents, productivity is a standalone concept that has little interactive value with a background that is more or less nonessential for such productivity. For economic agents, however, productivity can only make sense if it is linked to all possible factors within a milieu, the material product that is received at the end of the process is not merely equal to its material value but of is social, political and ecological value.

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According to the passage, which among the following is advocated as a better definition of productivity, from the perspective of a society?
(a) Commercial definition of productivity, as perceived by the commercial agent(b) Economic division of productivity, as perceived by the economic agent(c) Both (a) and (b)(d) Neither (a) nor (b)
28. A solid cube is painted black on two of its opposite faces and is cut into 343 pieces. how many small pieces have no paint?
(a) 245(b) 255(c) 98(d) 97
29. $\mathbf{1 0} \mathbf{~ k g}$ of a mixture contains $30 \%$ sand and $70 \%$ clay. In order to make the mixture contain equal quantities of clay and sand how much of the mixture is to be removed and replaced with pure sand?
(a) 20/7(b) 25/7(c) 19/7(d) 23/7
30. The Indian Cricket team consists of 16 players. It includes 2 wicket keepers and 5 bowlers. In how many ways can a cricket eleven be selected if we have to select 1 wicket keeper and at least 4 bowlers?

## (a) 840(b) 952(c) 1040(d) 1092

31. In a regular week, there are 5 working days and for each day, the working hours are 8. A man gets Rs. 2.40 per hour for regular work and Rs. 3.20 per hours for overtime. If he earns Rs. 432 in 4 weeks, then how many hours does he work for? (a) 172(b) 165(c) 175(d) 162
32. One of the greatest historical problems is the ideal of constructing a society based on reason and avoiding dogma as a means of maintaining order within a society. It just so happens that we always find ourselves $m$ a society that avoids rationality to directly inform its political actions, in the name of securing peace and stability. There are only two ways in which this problem can be solved. First, by appointing leaders that have the ability to act rationally even when surrounded by a political setup based on dogma, few leaders historically have shown the calibre to reconcile such dichotomies. Second, by dismantling the institutions constructed on dogma by a public act of transformation,

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the principal risk of such movement is that it can lapse into an act of absolution, anarchy and blood ridden internal strife, hurting a nation even more.
According to the passage, which of the following is correct?
(a) Only great leaders, with their wisdom and intellect, can create rational societies(b) Great men are not born but made, through the processes of historical development(c) All great leaders are failures in the eyes of history, because of their inability to create rational societies.(d) We cannot rely only on leaders to create rational societies, because it's a process where the public also has a part to play
33. One-fifth of the light switches produced by a certain factory are defective. Four-fifths of the defective switches are rejected and 1 / 20 of the non-defective switches are rejected by mistake. If all the switches not rejected are sold, what percent of the switches sold by the factory are defective?
(a) $4 \%$ (b) $5 \%$ (c) $6.25 \%$ (d) $11 \%$
34. Exactly $14 \%$ of the reporters for a certain wire service cover
local politics in Country X. If $30 \%$ of the reporters who cover politics for the wire service do not cover local politics in Country X, what percent of the reporters for the wire service do not cover politics?
(a) $20 \%$ (b) $42 \%$ (c) $44 \%$ (d) $80 \%$
35. The greatest danger to a democracy is the increasing bureaucratization of the ruling process. As the bureaucracy takes control of virtually everything $m$ the governance, it becomes less accountable to both the ruling party and the legislature. There is a chance that democracy will become technocracy.
If the above statement is true, which among the given alternatives can be inferred from the statement?
(a) Democracy may turn into autocracy if bureaucrats are not controlled.(b) Bureaucracy should be controlled to ensure its accountability to both the ruling party and the legislature.(c) Technocracy is not better than democracy.(d) The accountability to both the ruling party and the legislature is key to democracy.
36. If $2 / 3$ of the air in a tank is removed with each stroke of a

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vacuum pump, how many strokes does it take before less than $1 \%$ of the original amount of air in the tank remains?
(a) 2(b) 3(c) 4(d) 5

In a certain code language, East is called North-east, South-east is called East, South is called South-east, South-west is called South and so on. A man starts travelling as per the original directions and travels a distance of $7 \mathbf{k m}$ towards North, then turns by an angle of 900 Clockwise direction and travels 24 km in that direction. How far is he from the starting point and in which direction is he now from the starting point in that language?
(a) 35 km , North-east(b) 25 km ,
(a) 35 km, North-east(b) 25 km ,
North(c) $35 \mathrm{~km}, \quad \operatorname{East}(\mathrm{~d}) 35 \mathrm{~km}$, South
Find the next number in the given series.
$2,4,5,13,14,49,41,193$,
(a) 185(b) 194(c) 122(d) 169

Statement:

1. No Rain is Game
2. Some Games are Chain
3. No Chain is Lane

Conclusions:
(I) Some Chains are not Rain
(II) Some Games are Lane
(a) Only conclusion I follows(b) Only conclusion II follows(c) Both conclusion I and II follow(d) Neither conclusion I nor II follows
40. Raju went to railway enquiry counter for getting information about the arrival time of Rajdhani express. The officer replied that the train will arrive 10 min before the mirror image of wall clock, which was striking 7:15 at that time. What is the arrival time of the train?
(a) 9:15(b) 9:20(c) 4:45(d) 4:35

By selling smartphones at Rs. 10000 per unit, Anuj was earning a profit of $\mathbf{1 0 \%}$. If the prices of these smartphones are increased by $20 \%$, then by what percentage should the new price be reduced to bring it back to the original level?
(a) $20 / 3 \%$ (b) $50 / 3 \%$ (c) $25 \%$ (d) 30\%
41. Because of its accuracy in outlining the Earth's subsurface, the seismicreflection method remains the most important tool in the search for petroleum reserves. In field practice, a subsurface

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is mapped by arranging a series of wave-train sources, such as small dynamite explosions, in a grid pattern. As each source is activated, it generates a wave train that moves downward at a speed determined uniquely by the rock's elastic characteristics. As rock interfaces are crossed, the elastic characteristics encountered generally change abruptly, which causes part of the energy to be reflected back to the surface, where it is recorded by se1sm1c instruments. The se1sm1c records must be processed to correct for positional differences between the source and the receiver, for unrelated wave trains, and for multiple reflections from the rock interfaces. Then the data acquired at each of the specific source locations are combined to generate a physical profile of the subsurface, which can eventually be used to select targets for drilling.
Which of the following best describes the organization of the passage?
(a) A method is criticized, and an alternative is suggested.(b) An illustration is examined, and some errors are exposed.(c) A
hypothesis is advanced, and supporting evidence is supplied.(d) A series of examples is presented, and a conclusion is drawn.
42. What is the greatest number of 6 digit dividing by $15,18,21$, 24, 27 leaves the remainder 10, 13, 16, 19 and 22?
(a) 997920(b) 997925(c)

997915(d) None of these
43. Here is a newspaper headline: "If you treat a group of depressed children for some time with an energy drink, they would show a clinically significant improvement. It is also the case that depressed children who spend some time standing on their head and/or hug a cat for twenty minutes a day will also show improvement." Most readers of such headlines will automatically infer that the energy drink or the cat hugging caused the improvement, but this conclusion is completely unjustified.
Which of the following assumptions justifies/ supports the argument made by the author of the statement?

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(a) Energy drinks and cat hugs tend to increase dopamine levels in the body, dopamine is responsible for elation and happiness.(b) Depressed children will get somewhat better over time even if they hug no cats and consume no energy drinks, so the causal link between these items and depression is flawed.(c) Energy drinks and cat hugs are peculiarly effective on children because of their tender nature, hence causing them relief from depression.(d) Cat hugs provide the replacement of human embrace, that is lacking in modern societies, the lack of human embrace in children is a leading cause of depression.
44. $\quad \mathbf{N}$ is proportional to $\mathbf{M} . \mathbf{N}=\mathbf{2 3}$, when $M=5$, then what is value of $N$ when $M=22.5$ ?
Which of the above statements is/are correct?
(a) 90(b) 100.5(c)
(c) 103.5(d
d) 105
45. If Rs. 1 is charged for each temple in state A, Rs. 2 for each temple in state $B$ and so on, a person has to pay how much money to visit all the temples of $\mathbf{A}, \mathrm{B}, \mathrm{C}$ and D ?
(a) Rs. 345(b) Rs. 385(c) Rs. 455(d) Rs. 165
46. Hindu Kush is Asia's water tower, providing a vital regional lifeline to over two billion people through 10 main rivers that originate from the glaciers. Increasing glacial melts could destabilize these rivers by changing their stream flow. The Indus could witness more stream flow due to high glacial melt till 2050, after which the flow would start reducing due to decreasing glacial melt. The Ganga and the Brahmaputra, which are mainly monsoon-fed rivers, will also see variations, as pre-monsoon flows may decline. This will hamper agriculture that accounts for the largest share of water usage.
On the basis of the above passage, the following assumptions have been made:

1. Glacial melt, at an optimum rate, is an ecologically desirable phenomenon.
2. Melting of glaciers in the Hindu Kush region will lead to variation in the stream flow of many rivers.
3. Rapid melting of glaciers would temporarily increase food production.

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Which of the above assumptions is/ are valid?
(a) 1 and 2 only(b) 1 only(c) 1 and 3 only(d) 1, 2 and 3
47. The number of temples in State $B$ is what percent of the number of temples in state $D$ ? (a) $54.54 \%$ (b) $50 \%$ (c) $48.8 \%(\mathrm{~d})$ 60\%
48. My grandfather remembers that my birthday falls after January 19, but before January 24. But my grandmother remembers that it falls between 17 January and 21 January. If it was a Tuesday on Jan 17, then what is the day of my birthday?
(a) Sunday(b) Thursday(c) Saturday(d) Friday
49. The number of temples in state $E$ is approximately what percent more or less than the number of temples in state $\mathbf{G}$ ?
(a) $29 \%$ (b)
(b) $37 \%$ (
c) $15 \%$ (
(d) $47 \%$
50. The National Education Policy (NEP) envisages that the curriculum and pedagogy of our institutions must develop among the students a deep sense of respect towards the Fundamental Duties and

Constitutional values, bonding with one's country, and a conscious awareness of one's roles and responsibilities in a changing world. The vision of the Policy is to instil among the learners a deep-rooted pride in being Indian, not only in thought, but also in spirit, intellect, and deeds, as well as to develop knowledge, skills, values, and dispositions that support responsible commitment to human rights, sustainable development and living, and global well-being, thereby reflecting a truly global citizen.
Which one of the following statements best implies the crux of the passage?
(a) The National Education Policy recommended making fundamental duties mandatory to imbibe constitutional and societal values among children.(b) The NEP envisages value-based education with emphasis on being humane rather than human.(c) To inculcate educational values among children and wards, NEP must be made part of fundamental duties.(d) The NEP envisages a smarter and tech savvy education which will help in removing poverty and

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inequality by promoting inclusiveness.
51. Management is a set of processes that can keep a complicated system of people and technology running smoothly. The most important aspects of management include planning, budgeting, organizing, controlling, and problemsolving. Leadership is a set of processes that create organisations in the first place or adapts them to significantly changing circumstances. Leadership defines what the future should look like, aligns people with that vision, and inspires them to make it happen despite the obstacles. This distinction is absolutely crucial for our purposes here: Successful transformation is 70 to 90 per cent leadership and only 10 to 30 per cent management.
Why, according to the author, is a distinction between management and leadership crucial?
(a) Leaders are reactive whereas managers are proactive.(b) Organisations are facing problems of not getting good managers.(c) Organisations are
pursuing the strategy of status quo.(d) In today's context, organizations need leaders as well as managers $m$ transforming them.
52. In a queue, Sadiq is $\mathbf{1 4 t h}$ from the front end and joseph is 17th from the back end, while Jane is in between Sadiq and Joseph. If Sadiq be ahead of Joseph and there are 48 persons in the queue, how many persons are between Sadiq and Jane?
(a) 5(b) 6(c) 7(d) 8
53. A dice is thrown. If an even number comes, then a coin is tossed once, but if a prime number comes, then two coins are tossed. What is the probability of getting exactly one head?
(a) $2 / 7$ (b) $1 / 5$ (c) $5 / 8$ (d) $3 / 8$
54. How many 9's are followed by and preceded by numbers divisible by 2 ?
8965359683496526
97372941
3794173498453976
15319574
2968532957489451
(a) 12 (b) 6 (c) 8 (d) 10
55. In a group of $\mathbf{2 0}$ children, two children have hundred marbles

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each and three do not possess any marbles. The average number of marbles with the rest of the children is 40 . What is the average number of marbles with the group of children?
(a) 35(b) 30(c) 40(d) 37
56. A full bottle contains $40 \%>$ oil, $20 \%>$ vinegar, and $40 \%>$ water. The bottle is poured into a larger bottle, four times as big as original. The remaining space in the larger bottle is then filled with water. If there was 8 ml of oil in the original bottle, how much of water is in the final mixture?
(a) $68 \mathrm{ml}(\mathrm{b}) 48 \mathrm{ml}(\mathrm{c}) 38 \mathrm{ml}(\mathrm{d})$
d) 58 ml
57. Thirty members are standing in a row. How many persons are between Ramu and Mohan? (i) 13 persons are standing to the right of Mohan and 15 persons are standing to the left of Ramu.
(ii) 18 persons are standing to the left of Mohan and 13 persons are standing to the right of Ramu.
(iii) 17 persons are standing to the right of Ramu and 26 persons are standing to the right of Mohan.

Which of the above statements are sufficient to answer the question?
(a) Only I(b) Only I and II(c) Only II and III(d) Each statement alone is sufficient
58. Ramarao has a toy shop. By mistake he calculated profit percentage on a toy's selling price (rather than the cost price), which came out to be $50 \%$. What is the actual profit percentage ?
(a) $200 \%$ (b) $50 \%$ (c) $100 \%$ (d) $25 \%$
59. How many such pairs of letters are there in the word ARCHITECTURE, each of which has as many letters between them as they have between them in the English alphabet?
(a) 6(b) 5(c) 3(d) None of the above
60. Study the following information carefully and answer the question that follows:
Point $T$ is 5 m south of point $U$. Point $U$ is 5 m east of point $V$. Point $V$ is 3 m south of point $W$. Point $W$ is 5 m west of point $X$. Point $X$ is 5 m south of point $Y$. Point $Z$ is $\mathbf{1 0} \mathbf{m}$ east of point Y.

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How far and in which direction is point $\mathbf{U}$ from point $\mathbf{Z}$ ?
(a) 25 m , South-East(b) 18 m , North(c) 15 m , North-East(d) 12.8 m , South-West
61. An algorithm that is constructed on the back of an envelope is often good enough to compete with an optimally weighted formula, and certainly good enough to outdo expert judgment. This logic can be applied in various domains, ranging from the selection of stocks by portfolio managers to the choices of medical treatment by doctors or patients.
Which of the following assumptions
falsifies/invalidates the argument made above?
(a) Algorithms are the most scientific of methods to elaborate details in a case study(b) Algorithms function in a step by step manner, therefore, ruling out any possibility of an error(c) Algorithms are designed not as a formula but as a system, a system has a better practical competence, than a formula(d) Algorithms depend on variables, and it is impossible to factor in all the variables of an activity
62. There is growing recognition of „digitalization" and the socalled „new technologies" spanning all available approaches, systems, tools and innovations, including a suite of biotechnologies such as genome editing, in particular CRISPR-Cas or synthetic biology, where the genetic material of an organism can be synthesized. Advances in food and medicine research in the area of genomics, food processing, and drug design/formulation, may increasingly lead to „personalized foods" to address specific health conditions. This is an area in rapid evolution where regulatory guidance and oversight would be needed. What is the most logical and appropriate conclusion that we can infer from this passage?
(a) Growing digitalization and advent of new technologies will help in boosting innovation and the manufacturing sector.(b) Rising use of synthetic biology from food to medicine should be coupled with greater regulation by appropriate regulatory bodies.(c) Despite growing digitalization and innovation in cutting edge technology India

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has not yet made the desired progress in synthetic biology.(d) Synthetic biology induced area of genomics and drug design formulation has made great advancement in India's biotechnology sector.
63. In a box we have twice as many red balls as green balls. Also, 3 lesser white balls than the red balls. And there are 10 green balls in the box. If Arun has to take one ball at a time randomly from the box blindfolded, how many balls he has to take to ensure he had taken at least one from each colour?
(a) 38(b) 29(c) 31(d) Cannot be determined
64. Three men including a senior citizen, board a train where 6 seats are vacant. Two of these 6 seats are reserved, one for women and one for senior citizens. A senior citizen may or may not sit on reserve seat. In how many different ways can the 6 seats be occupied by these three passengers?
(a) 36 (b) 60 (c) 72 (d) 120
65. 5. A longest rod is placed in a room of length 15 m and breadth 6 m . What can be the
height of the room if length of the rod is 19 m ?
(a) 11 m (b) 15 m (c) $10 \mathrm{~m}(\mathrm{~d})$ None of these
66. Performance trends reveal that urban learner always secure better grades than their rural counterparts. It is not calibre that affects their performance, but the resources and opportunities available to them. Again, we cannot say that teaching is not a motivating profession. There are truly passionate teachers out there to make a difference. However, poor remuneration and inadequate training are discouraging. Technology, on its part, has the potential to positively affect the quality of education, and also to break the digital divide plaguing our system.
Which of the following best inferred from the passage?
(a) Rural learner has a lack of calibre due to inadequate training of teachers.(b) It's the government duty to provide teacher better salary and adequate training(c) Urban learner gets better facilities than Rural learners(d) For achieving a quality education learners must migrate to Urban Areas.

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67. Find out which statement is / are sufficient to answer the question:
There are 80 chocolates to be distributed among Priya, Bavani and Catherine. How many chocolates does Bavani get?

1. Bavani gets $40 \%$ of the chocolates.
2. Priya and Catherine get 45 chocolates together.
(a) 1 only(b) 2 only(c) Either I or II(d) Neither 1 nor 2
3. Water shortage brings with it other consequences, among them, worsening of already existing rural-urban and gender-based inequalities. To begin with, water scarcity in India impacts women more severely than men. Indian women spend some 150 million days collecting water annually, losing an estimated INR 10 billion (US $\$ 133$ million) in incomes. Moreover, water supply systems are unevenly distributed: 52 percent of households in urban areas have tap access, against a much lower 18 percent of rural households.
What is the most logical and crucial message conveyed by the passage?
(a) It is the need of the hour to create rural infrastructure in order to have access to piped and tap water in rural areas.(b) Rural local bodies are not efficient enough to meet the growing water requirement in rural households.(c) Water scarcity in rural areas is due to overexploitation of groundwater for agricultural purposes.(d) Water shortages in rural areas are the reason for gender-based inequality and migration of people from rural to urban areas.
4. There are $\mathbf{1 5}$ apples in a basket and 3 of them are rotten. If two apples are selected at random, what is the chance that only one is good apple?
(a) $36 / 345$ (b)
b) $9 / 445$ (
(c) $16 / 345(\mathrm{~d})$ 36/445
5. Various conceptual models help explain the dynamics of land-use change from forests to agriculture, and vice versa. In such models, indirect drivers of forest conversion may include population growth; economic development; income distribution; agricultural demand for land; new technologies; market

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expansion; insecure land tenure; and weak governance. For example, a model sometimes referred to as the "environmental Kuznets curve" suggests that, when per capita income is low, economic growth tends to exacerbate environmental problems, such as deforestation, but that the opposite occurs beyond a certain income threshold.

Which among the following are the most rational inferences that can be made from the passage?

1. Increase in per capita income after a threshold, results in lesser environmentaldegradatio n.
2. Sustainable management of forests and enhancement of forest carbon stocks (known as REDD+) is vital for global efforts to conserve forest and combat climate change.
Select the correct answer using the code given below.
(a) 1 only(b) 2 only(c) Both 1 and 2(d) None
3. The output of a factory is increased by $10 \%$ to keep up with rising demand. To handle
the holiday rush, this new output 1 s increased by $20 \%$ by approximately what percent would the output of the factory now have to be decreased in order to restore the original output?
(a) 20(b) 24(c) 22(d) 18
4. We must remember that there are always good reasons to be a racist, colourist, communalist, casteist or misogynist. A decision not to give into these prejudices is not a judgment of reason and rationality alone; it is also an ethical judgment which depends on how we allocate value to anything. Ironically, reason and rationality have always played a central role in promoting prejudices against color, caste, religion, sexuality, gender and other cultures.
Which one of the following is the most logical and rational inference that can be made from the above passage?
(a) A rational and objective mind will never be pre judgemental towards race, color, caste, gender.(b) In our social architecture patriarchal values are the sole reason to be a racist, colourist or even misogynist.(c) A rational and reasonable mind which believes in values and

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moral principles may be able to avoid prejudices against race, color, caste, and gender.(d) Any kind of preconceived notion and even discrimination based on colour, caste, gender is violative of right to equality and unlawful.
73. From a squad of $\mathbf{2 1}$ players in Indian women's cricket team, 11 have to be chosen for the semi-final match. 4 of the seniors were given rest and 3 were injured. If Jemimah Rodrigues and Megha Singh are already in the team, in how many ways can the team be formed?
(a) 220(b) 364(c) 2002(d) None of these
74. The percentage of profit earned by selling an item for Rs. 2484 is equivalent to the percentage of loss incurred by selling the same at Rs. 2116. What is the selling price of the article if the shopkeeper needs to make 20\% profit?
(a) 2300(b)
b) 2576(
(c) 2760(d
d) 2990
75. Balu increased the radius of a cylindrical utensil by 50\%. By what percent can he expect the volume of water poured to be increased?
(a) 120 (b)
b) 75 (c) 150 (d
(d) 125
76. The population of a town was 3600 three years back. It is 4800 right now. What will be the population three years down the line, if the rate of growth of population has been constant over the years and has been compounding annually?
(a) Rs. 600
(b) Rs. 6000
(c) Rs. 6400
(d) Rs. 6200
77. Amount invested in a bank that gives SI quadruples the money invested in 42 years. What is the rate of interest?
(a) $14.28 \%$
(b) $11.11 \%$
(c) $9.09 \%$
(d) $7.14 \%$
78. A bag contains 3 green balls, 2 white balls and 5 blue balls. Two balls are drawn at random without replacement. What is the probability that they are not green balls?
(a) $7 / 15$
(b) $9 / 20$
(c) $8 / 15$
(d) $49 / 100$
79. Constitutional reforms are usually understood as changes to existing constitutional law and practice. They are necessary when the parameters on which the life of the society are based are inadequate and constitute a burden to the effective functioning of the State, or when

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there is a need to resolve conflict or to restore State structures that have collapsed as a result of an internal conflict or aggression. As a consequence, reform of constitutional law takes place in different contexts: former autocratic forms of government transitioning to democracy; in the aftermath of a conflict where a new constitution to establish democracy is used to construct a sustainable peace; or in established democracies to advance reforms and promote social justice.

Which one of the following is best implied in the passage?
(a) Constitutional reform is necessary only in the case when there is collapse of state structure due to internal conflict between stakeholders.
(b) Constitutional reforms may be necessary to provide compulsory rights, such as right to education to every section of society.
(c) Independent judiciary is a bulwark to establish democracy and promote sustainable peace when the state is undergoing internal conflict.
(d) Constitutional reform in every society has ensured transition from dictatorship to democracy and promoted social justice.
80. Constitutional reforms are usually understood as changes to existing constitutional law and practice. They are necessary when the parameters on which the life of the society are based
are inadequate and constitute a burden to the effective functioning of the State, or when there is a need to resolve conflict or to restore State structures that have collapsed as a result of an internal conflict or aggression. As a consequence, reform of constitutional law takes place in different contexts: former autocratic forms of government transitioning to democracy; in the aftermath of a conflict where a new constitution to establish democracy is used to construct a sustainable peace; or in established democracies to advance reforms and promote social justice.

With reference to the above passage, the following assumptions have been made:

One of the goals of constitutional reforms maybe to reshape the State order by means of promoting the idea of welfare state.
There is no chance of dictatorship in society which is protected by constitutional norms and values. Which of the above assumptions is/are valid?
(a) 1 only
(b) 2 only
(c) Both 1 and 2
(d) Neither 1 nor 2
81. The simple interest on a sum of money is Rs. 50. What is the sum?

The interest rate is $10 \%$ ) p.a. The sum earned simple interest in 10 years
(a) I alone sufficient while II alone not sufficient to answer

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(b) II alone sufficient while I alone not sufficient to answer
(c) Either I or II alone sufficient to answer
(d) Both I and II are necessary to answer
82. The output of a factory is increased by $10 \%$ to keep up with rising demand. To handle the holiday rush, this new output 1 s increased by $20 \%$ by approximately what percent would the output of the factory now have to be decreased in order to restore the original output?
(a) 20
(b) 24
(c) 22
(d) 18
83. A can do $30 \%$ of work in 54 days; B can do a third of work in 70 days; C can do $35 \%$ of work in 105 days and D can do $15 \%$ of the work in 30 days. All the four are assigned to complete a work separately. Who will complete the work last?
(a) A
(b) B
(c) C
(d) D
84. Two equal glasses of same type are respectively $3 / 5$ and $4 / 7$ full of wine. They are then filled up with water and the contents are mixed in a bottle. What is the ratio of wine and water in the bottle?
(a) $5: 7$
(b) $29: 41$
(c) $41: 29$
(d) $7: 5$
85. A man travelled a distance of 90 km in 6 hours, partly by foot at 13 kmph and partly by bicycle at 19 kmph . What is the distance travelled by bicycle?
(a) 38 km
(b) 35 km
(c) 30 km
(d) 26 km
86. The population of a town was 3600 three years back. It is 4800 right now. What will be the population three years down the line, if the rate of growth of population has been constant over the years and has been compounding annually?
(a) Rs. 600
(b) Rs. 6000
(c) Rs. 6400
(d) Rs. 6200
87. Soil is the earth's fragile skin that anchors all life on Earth. It is comprised of countless species that create a dynamic and complex ecosystem and is among the most precious resources to humans. Increased demand for agriculture commodities generates incentives to convert forests and grasslands to farm fields and pastures. The transition to agriculture from natural vegetation often cannot hold onto the soil and many of these plants, such as coffee, cotton, palm oil, soybean and wheat, can actually increase soil erosion beyond the soil's ability to maintain itself.

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Which of the following assumptions are implied in the passage above?

The soil on Earth cannot withstand excessive exploitation.
Soil erosion is directly proportional to crop diversity.
(a) 1 only
(b) 2 only
(c) Both 1 and 2
(d) Neither 1 nor 2
88. What is the central theme of the passage above?
(a) Agricultural activities may exacerbate soil erosion
(b) Soil is the most precious resource for human beings
(c) Most ecosystems in the world are complex
(d) It is a painstaking but worthwhile initiative to convert forests into farmland
89. A major shift occurred when India embarked upon economic liberalisation and reforms program in 1991 aiming to raise its growth potential and integrate with the world economy. Industrial policy reforms slowly but surely removed restrictions on investment projects and business expansion on the one hand and allowed increased access to foreign technology and funding on the other.

Which one of the following is the most logical and rational inference to the above passage?
(a) 1991 reforms ensured that the Indian economy opens up
and receives finance to spur economic growth.
(b) To handle the balance of payment crisis, 1991 reforms were inevitable.
(c) There was a rapid implementation of policy leading to the growth of the Industrial sector, post-1991 reforms.
(d) 1991 reforms disproportionately favoured a few primary sectors over the others in economic growth.
90. In a family of seven members, L is the only son of N , who is the grandfather of O . N has only one child. M is the sister of $\mathrm{L} . \mathrm{Q}$ is the mother of T. R is the mother of M , who is the aunt of O . T is the son of $L$.

Find which of the following is correct with respect to given family.
(a) O is the sister of T
(b) M is the daughter-in-law of N .
(c) M is the mother of T .
(d) R is the wife of N
91. A rabbit on a controlled diet is fed daily 300 grams of a mixture of two foods, food X and food Y . Food X contains $10 \%$ protein and food $Y$ contains $15 \%$ protein. If the rabbit's diet provides exactly 38 grams of protein daily, how many grams of food X are in the mixture?
(a) 100
(b) 140
(c) 150
(d) 160
92. In the past few years, India has seen an emergence of start-ups and unique confidence in

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ideation from entrepreneurs. In the 2019 GoDaddy Global Entrepreneurship Survey, Indian entrepreneurs were the most optimistic globally about growing their business by at least 50 per cent in the next three to five years. However, with the chaos and breakdowns unleashed by the pandemic this year, the future now seems unpredictable. The pandemic has forced many small business owners to run their businesses in a more lean and efficient manner, leading to a permanent shift in their operating landscape and increasing the demand for digital adoption. Additionally, the increase in the number of technology-driven customers, due to the restrictions, has led to an urgency for businesses to have an online presence and strategy.

What is the main idea conveyed by the passage above?
(a) Brick and mortar establishments cannot survive in the modern digital marketplace
(b) India is a global leader in entrepreneurship and has several start-up hubs
(c) The pandemic has tilted the entrepreneurial landscape towards online competence
(d) No Indian entrepreneur experienced a slump in business in 2019
93. In the past few years, India has seen an emergence of start-ups and unique confidence in ideation from entrepreneurs. In the 2019 GoDaddy Global

Entrepreneurship Survey, Indian entrepreneurs were the most optimistic globally about growing their business by at least 50 per cent in the next three to five years. However, with the chaos and breakdowns unleashed by the pandemic this year, the future now seems unpredictable. The pandemic has forced many small business owners to run their businesses in a more lean and efficient manner, leading to a permanent shift in their operating landscape and increasing the demand for digital adoption. Additionally, the increase in the number of technology-driven customers, due to the restrictions, has led to an urgency for businesses to have an online presence and strategy.

Which of the following statements are false based on the passage above?

Many small businesses have had to close operations because of the pandemic-induced lockdown.
The number of start-ups in India has increased in the past few years.
(a) 1 only
(b) 2 only
(c) Both 1 and 2
(d) Neither 1 nor 2
94. Four monkeys are climbing on four different poles. In every jump they move up $2 \mathrm{~m}, 4 \mathrm{~m}, 3$ $\mathrm{m} \& 5 \mathrm{~m}$ respectively. What is minimum height they should climb, so that each can reach the same height in integral number of jumps?

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(a) 10 m
(b) 30 m
(c) 60 m
(d) 20 m
95. We inherited an agrarian economy from the British with the agriculture and allied sector contributing to around threefourths of the Gross Domestic Product (GDP) and providing employment to more than fourfifths of the population. The food shortages faced during the mid1960s pushed India to reform its agricultural policy and accordingly India adopted significant policy reforms focused on the goal of achieving food grain self-sufficiency. A series of institutional reforms were undertaken to boost agricultural production and to modernize farming practices.

Based on the above passage, the following assumptions have been made:

Food Shortages were fulfilled by the import of food grains from foreign nations.
Contribution of agriculture to GDP does not ensure food selfsufficiency.
Which of the above assumptions is/are valid?
(a) 1 only
(b) 2 only
(c) Both 1 and 2
(d) Neither 1 nor 2
96. Statements:

- Some cows are crows.


## - Some crows are elephants.

## Conclusions:

1. Some cows are elephants.
2. All crows are elephants.
(a) Only (1) follows(b) Only (2) follows(c) Both (1) \& (2) follows(d)
Neither (1) nor (2) follows
3. Statements:

- All the actors are girls.
- All the girls are beautiful.
Conclusions:

1. All the actors are beautiful.
2. Some girls are actors.
(a) Only (1) follows(b) Only
follows(c) Both (1) \& (2) follows(d)
Neither (1) nor (2) follows
3. Farming is no longer attractive among village youths. The mindset of farmers is not easily changed to win confidence for natural farming. The labour-intensive and timeconsuming nature of Zero Budget Natural Farming (ZBNF) prove to be an obstacle for making the transition to natural farming. Small farmers can afford increased labour using their family labour, but it is difficult for big farmers to get adequate labour for big farms. Some big farmers,

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however, innovatively use locally developed solutions to make ZBNF less labourintensive but the implementation of such technology needs initial investment, which poses an obstacle.
Based on the passage given above, $\qquad$ the following assumptions have been made:

1. Natural farming makes sense environmentally, but may not be that viable economically.
2. Affordable machinery and adequate finance could encourage village youth to take up natural farming.
Which of the above assumptions is/are valid?
(a) 1 only(b) 2 only(c) Both 1 and 2(d) Neither 1 nor 2
3. Internationally, the end of the Cold War and the collapse of the USSR have had profound security implications for India. The cumulative impact has been to make India feel more secure and thus more willing to be innovative in its foreign policy. During the four decades after independence, India structured its foreign policy around security concerns related to threats from

Pakistan and China. Since the end of the Cold War, relations with China have improved, surviving the brief chill of mid1998 when Indian officials, including the defense minister, referred to alleged dangers from China to justify its 1998 nuclear tests. The improvement of Chinese relations with Russia that followed the ending of the Cold War removed a major impediment to better SinoIndian ties.
What is the most logical, rational and critical inference that can be drawn from the passage above?
(a) India played a significant role
in the collapse of the $\operatorname{USSR}(\mathrm{b})$
India's perceived security increased after the end of the Cold War(c) Pakistan and China have perpetually posed a security threat to India(d) China and Russia have become close allies in several sectors
100. Internationally, the end of the Cold War and the collapse of the USSR have had profound security implications for India. The cumulative impact has been to make India feel more secure and thus more willing to be innovative in its foreign

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policy. During the four decades after independence, India structured its foreign policy around security concerns related to threats from Pakistan and China. Since the end of the Cold War, relations with China have improved, surviving the brief chill of mid1998 when Indian officials, including the defense minister, referred to alleged dangers from China to justify its 1998 nuclear tests. The improvement of Chinese relations with Russia that followed the ending of the Cold War removed a major impediment to better SinoIndian ties.
Which of the following assumptions are implied in the passage above?

1. Russia played an important part in the improvement of ties between India and China.
2. India's feeling of security has a direct impact on innovation in its foreign policy.
(a) 1 only(b) 2 only(c) Both 1 and 2(d) Neither 1 nor 2
3. Lead contamination poses a serious threat to the safety of drinking water m Pennsylvania. This colorless, odorless, and
tasteless metal can go undetected m water. Excessive amounts of lead place adults at higher risk for cancer, stroke, kidney disease, memory problems and high blood pressure. Lead in excessive amounts in the drinking water that mainly comes from industrial pollution and has been the major cause of lung cancer. Economy of Akira Island is based completely on either tourism or subsistence level of agriculture, has little or no industry. But inhabitants of the island have shown high incidence of lung Cancer in the last 10 years.

Which of the following can be inferred from the above statements?
(a) Lead in drinking water in Akira is absolutely within safe limit
(b) Lung cancer of the inhabitants of the island must have causes other than lead in drinking water
(c) Lead in drinking water in the water of the island must have come from various natural sources
(d) Medical science is yet to be sure about exact reason of cancer of inhabitants of the island
102. A number when divided successively by 5 and 4 leaves the remainder 2 and 3 respectively. When it is divided by 4 and 5 respectively, what are the remainders?
(a) 1, 4

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(b) 4,1
(c) 3,2
(d) None of these
103. Harsh, Shiva and Krishna participated in a 400 m race. Harsh can defeat Shiva by 50 m and Shiva can defeat Krishna by 24 m . In the same race Harsh can defeat Krishna by what distance?
(a) 76 m
(b) 26 m
(c) 71 m
(d) 24 m
104. The number of letters skipped in between adjacent letters in a series remains the same, when moving from left to right. Which of the following series observes this rule?
(a) BFKPUZ
(b) BGLQVZ
(c) BFJNRV
(d) AEINRV
105. The ratio of the ages of Velu and Ranjith 10 years ago was $1: 3$. The ratio of their age five years hence will be $2: 3$. Then the ratio of their present age is:
(a) $5: 3$
(b) $1: 2$
(c) $3: 5$
(d) $3: 4$
106. A man arranges to pay off a debt of Rs. 3600 in 40 annual instalments which form an arithmetic progression, when 30 of the instalments are paid, he dies leaving $1 / 3 \mathrm{rd}$ of debt unpaid. What is then the value of the first instalment?
(a) 51
(b) 50
(C) 52
(d) 53
107. Forests are carbon sinks and, therefore, help to mitigate the emission of carbon dioxide and other greenhouse gases. Tropical forests alone hold more than 228 to 247 gigatons of carbon, which is more than seven times the amount emitted each year by human activities. But when forests are cut, burned or otherwise removed they emit carbon instead of absorb carbon. Deforestation and forest degradation are responsible for around $15 \%$ of all greenhouse gas emissions. These greenhouse gas emissions contribute to rising temperatures, changes in patterns of weather and water, and an increased frequency of extreme weather events. For example, in Sumatra, rainforests on deep peatlands are being cleared, drained and converted to pulp plantations, contributing to Indonesia's high greenhouse gas emissions. Changes in climate can affect forest-dwelling creatures by altering their habitats and decreasing availability of food and water. Some will be able to adapt by moving to higher elevations or latitudes, but species losses may occur.

What is the most logical, rational and critical inference that can be drawn from the passage above?

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(a) Forests will play a vital role in resolving the problem of global warming on Earth
(b) $85 \%$ of greenhouse gases occur naturally in the environment
(c) Pulp plantations form a large part of the agriculture in Sumatra
(d) Forest wildlife is endangered as a result of deforestation
108. Forests are carbon sinks and, therefore, help to mitigate the emission of carbon dioxide and other greenhouse gases. Tropical forests alone hold more than 228 to 247 gigatons of carbon, which is more than seven times the amount emitted each year by human activities. But when forests are cut, burned or otherwise removed they emit carbon instead of absorb carbon. Deforestation and forest degradation are responsible for around $15 \%$ of all greenhouse gas emissions. These greenhouse gas emissions contribute to rising temperatures, changes in patterns of weather and water, and an increased frequency of extreme weather events. For example, in Sumatra, rainforests on deep peatlands are being cleared, drained and converted to pulp plantations, contributing to Indonesia's high greenhouse gas emissions. Changes in climate can affect forest-dwelling creatures by altering their habitats and decreasing availability of food and water. Some will be able to adapt by moving to higher elevations or latitudes, but species losses may occur.

What is the most logical, rational and crucial message conveyed by the passage above?
(a) Forests absorb more carbon than the quantity emitted by humans
(b) Global temperatures are rising owing to greenhouse gas emissions
(c) Deforestation can be linked directly to global warming and to potential loss of biodiversity
(d) Tropic forests hold more carbon than polar ones
109. In how many ways can the four volumes of a book be placed together one above the other such that the volumes 1 and 4 are never together?
(a) 9
(b) 12
(c) 14
(d) 18
110. Arun and Shivam have certain amount of money with them. If Arun gives Rs. 40 to Shivam, then Shivam will have three times the money that is left with Arun. But if Shivam gives Rs. 10 to Arun , then Arun will have two times the money that is left with Shivam. How much money did Arun have initially?
(a) Rs. 170
(b) Rs. 80
(c) Rs. 70
(d) Rs. 90
111. The length of a rectangle is increased by $50 \%$. By what percent would be width have to

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be decreased to maintain the same area?
(a) $5 \%$
(b) $5 \%$
(c) $3 \%$
(d) $5 \%$
112. 4800 chocolates were distributed among the children of a class VI. Each child got thrice as many chocolates as the number of children in the class. The number of children in the class is:
(a) 35
(b) 40
(c) 50
(d) 45
113. The average weight of four persons sitting in a car and driver is 55 kg . The average weight of the car and the all persons sitting in the car is 440 kg . What is the weight of the car?
(a) 2365 kg
(b) 2565 kg
(c) 2415 kg
(d) 2405 kg
114. Two statements S1 and S2 are given below followed by a Question.

S1: Distance travelled by the front wheel of a vehicle in 20 revolutions is equal to the distance travelled by the rear wheel of the vehicle in 80 revolutions.

S2: The front wheel of a vehicle makes 240 revolutions.

Question: What is the diameter of the front wheel of the vehicle, if the diameter of its rear wheel is 1.2 meters?
(a) S 1 alone is sufficient to answer
(b) S2 alone is sufficient to answer
(c) Both S 1 and S 2 are required to answer the question.
(d) Neither S 1 nor S 2 is sufficient to answer the question.
115. The average of marks obtained by a class is 70 in English, where girls got average of 75 and boys got 68. In Mathematics, if boys have got an average of 70 marks and girls got 77, then what is the average mark of the class in Mathematics?
(a) 74
(b) 73.5
(c) 72
(d) 71
116. If a number is divided by 6,3 is the remainder. What is remainder if the square of the number is divided by 6 ?
(a) 2
(b) 3
(c) 4
(d) 5
117. The sum of a set of positive integers up to 1000 is 50000 .

When the set comprises of all integers that are divisible by 10 , but not divisible by 2 .
When the set comprises of all integers that are divisible by 5 , but not divisible by 2 .

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Which of the above statements is/are correct?
(a) Only 1 is correct
(b) Only 2 is correct
(c) Both 1 and 2 are correct
(d) Neither 1 nor 2 is correct
118. A family of eight persons has three married couples. Amelie is the grandmother of Charles and is the mother-in-law of Floyd. Helen is the daughter of Bob, who is the brother of George. Diana is the only child of George and is the mother of Charles. Emma is the wife of Bob.

How is George related to Helen?
(a) Uncle
(b) Father
(c) Brother
(d) Cousin
119. How is Helen related to Diana?
(a) Sister
(b) Daughter
(c) Cousin
(d) Mother
120. Diana's mother is
(a) Emma
(b) Amelie
(c) Helen
(d) Floyd
121. Three numbers 2811,3981 and 5151 when divided by a certain divisor, leave the common remainder. The sum of the digits of the divisor is:
(a) 6
(b) 8
(c) 9
(d) 11
122. $10 \%$ of $a$ is 5 times $20 \%$ of $\beta$. The ratio $\beta$ : a is:
(a) $10: 1$
(b) $1: 9$
(c) $1: 10$
(d) $5: 1$
123. Global warming is the long-term warming of the planet's overall temperature. Though this warming trend has been going on for a long time, its pace has significantly increased in the last hundred years due to the burning of fossil fuels. As the human population has increased, so has the volume of fossil fuels burned. Fossil fuels include coal, oil, and natural gas, and burning them causes what is known as the "greenhouse effect" in Earth's atmosphere. The greenhouse effect is when the Sun's rays penetrate the atmosphere, but when that heat is reflected off the surface cannot escape back into space. Gases produced by the burning of fossil fuels prevent the heat from leaving the atmosphere. These greenhouse gasses are carbon dioxide, chlorofluorocarbons, water vapor, methane, and nitrous oxide. The excess heat in the atmosphere has caused the average global temperature to rise overtime, otherwise known as global warming.

What is the central message conveyed by the passage above?

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(a) Burning fossil fuels leads to global warming
(b) The greenhouse effect can be observed only in the Earth's atmosphere
(c) It is unclear how chlorofluorocarbons and methane are emitted
(d) Global warming has increased significantly in recent years
124. Global warming is the long-term warming of the planet's overall temperature. Though this warming trend has been going on for a long time, its pace has significantly increased in the last hundred years due to the burning of fossil fuels. As the human population has increased, so has the volume of fossil fuels burned. Fossil fuels include coal, oil, and natural gas, and burning them causes what is known as the "greenhouse effect" in Earth's atmosphere. The greenhouse effect is when the Sun's rays penetrate the atmosphere, but when that heat is reflected off the surface cannot escape back into space. Gases produced by the burning of fossil fuels prevent the heat from leaving the atmosphere. These greenhouse gasses are carbon dioxide, chlorofluorocarbons, water vapor, methane, and nitrous oxide. The excess heat in the atmosphere has caused the average global temperature to rise overtime, otherwise known as global warming.

Which of the following statements cannot be inferred from the passage above?
(a) The greenhouse effect results from the burning of fossil fuels
(b) If fossil fuels are not burnt, there will be no heat in the Earth's atmosphere
(c) Carbon dioxide is a greenhouse gas
(d) The rise in global temperatures is known as global warming
heat in the atmosphere.
125. The seventh day of a month is three days earlier than Friday. The nineteenth of that month will be:
(a) Sunday
(b) Monday
(c) Wednesday
(d) Friday
126. A number is multiplied by onesixth, then divided by oneseventh, and then multiplied by seven-tenth. Result is what percent of the original number?
(a) $49 / 6 \%$
(b) $50 / 3 \%$
(c) $245 / 3 \%$
(d) $5 / 3 \%$
127. Three pipes A, B and C can fill a cistern in 8 hours. After working at it together for 2 hours, C is closed and A and B fill it in 9 hours more. The time taken by C alone to fill the cistern is
(a) 24 hours
(b) 15 hours
(c) 16 hours
(d) 17 hours
128. A person can travel at the speed of 40 miles per hour. If he

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increases his speed by $60 \%$, how long will he take to cover 320 miles?
(a) 5 hours
(b) 6 hours
(c) 4 hours
(d) None
129. In a class there are 60 students, out of whom $15 \%$ are girls. Each girl monthly fee is ₹ 350 and each boy monthly fee is $34 \%$ more than a girl. What is the total monthly fee of girls and boys together?
(a) 27000
(b) 27069
(c) 27075
(d) 26000
130. The age of a man is three times the sum of the ages of his two sons. Five years hence, his age will be double of the sum of the ages of his sons. The father's present age is
(a) 40 years
(b) 45 years
(c) 50 years
(d) 55 years
131. The price of an item is decreased by $10 \%$, then by $20 \%$, and finally by $30 \%$. This is equivalent to:
(a) Decreasing the price by 50.4\%
(b) Decreasing the price by $60 \%$.
(c) Decreasing the price by 40.5\%
(d) Decreasing the price by 49.6\%
132. Anand gives $35 \%$ of the money he had to his wife and gave 50\%
of the money he had to his sons. Remaining amount of Rs.12,000 he kept for himself. What was the total amount of money Anand had?
(a) 60,000
(b) 70,000
(c) 80,000
(d) 90,000
133. Two statements S1 and S2 are given below followed by a question.
$\mathrm{S} 1: \mathrm{N}$ is a multiple of 5 .
S 2 : Y is a multiple of 4.
Question: X is $40 \%$ of N , and N is $75 \%$ of $\mathrm{Y} . \mathrm{N}$ and Y are positive integers. X is a positive integer or not?
(a) Both statements together are insufficient to answer the question.
(b) Either statement alone is sufficient to answer the question.
(c) Statement 1 alone is sufficient to answer the question, but Statement 2 alone is not sufficient to answer the question.
(d) Both statements together are sufficient to answer the question, but neither statement alone is sufficient to answer the question.
134. India celebrated its 70th Independence Day today. But are we really free? I am not sure about it. Some of us are working day $\&$ night but are not happy. We have forgotten that Work is a part of life not the Heart of life.

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Are we free? Some of us want to explore the world, experiment with challenging career moves but pressure from society is not giving us any slack. Do we have freedom of choice? Some of us are enjoying freedom and independence forgetting our old retired parents who want nothing more than our company and happiness. Is this freedom worth it? Some of us have fallen in the worst ever trap of world biggest religion which nothing but 'Consumerism. Is it ever ending?

Idea behind sharing this small passage is not to judge anyone. I am no one to do that. Mahatma Gandhi always said very distinctly that nothing is right or wrong; it is the intent behind that act decides its fate. Since, we all are on different journey, idea is to just motivate ourselves to take a pause, analyse, introspect and then take a call to invest our time and energy in something which makes our soul happy and which brings sustainable satisfaction. We all know that life never stops and we can keep living someone's life forever or we can choose to act and get things back in order. As this transformation is difficult, this shift can very consciously be brought in gradual manner.

What seems to be the main intent of the author in the article?
(a) To spread the message of continuing the pseudo free life
(b) To extensively propagate the ideals behind consumerism, nuclear family etc.
(c) To motivate people to understand the actual meaning of freedom in different context
(d) To distract the readers and confuse them about the real purpose of life and the way to live.
135. India celebrated its 70th Independence Day today. But are we really free? I am not sure about it. Some of us are working day $\&$ night but are not happy. We have forgotten that Work is a part of life not the Heart of life. Are we free? Some of us want to explore the world, experiment with challenging career moves but pressure from society is not giving us any slack. Do we have freedom of choice? Some of us are enjoying freedom and independence forgetting our old retired parents who want nothing more than our company and happiness. Is this freedom worth it? Some of us have fallen in the worst ever trap of world biggest religion which nothing but 'Consumerism. Is it ever ending?

Idea behind sharing this small passage is not to judge anyone. I am no one to do that. Mahatma Gandhi always said very distinctly that nothing is right or wrong; it is the intent behind that act decides its fate. Since, we all are on different journey, idea is to just motivate ourselves to take a pause, analyse, introspect and then take a call to invest our time and energy in something which makes our

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soul happy and which brings sustainable satisfaction. We all know that life never stops and we can keep living someone's life forever or we can choose to act and get things back in order. As this transformation is difficult, this shift can very consciously be brought in gradual manner.

According to the author, which is the most suitable course of action?

We need to stop and introspect We need to act and get things back in order
Which of the given statements is/are correct?
(a) 1 only
(b) 2 only
(c) Both 1 and 2
(d) Neither 1 nor 2
136. What is the angle between the minute hand and hour hand of a clock when the time is $7: 20$ ?
(a) $100^{\circ}$
(b) $150^{\circ}$
(c) $120^{\circ}$
(d) $145^{\circ}$
137. A walks around a circular field at the rate of one round per hour while $B$ runs around it at the rate of six rounds per hour. They start at same point at 7:30 am. They shall first cross each other at
(a) 7:22 am
(b) 7:32 am
(c) 7:42 am
(d) 7: 12 am
138. If a number is divided by 6,3 is the remainder. What is remainder if the square of the number is divided by 6 ?
(a) 2
(b) 3
(c) 4
(d) 5
139. With the Americans gone, the Taliban may oust India from Kabul, penetrate a vulnerable Pakistan and look to conquering the Xinjiang region to "raise the Uighur from slavery." Pakistan is not too clear about what will happen next. It is fencing its western border but is not capable of pushing back the religious radicalism of its middle class and the army. China is using strong-arm methods to control the Uighur on its territory and forcibly change their minds, something that has not worked historically.

According to the passage, which of the following is correct?
(a) If China continues to oppress Uighur, it may invite radicalism from other regions
(b) Pakistan is in a confused state and can be taken advantage of by some of the parties mentioned in the passage
(c) India is at a disadvantage if the Americans withdraw from Afghanistan.
(d) All of the above
140. When a government fails and a new government is elected, the new government is more likely to

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terminate the projects and plans of the previous government.

Which of the following is the most likely reason for termination of plans and projects of the previous government by the new government?
(a) The new government has no need to justify the decisions of the previous government to maintain the plans and projects. (b) The new government must undo the mistakes of the previous government.
(c) The government 1 s elected on a new agenda and they have the responsibility to fulfil that.
(d) To satisfy public emotions against the previous government, old plan and projects must be scrapped.
141. $1,2,2,3,3,3,4,4,4,4,1,1,2$, 2 , 2,3,3,3,3,3,3,4,4,4,4,4,4,4,4, 1, $1,1,2,2,2,2,2,2,3,3,3,3,3$, $3,3,3,3,3,4 \ldots \ldots$. In the above sequence what is the number of the position 2888 of the sequence.
(a) 1
(b) 4
(c) 3
(d) 2
142. In a college, 240 students play cricket, 180 students play football, 164 students play hockey, 42 play both cricket and football, 38 play both football and hockey, 40 play both cricket and hockey and 16 play all the three games. If each student participate in at least one game,
then what is the number of students who play only one game?
(a) 388
(b) 480
(c) 392
(d) 464
143. UNEP defines Environmental Impact Assessment (EIA) as a tool used to identify the environmental, social and economic impacts of a project prior to decision- making. It aims to predict environmental impacts at an early stage in project planning and design, find ways and means to reduce adverse impacts, shape projects to suit the local environment and present the predictions and options to decision-makers. By using EIA both environmental and economic benefits can be achieved, such as reduced cost and time of project implementation and design, avoided treatment/clean-up costs and impacts of laws and regulations.

Which of the following is the most crucial and logical interference that can be made from the above passage?
(a) EIA can eliminate the environmental impact of a project.
(b) EIA is time-consuming and costly exercise.
(c) EIA is an area specific tool and it leads socio economic and environmental benefit.
(d) None of the above.

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144. The percentage profit earned by selling an article for Rs. 1920 is equal to the percentage loss incurred by selling the same article for Rs. 1280. At what price should the article be sold to make $25 \%$ profit?
(a) 2000
(b) 2200
(c) 2400
(d) 2100
145. Big data is a term that describes the large volume of data - both structured and unstructured that inundates a business on a day-to-day basis. However, it's not the amount of data that's important. It's what organizations do with the data that matters. Big data can be analyzed for insights that lead to better decisions and strategic business moves. The use of Big Data is becoming common these days by the companies to outperform their peers. In most industries, existing competitors and new entrants alike will use the strategies resulting from the analyzed data to compete, innovate and capture value. Big Data helps the organizations to create new growth opportunities and entirely new categories of companies that can combine and analyze industry data. These companies have ample information about the products and services, buyers and suppliers, consumer preferences that can be captured and analyzed.

Which of the following is the most logical and rational
interference that can be made from the above passage?
(a) Big data is all about the quantity of the data.
(b) Big data is helping organization in streamlining decision-making and utilizing new business opportunity.
(c) Big data include only structured data and mostly used by new entrant to take an edge over pre- established player.
(d) None of the above
146. Read the following information and answer the following question/s:

A team of five is to be selected from amongst five boys Vinod, Krishna, Raman, Prem and Harry and four girls Rita, Sita, Mita and Gita according to the following selection criteria:

Gita and Vinod have to be together.
Rita cannot be put with Mita.
Sita and Prem cannot be together.
Raman and Harry have to be together.
Mita cannot be put with Krishna.
If two of the members have to be boys, the team will consist of:
(a) Vinod, Krishna, Gita, Rita, Sita
(b) Vinod, Prem, Gita, Sita, Mita
(c) Krishna, Prem, Gita, Mita, Sita
(d) Raman, Harry, Gita, Rita, Sita

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147. If Mita be one of the members, the other members of the team are
(a) Rita, Gita, Vinod, Prem
(b) Sita, Gita, Vinod, Prem
(c) Sita, Gita, Raman, Harry
(d) Gita; Vinod, Raman, Harry
148. If two of the members are girls and Prem is one of the members, the members of the team other than Prem are:
(a) Rita, Sita, Krishna, Raman
(b) Rita, Sita, Raman, Harry
(c) Rita, Gita, Vinod, Krishna
(d) Rita, Gita, Raman, Harry
149. If Vinod and Raman are members, which among the following is not a feasible combination of the other team members:
(a) Krishna, Harry, Gita
(b) Prem, Harry, Gita
(c) Harry, Gita, Rita
(d) Rita, Sita, Harry
150. If including Rita at least three members are girls, the members of the team other than Rita are:
(a) Sita, Gita, Vinod, Krishna
(b) Sita, Gita, Krishna, Prem
(c) Sita, Gita, Raman, Harry
(d) Mita, Gita, Vinod, Prem

| SI. <br> NO | ANS <br> WER | EXPLANATION <br> 1. <br> A(a) Literate population $=50 / 100(300000)=150000$ Male literate population <br> $=70 / 100(180000)=126000 \therefore$ Literate female population $=150000-$ <br> $126000=24000$ |
| :---: | :--- | :--- |
| 2. | C | (c) Percentage of car owners $=80 \%$ Percentage of mobile phone owners $=$ <br> $60 \%$ Percentage having both car and mobile phone $=55 \%$ Percentage of <br> having only car $=80-55=25 \%$ Percentage of having mobile phone $=60-$ <br> $55=5 \%$ Percentage of having a car or a mobile phone or both $=55 \%+25 \%$ <br> $+5 \%=85 \%$ |
| 3. | C | (c) Let son's age in 1930 be x years then father's age in 1930 will be 8 x <br> years In 1938, father's age= $8 \mathrm{x}+8)$ years As per the question, $8 \mathrm{x}+8=$ <br> $10 \mathrm{x}: 2 \mathrm{x}=8$ or $\mathrm{x}=4$ years Hence son's age in $1930=4$ years Father's age <br> in 1930 = 8(4) $=32$ Therefore, the age of son and father in 1940 will be 14 <br> years and 42 years respectively |

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| 4. | D |  |
| :---: | :---: | :---: |
| 5. | D |  |
| 6. | C | (c) Mass is a universal constant. The mass of a body remains unchanged in any part of universe. Mass of a body does not change with respect to gravity. It is the weight that changes with gravity. |
| 7. | B | $y \%, \text { then net } \% \text { change }=x+y+\frac{x y}{100}$ <br> Net \% change for $T$ from 1986 to 1988, $13-6-\frac{(13)(6)}{100}=6.22$ <br> $\therefore$ Consumption of electricity by T in 1988 $=500000\left(1+\frac{6.22}{10 n}\right)=531100$ <br> (b) If there are two percentage changes of $\mathrm{x} \%$ |
| 8. | C | c Let the distance from X to $\mathrm{Y}=\mathrm{x}$ kmSpeed towards form X to $\mathrm{Y}=40$ $\mathrm{km} / \mathrm{hr}$.Time taken $=\mathrm{x} / 40$ Returning speed from Y to $\mathrm{X}=40+50 \%$ of $40=$ $40+20=60 \mathrm{~km} / \mathrm{hr} .$. Time taken in journey $=\mathrm{x} / 60$ Now average speed for whole journey $=$ Total Distance $/$ Total time |
| 9. | B | The given equations are $\mathrm{x} 2+\mathrm{y} 2=34 \ldots .$. (i) $\mathrm{x} 4-\mathrm{y} 4=544$ (x2)2-(y2)2 = $544(\mathrm{x} 2+\mathrm{y} 2)(\mathrm{x} 2-\mathrm{y} 2)=544 \ldots . .(\mathrm{ii})$ Putting value of (i) in (ii), $34(\mathrm{x} 2-\mathrm{y} 2)=$ $544 \mathrm{x} 2-\mathrm{y} 2=16$ Now, checking it with the given options, only $\mathrm{x}=5$ and y $=3$ satisfies it. |
| 10. | B |  |
| 11. | D | 30 ounces A --> 6 ounces of salt; 60 ounces B --> 48 ounces of salt $x=a m t$ of $A$ taken to make final solution; $y=a m t$ of $B$ taken to make final solution Final solution to have 25 ounces salt. $\mathrm{X}+\mathrm{Y}=50 ; 0.2 \mathrm{x}+0.8 \mathrm{y}=125$; $\mathrm{x}=25, \mathrm{y}=25$ => So $1: 1$ or $4: 4$ |
| 12. | D | Volume by largest pipe in 40 minutes $=b 40 * 62=1440 \mathrm{k}=$ Volume of Tank The Volume of water by three pipes together in 1 min $=\mathrm{k}^{*} 22+\mathrm{b} 42+\mathrm{k} * 62=56 \mathrm{k}$ |

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|  |  | Time to fill tank by three pipes together $=1440 \mathrm{k} / 56 \mathrm{k}=180 /=25(5 / 7)$ minutes |
| :---: | :---: | :---: |
| 13. | A | According to the passage "calculated affection is not genuine and is not felt to be so by the recipient'" implies that calculated affection appears to be false and fabricated. |
| 14. | B | Because she feels it is impossible to be a better boxer without aggressiveness, it can be inferred that she feels there is a link between meditation and aggressiveness. Option (b) brings out that link. |
| 15. | D | The answer is $\mathrm{n}=2020$ |
| 16. | A | If most girls were to pass XII after 17 years of age, then there will be very less number of girls eligible for writing engineering entrance exam. With the increase in the entry level age, a greater number of girls are eligible. |
| 17. | D | Industry as well as cattle farming both are responsible for green house gas emissions. People of both industries should make efforts so that greenhouse gas emission is less and atmosphere is left clean and pure |
| 18. | A | In the passage, the author raised the question that if animals are smarter than one thought then would we still use them as food, implies that Human hunt animals for sport or survival. So, (A) follows but he asks a question as the in the statement (B) didn"t mention that conclusion. So, it doesn"t follow. |
| 19. | B | last row is $(9+3) / 2=6$ |
| 20. | A | Death rates <br> Male $=0.7 a / 0.4 x ;$ Female $=0.3 a / 0.6 x$. <br> Ratio of death rates among males and females $=0.7 \mathrm{a} / 0.4 \mathrm{x} * 0.6 \mathrm{x} / 0.3 \mathrm{a}$ $=0.7 / 0.2=7 / 2$ |
| 21. | C | In the passage it is mentioned "The country"s economic strength- having acquired the largest foreign exchange reserves in the world" implies that |

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|  |  | China"s increased participation in world affairs is due to Its influence and prestige have grown substantially. |
| :---: | :---: | :---: |
| 22. | A | The very first line of the passage provides evidence to the principal intention of the author, which is to establish marriage as a legitimate social institution, as mentioned in Option A, which is the correct option. |
| 23. | A | Clearly there will be 5 dots on the face opposite the face with 3 dots. |
| 24. | A | The required word SACHIN can be obtained after the SX5!=600 Ways i.e. SA CHIN is the 601th letter |
| 25. | C | The value of G is 2 |
| 26. | D | As a very significant number of doctors have been found doing multiple jobs and for a long period of five years, it is obvious that most of the doctors can do justice in two separate jobs. |
| 27. | D |  |
| 28. | A | Cube root of $343=7$; That means each side of the cube is divided into 7 squares. <br> The side painted has an area of $7 * 7=49$; There are 2 sides like that, so total area painted is $49 * 2=98$ squares. $343-98=245$, therefore the number of squares unpainted is 245 . |
| 29. | A | $1.4 \mathrm{X}=4 ; \mathrm{X}=20 / 7$. |
| 30. | D | We are to choose 11 players including 1 wicket keeper and 4 bowlers or, 1 wicket keeper and 5 bowlers. <br> Number of ways of selecting 1 wicket keeper, 4 bowlers and 6 other players $=2 \mathrm{C} 1 * 5 \mathrm{C} 4 * 9 \mathrm{C} 6=840$ <br> Number of ways of selecting 1 wicket keeper, 5 bowlers and 5 other players $=2 \mathrm{Cl} * 5 \mathrm{C} 5 * 9 \mathrm{C} 5=252$ <br> $=>$ Total number of ways of selecting the team $=840+252=1092$ |
| 31. | C | Let us assume the man works overtime for t hours. Now, working hours in 4 weeks $=(5 \times 8 \times 4)=160$. Hence, total hours of work $=(160+15)=175$. |

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|  |  |  |
| :---: | :---: | :---: |
| 32. | D | Option A is incorrect because it goes against one of the arguments made in the passage, Option Bis incorrect because it overreaches the terms laid out in the passage, Option C is incorrect because no such fact about of leaders "being failures in the eyes of history" can be inferred from the information given above. Option $D$ is correct because it reiterates one of the points made in the argument that only leaders cannot be relied upon to make rational societies. |
| 33. | B | assume 1000 produced; 200 defective; 160 defective and rejected; 40 nondefective rejected by mistake; 40 defective and not rejected; 760 nondefective and not rejected. Total non-rejected and sold $=800$. percent of the switches sold by the factory are defective $=40 / 800 * 100=$ 5\% |
| 34. | D | We can let the total number of reporters for the wire service $=100$ and $\mathrm{n}=$ the number of reporters who cover politics. Thus ( $100-\mathrm{n}$ ) reporters do not cover politics. <br> Since $30 \%$ of the reporters who cover politics for the wire service do not cover local politics, 0.3 n who cover politics reporters do not cover local politics, but 0.7 n do and we are given that $14 \%$ of 100 reporters, i.e., 14 of them do cover local politics. Thus, we can create the equation: <br> $0.7 \mathrm{n}=141 ; \mathrm{n}=14 / 0.7=140 / 7=20$; So we have 20 reporters who cover politics and hence 80 reporters or $80 \%$ of them don"t cover politics. |
| 35. | D | Where from is the danger to the democracy coming? The speaker says it is from "bureaucracy"s less accountability to both the ruling party and the legislature". This means accountability to both the ruling party and the legislature is an important factor in democracy. |
| 36. | D | $2 / 3$ of the air in a tank is removed with each stroke means that $1 / 3$ of the air is left after one stroke, $1 / 3^{*} 1 / 3$ after two strokes and so on. Basically after n strokes there will be $(1 / 3)$ " n of the air left in the tank. The question asks about such $n$ for which $(1 / 3)$ " $n<1 / 100$--> 3 " $n>100$--> $n=S$. |
| 37. | C | the missing term $=(41 \times 3)-1=123-1=122$ Hence, option (c) is the correct answer. |

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| 38. | B | He is 25 km towards North-east but as East is called North-east in the coded language. Hence, he is 25 km towards North from the starting point. |
| :---: | :---: | :---: |
| 39. | A |  |
| 40. | D | the real arrival time of the train is $4: 35$. Hence, option (d) is the correct answer. |
|  | B | Percentage Reduction $=(20 \times 100 \gamma 120=100 / 6 \%=50 / 3 \%$. Hence, option (b) is the correct answer. |
| 41. | C |  |
| 42. | A | The next multiple of 7560 is $133.7560=1005480$. <br> That means that 997920 is the largest $\mathrm{N}+5$ multiple of $15,18,21,24$, and 27 that will yield a number N with 6 digits, $\mathrm{So} \mathrm{N}+5=997920$. $\mathrm{N}=997920-5=997915 .$ |
| 43. | B | The argument made by the author is stated in the last line of the statement. In the present statement, the author is intending to falsify the statement placed under quotation that suggests how newspaper headlines can lead to invalid inferences. Option Bis the only option among the given that assumes the missing causal link between reducing depression and energy drinks, cat hugs etc. So, option B supports the argument of the author. |
| 44. | C | If $\mathrm{M}=22.5$, then we have to find the value of N . Now, putting $\mathrm{M}=22.5$ and $\mathrm{k}=4$. $\mathrm{N}=4.6 \times 22.5=103.5$ <br> Hence, option (c) is the correct answer. |
| 45. | A | $\begin{aligned} & \text { Total cost }=1(\mathrm{~A})+2(\mathrm{~B})+3(\mathrm{C})+4(\mathrm{D}) \\ & =1(20)+2(30)+3(15)+4(55)=345 \end{aligned}$ |
| 46. | B | Option 2 is incorrect \& Option 3 is also incorrect. |
| 47. | A | Temples in state $\mathrm{B}=30$ <br> Temples in state $\mathrm{D}=55$ <br> As per the question, |

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|  |  | B as \% of D $=30 / 55 \times 100=54.54 \%$ |
| :---: | :---: | :---: |
| 48. | D | 20th January will be Friday, as January 17 falls on Tuesday. |
| 49. | B | Number of temples in $\mathrm{E}=85$; Number of temples in $\mathrm{G}=62$; Difference $=$ $85-62=23$. Difference $\%$ with respect to $G=23 / 62 \times 100=37.09 \%$ |
| 50. | B | Option (b) is correct. All these values which involve care for the environment, human rights, value education, etc. makes an individual ‘humane' rather than just a simple human being. |
| 51. | D | In the passage it is mentioned that Successful transformation is 70 to 90 per cent leadership and only 10 to 30 per cent management imply that "In today"s context, organizations need leaders as well as managers m transforming them." |
| 52. | D | Sadiq's position from last $=(48-14)+1=35$ th Number of persons between Sadiq and Joseph $=(35-17)-1=17$; Since, Jane is in between Sadiq and Joseph, therefore position of Jane $=(35+17) / 2=26$ th Therefore, Jane is at 9th position from both the boys. Hence, the total number of persons between Sadiq and Jane $=(35-26)-1=8$ |
| 53. | C | Probability of getting exactly one head $=(1 / 2 \times 1 / 2+1 / 2 \times 3 / 4)=1 / 4+$ $3 / 8=5 / 8$ |
| 54. | B |  |
| 55. | C | Total number of marbles with the children $=(100 \times 2)+(40 \times 15)+(3 \times 0)$ $=800$. <br> Average number of marbles with the children $=$ Total number of marbles/Total number of children $=800 / 20=40$ |
| 56. | A | As per the question there was 8 ml of oil in the original bottle $=20 \%$ hence total $=20 \mathrm{ml}$ ( 8 ml oil, 8 ml water and 4 ml vinegar). <br> larger bottle is 4 times the older one $=4^{*} 20=80$ <br> now this 80 includes 60 ml of water +20 ml of solution that we pour from the old bottle hence total water $-60+8=68 \mathrm{ml}$. |
| 57. | D | Any one of the statement alone is sufficient to answer the question. |

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|  |  |  |
| :---: | :---: | :---: |
| 58. | C |  |
| 59. | B |  |
| 60. | D |  |
| 61. | D | The argument made in the statement is enforcing the view that algorithms are a better way of constructing judgments than others mentioned therein. Options A, B and C are all reinforcing the main argument of the statement, only option D is not reinforcing but in fact is in contradiction to the argument made in the statement, since the correct answer is supposed to falsify/invalidate the main argument, Option D is correct. |
| 62. | B | Option (b) is correct. The passage mentions "Advances in food and medicine research in the area of genomics, food processing, and drug design/formulation, may increasingly lead to 'personalized foods' to address specific health conditions. This is an area in rapid evolution where regulatory guidance and oversight would be needed". So, it can be concluded that through genomics, edited genes or modified genes can fulfil nutritional food requirements among patients by serving personalised foods. And as this field is in an evolutionary stage, so more regulations and oversight mechanisms are needed. |
| 63. | A | Green balls $=10 ;$ Red balls $=2$ (green) $=20$; White balls $=$ Red balls -3 $=20-3=17$ <br> To ensure he had taken at least one, Arun has to take balls in worst case possible mode. That is in descending order with respect to the number of balls. <br> i.e., Worst case scenario $=20+17+1=38$ |
| 64. | A | There is no woman in the group. So, one seat out of 6 seats cannot be used by them. <br> Therefore, there are 5 seats out of which 1 seat is reserved for senior citizens. <br> If senior citizen sits on reserved seat, then -2 other men can occupy 4 vacant seats in 4, P2 ways, i.e. 12 ways. |
| 65. | C | The longest rod in the room is its diagonal. |

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|  |  | $\begin{aligned} & \text { So, L2 +B2 + H2 = D2 } \\ & 152+62+\mathrm{H} 2=192 \\ & \mathrm{H} 2=361-(225+36)=100 \\ & \mathrm{H}=10 . \end{aligned}$ |
| :---: | :---: | :---: |
| 66. | C | In the passage Author mention that grades in urban are better not because rural learners are lack of calibre but it is due to lack of basic facilities. |
| 67. | C | Total number of chocolates $=80$ <br> Case 1: Bavani gets $40 \%$. <br> So, number of chocolates $=40 \%$ of $80=32$ <br> Case 2: Priya and Catherine get 45 together. <br> So, Bavani gets $80-45=35$ chocolates |
| 68. | A | Option (a) is correct: It is given in the passage that "water scarcity in India impacts women more severely than men. Water supply systems are unevenly distributed: 52 percent of households in urban areas have tap access, against a much lower 18 percent of rural households"". So, the most logical and crucial message conveyed by the passage is greater access of tap water to rural areas and that can only be achieved by creation of rural infrastructure. |
| 69. | D | Out of 15 apples, 2 random apples are chosen. There one should be good and the other rotten. Hence, $\mathrm{P}=12 \mathrm{C} 1 \times 3 \mathrm{C} 1 / 15 \mathrm{C} 3$ $P=36 / 445$ |
| 70. | A | Statement (1) is correct and Statement (2) is Incorrect |
| 71. | B | Percentage Change $=($ New - Old)/ Old $=$ about $-25 \%$. |
| 72. | C | Option (c) is correct: The passage mentions "A decision not to give into these prejudices is not a judgment of reason and rationality alone; it is also an ethical judgment which depends on how we allocate value to anything". So, it can be inferred that one's sound ethical values and moral principles along with reason and rationality may not let him/her to give into any kind of prejudices. |

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| 73. | A | Out of 21 players, 4 seniors are in rest and 3 are injured. In total, 7 will not be chosen for the team. And already 2 women are included. Hence only 9 women are needed out of 12 women. So, number of ways that the team can be formed $=12 \mathrm{C} 9=220$ |
| :---: | :---: | :---: |
| 74. | C | Since the profit and loss percentages are the same, the amount gained and lost would be the same. $\begin{aligned} & \mathrm{SP}=120 \% \text { of } \mathrm{CP} \\ & \mathrm{SP}=1.2 \times 2300=2760 \end{aligned}$ |
| 75. | D | $\begin{aligned} & \text { New radius }=1.5 \mathrm{r} \\ & \text { New Volume }=\pi(1.5 \mathrm{r}) 2 \mathrm{~h}=2.25 \pi \mathrm{r} 2 \mathrm{~h} \\ & \text { Volume increment }=1.25=125 \% \end{aligned}$ |
| 76. | C | The population of a town was 3600 three years back. It is 4800 right now. The population grew from 3600 to 4800 in 3 years. That is a growth of 1200 on 3600 during three year span. Therefore, the rate of growth for three years has been <br> The rate of growth during the next three years will also be the same. <br> Therefore, the population will grow from 4800 by $4800 * 1 / 3=1600$ <br> Hence, the population three years from now will be $4800+1600=6400$ |
| 77. | D | When a sum becomes " m " times in " T " years under simple interest, Rate of interest, $\mathrm{r} \%=[(\mathrm{m}-1) / \mathrm{T}] \times 100$ $\mathrm{r} \%=[(4-1) / 42] \times 100=7.14 \%$ |
| 78. | A | Since the balls should not be green, it is enough to select balls from other colours. $\mathrm{P}=7 \mathrm{C} 2 / 10 \mathrm{C} 2=7 / 1$ |
| 79. | B | Option (b) is correct: It is given in the passage "reform of constitutional law takes place in different contexts, i.e. in the aftermath of a conflict where a new constitution to establish democracy is used to construct a sustainable peace; or in established democracies to advance reforms and promote social justice". So constitutional reforms are necessary to promote "social justice" and it can be implied that 'compulsory right to education' is part of social justice. So, this statement is correct. |

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| 80. | A | Assumption (1) is correct and Assumption (2) is Incorrec |
| :---: | :---: | :---: |
| 81. | D | Given : S.I. = Rs. 50. <br> I gives, $\mathrm{R}=10 \%$ p.a. <br> II gives, $\mathrm{T}=10$ years. $\text { Sum }=(100 \times \mathrm{S} .1) /(\mathrm{t} \times \mathrm{r})=\operatorname{Rs} .(100 \times 50) /(10 \times 10)=\operatorname{Rs} .50 .$ |
| 82. | B |  |
| 83. | C | $\begin{aligned} & \text { C: } 35 \% \text {--> } 105 \text { days } \\ & 100 \% \text {--> } 300 \text { days } \end{aligned}$ |
| 84. | C | ```Glass A, Wine : Water \(=3 / 5: 2 / 5\) Glass B, Wine : Water \(=4 / 7: 3 / 7\) Bottle, Wine : Water \(=(3 / 5+4 / 7):(2 / 5+3 / 7)=41 / 35: 29 / 35=41: 29\)``` |
| 85. | A | $\begin{aligned} & 6=(90-D) / 13+D / 19 \\ & 6=(1710-19 D+13 D) / 247 \\ & 1482=1710-6 D \\ & D=38 \end{aligned}$ |
| 86. | C | The population of a town was 3600 three years back. It is 4800 right now. The population grew from 3600 to 4800 in 3 years. That is a growth of 1200 on 3600 during three year span. Therefore, the rate of growth for three years has been The rate of growth during the next three years will also be the same. Therefore, the population will grow from 4800 by $4800 * 1 / 3=1600$. Hence, the population three years from now will be $4800+1600=6400$ |
| 87. | A | The author uses the term 'fragile' to describe soil and states that 'many of these plants, such as coffee, cotton, palm oil, soybean and wheat, can actually increase soil erosion beyond the soil's ability to maintain itself'. |
| 88. | A | The author concludes that many crops, such as coffee, cotton, palm oil, soybean and <br> wheat, 'can actually increase soil erosion beyond the soil's ability to maintain itself'. |
| 89. | A |  |

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| 90. | D | Gender of O cannot be determined. Hence, option (d) is the correct answer. |
| :---: | :---: | :---: |
| 91. | B | $\begin{aligned} & 0.1 X+0.15 Y=38 \\ & X+Y=300 \\ & Y=160 \text { grams }=>x=140 \text { grams. } \end{aligned}$ |
| 92. | C | The author highlights and concludes how the pandemic 'has led to an urgency for <br> businesses to have an online presence and strategy'. |
| 93. | A | There is no indication of businesses having to close operations because of the lockdown, but the passage does mention that 'In the past few years, India has seen an emergence of start-ups'. |
| 94. | C | LCM of $2 \mathrm{~m}, 4 \mathrm{~m}, 3 \mathrm{~m}$, and 5 m is the minimum height they should reach. LCM of $2,4,3,5=60 \mathrm{~m}$ |
| 95. | B | Assumption 1 is incorrect \& Assumption 2 is correct. |
| 96. | D | Both the conclusions are wrong. |
| 97. | C | Both 1 and 2 follows |
| 98. | C | Both assumptions are correct |
| 99. | B | The author states that after the end of the Cold War, 'The cumulative impact has been to make India feel more secure'. |
| 100. | C | The author highlights that ${ }^{\text {The }}$ improvement of Chinese relations with Russia that followed the ending of the Cold War removed a major impediment to better Sino-Indian ties and also that The cumulative impact has been to make India feel more secure and thus more willing to be innovative in its foreign policy'. |
| 101. | B | If "lead" in excessive amounts in the drinking water has been the major cause lung cancer but the source of lead is missing then the cause of cancer of inhabitants of the island must be something else. |
| 102. | A | 37 is divided by 4 and 5 respectively, the remainders would be 1 and 4. |
| 103. | C | According to the question, <br> Harsh : Shiva $=400: 350$ |

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|  |  | \& Shiva : Krishna $=400: 376$ <br> $\therefore$ Harsh : Krishna $=(400 / 350) \times(400 / 376)=400 / 329$ <br> So, Harsh can defeat Krishna by (400-329), i.e. 71 m. <br> Hence, option (c) is the correct answer. |
| :---: | :---: | :---: |
| 104. | C |  |
| 105. | C | 10 years ago, Velu : Ranjith $=1 \mathrm{x}: 3 \mathrm{x}$ <br> Now, Velu : Ranjith $=x+10: 3 x+10$ <br> 5 years hence, Velu : Ranjith $=x+15: 3 x+15$ <br> Now, $\begin{aligned} & x+15 / 3 x+15=2 / 3 \\ & 3 x+45=6 x+30 \\ & 3 x=15 \end{aligned}$ <br> So, $x=5$ <br> Then, Present age ratio, <br> Velu: Ranjith $=15: 25=3: 5$ |
| 106. | A |  |
| 107. | D | The author concludes that 'Some will be able to adapt by moving to higher elevations or latitudes, but species losses may occur'. |
| 108. | C | The author highlights how deforestation increases carbon emissions and also how it <br> disturbs the habitat of forest-dwelling creatures, pushing them to possible extinction. |
| 109. | B | Total number of ways of arranging without any restriction $=4!=24$ <br> Number of ways of arranging so that volumes 1 and 4 are together $=2 \times$ $3!=12$ |

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|  |  | Number of ways of arranging so that the volumes 1 and 4 are never together $=24-12=12$. |
| :---: | :---: | :---: |
| 110. | D |  |
| 111. | C | The length is increased by $50 \%$ which means that the length becomes $150 \%$ of original length \{say 1.5 times the original length). The area should be 1.5*b. |
| 112. | B | Let the numbers of children $=\mathrm{n}$ <br> Then the chocolates to each child $=3 n$ <br> Total numbers of chocolates $=n \times 3 n$ $3 n 2=4800 ; n=40$ |
| 113. | A | Including driver, there are 5 persons in the car. <br> Total weight of the five persons $=55 \times 5=275$ <br> Total weight of the five persons and car $=440 \times 6=2640$ <br> Weight of the car $=2640-275=2365$ |
| 114. | A |  |
| 115. | C |  |
| 116. | B | when the square of the number 1 s divided by 6 , we get 3 as remainder. |
| 117. | B | If a number is divisible by 10 , it must be divisible by 2 . So, statement 1 is not correct. <br> Thus, the sum of the series $=(n / 2)(a+1)=(100 / 2)(5+995)=50000$. |
| 118. | A | George is related to Helen as Uncle. |
| 119. | C | Helen is the cousin of Diana |
| 120. | B | Amelie is Diana's mother |
| 121. | C | $\begin{aligned} & \operatorname{HCF}(2811,3981,5151)=\operatorname{HCF}[(5151-3981),(3981-2811)] \\ & =\operatorname{HCF}(1170,1170)=1170 \\ & \text { Sum of the digits }=1+1+7+0=9 \end{aligned}$ |
| 122. | C |  |

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|  |  | $\begin{aligned} & 10 \% \text { of } a \text { is } 5 \text { times } 20 \% \text { of } \beta \\ & \text { Or }(10 / 100) a=5 \times(20 / 100) \beta \\ & \text { Or } 0.1 a=5 \times 0.2 \beta \\ & \text { Or } \beta / a=1 / 10 \end{aligned}$ |
| :---: | :---: | :---: |
| 123. | D | The author emphasizes that 'Though this warming trend has been going on for a long time, its pace has significantly increased in the last hundred years due to the burning of fossil fuels' and explains how this happens in the remainder of the passage. |
| 124. | B | It is not indicated in the passage that fossil fuels are the only way to retain |
| 125. | A | Seventh day is three days earlier than Friday. It means 7th is Tuesday. <br> So, 21st day, exactly 2 weeks after 7 th is also a Tuesday. Hence, nineteenth is a Sunday. |
| 126. | C | The best way to do this is to start with 100 and calculate the result. The final number will be as follows: $\begin{aligned} & {[(100 \times 1 / 6) \div 1 / 7] \times 7 / 10} \\ & =(100 / 1) \times(1 / 6) \times(7 / 1) \times(7 / 10) \\ & =245 / 3 \end{aligned}$ |
| 127. | A | As it takes 8 hrs to completely fill the cistern, in two hours they will together be filling $1 / 4$ th of the cistern. <br> Then, $3 / 4$ th of the cistern is filled in 9 hrs by $\mathrm{A}+\mathrm{B}$. It means they can fill whole cistern in 12 hrs . <br> In terms of percentage, <br> A+B does $100 \%$ work in 12 hrs and $\mathrm{A}+\mathrm{B}+\mathrm{C}$ does $100 \%$ work in 8 hrs . <br> So, amount of work done by A+B in $8 \mathrm{hrs}=(100 / 12)^{*} 8=200 / 3 \%$ <br> So, it means remaining part is done by C which is $(100-200 / 3) \%=$ 100/3\% |

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|  |  | $100 / 6 \%$ work is done by C in 8 hrs <br> $1 \%$ work will be done by C in $8 /(100 / 3) \mathrm{hrs}$ <br> $100 \%$ work will be done by C in $8 /(100 / 3)^{*} 100=24 \mathrm{hrs}$. |
| :---: | :---: | :---: |
| 128. | A | Original speed $=40$ miles per hour <br> If the speed is increased by $60 \%$, <br> Then, the new speed $=160 \%$ of $40=64$ miles per hour <br> Distance to be covered $=320$ miles <br> Time $=$ Distance $/$ Speed $=$ Time $=320 / 64=$ Time $=5$ hours |
| 129. | B | Number of Girls $=60 * 15 \%=9$ <br> Total monthly fee of girls $=350 * 9=3150$ <br> Number of Boys $=60-9=51$ <br> Monthly fees of boy $=350+34 \% * 350=469$ <br> Total monthly fee of boys $=469 * 51=23919$ <br> Therefore, sum $=3150+23919=27069$. |
| 130. | B |  |
| 131. | D | Decreasing a price by $10 \%$, then by $20 \%$, and then by $30 \%$ is equivalent to taking $90 \%$ of a price, then <br> taking $80 \%$ of the remaining price, and then taking $70 \%$ of that. That, in turn, is equivalent to multiplying <br> the price by 0.90 , then by 0.80 , and then by 0.70 . <br> For simplicity"s sake, assume the initial price was Rs. 100. Then we can calculate the final price as <br> follows: <br> Final price $=100 \times 0.9 \times 0.8 \times 0.7=$ Rs. 50.40 <br> So, we essentially discounted the original price by Rs.49.60, which is 49.6\%. |

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| 132. | C | Anand gave away $35 \%+50 \%=85 \%$ of his money to his wife and sons. So, he is left with $15 \%$ of the money. <br> Using unitary method, <br> $15 \%$ of the money $=$ Rs. 12,000 <br> $1 \%$ of the money $=$ Rs. $12,000 / 15=$ Rs. 800 <br> So, $100 \%$ of the money would had been $=$ Rs. $800 * 100=$ Rs. 80,000 |
| :---: | :---: | :---: |
| 133. | A | N is $75 \%$ of Y <br> So, $N=(3 / 4) Y$ <br> X is $40 \%$ of N <br> So, $\mathrm{X}=(2 / 5) \mathrm{N}=(2 / 5)(3 / 4) \mathrm{Y}=(3 / 10) \mathrm{Y}$ <br> Statement 1: N is a multiple of 5 , and $\mathrm{X}=(2 / 5) \mathrm{N}$. It means that X must be an integer, positive or negative. <br> Statement 2: Y is a multiple of 4 , and $\mathrm{X}=(3 / 10) \mathrm{Y}$. It means that X may or may not be an integer. <br> Using both statements together: <br> X must be an integer, positive or negative. So, we cannot tell for sure whether X is a positive integer or not. |
| 134. | C | According to author, although most of us are progressing in our journeys but somewhere we are still not free in different contexts. So, author is trying to inspire us to get real freedom and introspect for the actual feeling freedom. |
| 135. | C | The author tries to motivate the readers to understand the real meaning of the word freedom and act on it in our own way, at our own pace. |
| 136. | A | Angle traced by hour hand in 12 hours $=360$ Degrees <br> Angle traced by it in 7 hrs 20 min i.e. $22 / 3 \mathrm{hrs}=(360 / 12) \mathrm{x}(22 / 3)=220^{\circ}$ Angle traced by minute hand in $60 \mathrm{~min}=360^{\circ}$ <br> Angle traced by it in 20 minutes $=(360 / 60) \times 20=120^{\circ}$ |

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|  |  | Required angle $=\left(220^{\circ}-120^{\circ}\right)=100$. |
| :---: | :---: | :---: |
| 137. | C | Relative speed between two $=6-1=5$ round per hour <br> They will cross when one round will complete with relative speed, which is $1 / 5$ hour $=12 \mathrm{mins}$. <br> So 7:30 +12 mins $=7: 42$ |
| 138. | B | Let the number be x <br> Given that if the number is divided by 6,3 is the remainder x $\text { => X / 6 = k, remainder = } 3$ <br> Hence $\mathrm{x}=6 \mathrm{k}+3$ <br> Square of the number $=x 2=(6 k+3) 2$ $\begin{aligned} & =36 \mathrm{k} 2+36 \mathrm{k}+9 \because(\mathrm{a}+\mathrm{b}) 2=\mathrm{a} 2+2 \mathrm{ab}+\mathrm{b} 2 \\ & =36 \mathrm{k} 2+36 \mathrm{k}+6+3 \\ & =6(6 \mathrm{k} 2+6 \mathrm{k}+1)+3 \end{aligned}$ <br> Hence, when the square of the number 1 s divided by 6 , we get 3 as remainder. |
| 139. | D | A is correct because the term "may" neutralize any extreme proposition, under the statement. B is correct because "confused state" and "be taken advantage of can be construed from the information given the statement. C 1s correct because the term disadvantage can be implied from the information given in the statement. Option D, which states A, B and C are all correct, is, therefore, the correct answer. |
| 140. | A | Option (b) is incorrect as we are not sure that previous plans are mistakes or not. Option (c) is incorrect as new agenda does not imply that old agenda has to be scrapped. Option (d) is again incorrect as satisfaction of public emotions may root from anything and not necessarily due to projects. |
| 141. | C | $1(1$ times $) 2(2$ times $) 3(3$ times $) 4(4$ times $): 10$ terms (group 1 ) |

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|  |  | 1(2 times) 2(4 times) 3(6 times) 4(8 times): 20 terms (group-2) 1 (3 times) 2 ( 6 times) 3 ( 9 times) 4( 12 times) : 30 terms (group-3) so on (i.e.). <br> number of ones in group- $\mathrm{n}=\mathrm{n}$ <br> number of twos in group-n $=$ number of ones in group-n x 2 <br> number of threes in group-n = number of one's group-n x 3 <br> number of fours in group-n = number of one's group-n $\times 4$ <br> As we have seen, <br> group-1:10 terms (total terms covered till group-1 = 10) <br> group-2: 20 terms (total terms covered till group-2 $=10+20$ ) <br> group-3:30 terms (total terms covered till group-3 $=10+20+30$ ) <br> so on <br> Sum of $n$ terms $=10+20+30 \ldots$ $=10(1+2+3+\ldots)=[n(n+1) / 2] \times 10$ <br> So, Using [ $\mathrm{n}(\mathrm{n}+1) / 2] \mathrm{x}$ 10:52888 <br> For $\mathrm{n}=23$ we get LHS as 2760 . Remaining terms 128. <br> Now in the 24 th term, we have 241 "s, and next 48 terms are 2 "s. So next 72 terms are 3 "s. <br> The 2888 term will be " 3 ". |
| :---: | :---: | :---: |
| 142. | C | The number of students in the college $=174+26+116+22+102+24+16=480$ <br> The number of students who play only one game $=174+116+102=392$ |
| 143. | C |  |
| 144. | A | Let C.P. be Rs. x . |

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|  |  | $[(1920-\mathrm{x}) / \mathrm{x}] \mathrm{xl00}=[(\mathrm{x}-1280) / \mathrm{x}] 100$ <br> $=>1920-\mathrm{X}=\mathrm{X}-1280 \Rightarrow 2 \mathrm{x}=3200$ <br> $=>\mathrm{X}=1600$ <br> -.. Required S.P. $=125 \%$ of Rs. $1600=$ Rs.2000 |
| :---: | :--- | :--- |
| 145. | $\mathbf{C}$ | The information given in the passage include that big data use is <br> collection of both structured and unstructured data. Both new and <br> established companies are using this to take an edge over their rival <br> companies. |
| 146. | A | If Vinod is selected, Gita has to be selected. <br> If Krishna is selected, Mita cannot be selected. |
| If Prem is selected, Sita cannot be selected. So, option (b) (Vinod Prem |  |  |
| Gita Sita Mita) and option (c) (Krishna Prem Gita Mita Sita) are not |  |  |
| possible. Option (d) (Raman Harry Gita Rita Sita) is not possible because |  |  |
| Gita has to be accompanied with Vinod. |  |  |
| Hence answer is option (a). |  |  |

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|  | Krishna Prem) and option (c) (Sita Gita Raman Harry) are incorrect. <br> Answer is option (a). |
| :--- | :--- | :--- |

