

IIFT 2019

Question Paper With Solution



Direction (1-4): Read the passage given below and answer the questions that follow it:

Sustaining Versus Disruptive Innovation

Successful companies, no matter what the source of their capabilities, are pretty good at responding to evolutionary changes in their markets-what in 'fire Innovator's Dilemma (Harvard business School, 1997), Clayton Christensen referred to as sustaining innovation. Where they run into trouble is in handling or initiating revolutionary changes in their markets or dealing with disruptive innovation (DI).

Sustaining technologies are innovations that make a product or service perform better in ways that customers in the mainstream market already value. Compaq's early adoption of Intel's 32-bit 386 microprocessor instead of the 16-bit 286 chip was a sustaining innovation. So was Merrill Lynch's introduction of its Cash Management Account, which allowed customers to write checks against their equity accounts. Those were breakthrough innovations that sustained the best customers of these companies by providing something better than had previously been available.

Disruptive innovations create an entirely new market through the introduction of a new kind of product or service, one that's actually worse, initially, as judged by the performance metrics that mainstream customers value. Charles Schwab's initial entry as a bare-bones discount broker was a disruptive innovation relative to the offerings of full-service brokers like Merrill Lynch. Merrill Lynch's best customers wanted more than Schwab-like services. Early personal computers were a disruptive innovation relative to mainframes and minicomputers. PCs were not powerful enough to run the computing applications that existed at the time they were introduced. These innovations were disruptive in that they didn't address the next-generation needs of leading customers in existing markets. They had other attributes, of course, that enabled new market applications to emerge- and the disruptive innovations improved so rapidly that they ultimately could address the needs of customers in the mainstream of the market as well.

Sustaining innovations are nearly always developed and introduced by established industry leaders, but those same companies never introduce-or cope well with-disruptive innovations. Why? Our resources-processes-values framework holds the answer. Industry leaders are organized to develop and introduce sustaining technologies. Month after month, year after year, they launch new and improved products to gain an edge over the competition. 'They do so by developing processes for evaluating the technological potential of sustaining innovations and for assessing their customers' needs for alternatives. Investment in sustaining technology also fits in with the values of leading companies in that they promise higher margins from better products sold to leading-edge customers.

Disruptive innovations occur so intermittently that no company has a routine process for handling them. Furthermore, because disruptive products nearly always promise lower profit margins per unit sold and are not attractive to the company's best customers, they're inconsistent with the established company's values. Merrill Lynch had the resources-the people, money and technology -required to succeed at the sustaining innovations (Cash Management Account) and the disruptive innovations (bare-bones discount brokering) that it has confronted in recent history). But its processes and values supported only the sustaining innovation : they became disabilities when the company needed to understand and confront the discount and on- line brokerage businesses.

The reason, therefore, that large companies often surrender emerging growth markets is that smaller, disruptive companies are actually more capable of pursuing them. Start-up s lack resources, but that doesn't matter. Their values can embrace small markets, and their cost structures can accommodate low margins. Their market research and resource allocation processes allow managers to proceed intuitively; every decision need not be backed by careful research and analysis. All these advantages add up to the ability to embrace and even initiate disruptive change.

1. How does the author differentiate between Sustaining Innovation (SI) and Disruptive Innovation (DI) ?

- A. SI is mainly for IT companies while DI is for banking sector
- B. SI requires companies to change at a faster pace while DI requires companies to move at a moderate pace.
- C. SI is a continuous process with incremental changes while DI occurs intermittently with larger consequences.
- D. SI can be managed only by companies having smaller workforce while DI can be managed by companies having large workforce.

2. According to the author, smaller companies are better suited to pursue DI because:

- A. They can come up with better products and services in shorter duration of time.
- B. They have better trained workforce to pursue DI
- C. They are more enterprising and cost effective due to their size.
- D. New markets prefer start-ups as their products and services are cheaper

3. The disadvantages of DI are that:

- A. The changes caused due to DI are not useful and do not address the needs of the customers,
- B. The product introduced due to DI have lower profit margins and small markets
- C. The product introduced due to DI require large investment and resources and change in policies.
- D. The changes caused due to DI can only be earned out of by large companies entering new markets.

4. According to the passage, DI is more difficult for companies to adopt because :
- A. There is shortage of talented leaders who can implement DI successfully in their companies,
 - B. There is lack of understanding in companies regarding advantages of DI particularly with regard to emerging markets.
 - C. Due to the geographical location of companies it becomes difficult to implement DI and coordinate with different divisions.
 - D. The companies do not want to move out of their comfort zone and incur additional cost on implementing DI.

Direction (5-8): Read the passage and answer the questions.

A few years ago I was on ray boat with one of my employees, a great guy named Keenon; I was supposed to be giving him pep talk and performance review.

"When I think of what we do, I describe it as uncovering the riptide", I said. "Uncovering the riptide," Keenon said.

"Yes, the idea is that we -you and I and everyone here -have the skills to identify the psychological forces that are pulling us away from shore and use them to get somewhere more productive." "Somewhere more productive," Keenon said.

"Exactly'." I said. "To a place where we can .."

We had talked for about forty-five minutes when my son Brandon, who runs operations for the Black Swan Group, broke out laughing. "I can't Take it anymore! Don't! you see ? Really, Dad, don't you see?" I blinked. Did I see what?

I asked him.

"All Keenon is doing is mirroring you. And he's been doing it for almost an hour" "Oh," I said, my face going red as Keenon began to laugh.

He was totally right. Keenon had been playing with me the entire Time, using The psychological tool that works most effectively with assertive guys like me : the mirror.

Your personal negotiation style - and that of your counterpart - is formed through childhood, schooling, family, culture and a million other factors; by recognizing it you can identify your negotiating strengths and weaknesses (and those of your counterpart) and adjust your mind- set and strategies accordingly.

Negotiation style is a crucial variable in bargaining. If you don't know what instinct will tell you or the other side to do in various circumstances, you'll have massive trouble gaming out effective strategies and tactics. You and your counterpart have habits of mind and behaviour, and once you identify them you can leverage them in a strategic manner.

Just like Keenon did.

There's an entire library unto itself of research into the archetypes and behavioral profiles of all the possible people you're bound to meet at the negotiating table. It's flat-out overwhelming, so much so that it loses its utility. Over the last few years, in an effort primarily led by my son Brandon, we've consolidated and simplified all that research, cross-referencing it with our experiences in the field and the case studies of our business school students, and found that people fall into three broad categories. Some people are Accommodators; others —like me

—are basically Assertive; and the rest are data-loving Analysts.

Accommodators think that as long as there is a free-flowing continuous exchange of information time is being well spent. They will yield a concession to appease or acquiesce and hope the other side reciprocates. The Assertive type believes time is money. For them, potting the solution perfect isn't as important as getting it done. Assertives are fiery people who love winning above all else, often at the expense of others. Analysts are methodical and diligent. They are not in a big rush. Instead, they believe that as long as they are working toward the best result in a thorough and systematic way, time is of little consequence. Their self-image is linked to minimizing mistakes.

Their motto is : As much time as it takes to get it right

A study of American lawyer-negotiators found that 65 percent of attorneys from two major U.S. cities used a cooperative style while only 24 percent were truly assertive. And when these lawyers were graded for effectiveness, more than 75 percent of the effective group came from the cooperative type; only 12 percent were Assertive. So if you're not Assertive, don't despair. Blunt assertion is actually counterproductive most of the time.

Remember, your personal negotiating style is not a straitjacket No one is exclusively one style. Most of us have the capacity to throttle up our non-dominant styles should the situation call for it. But there is one basic truth about a successful bargaining style: To be good, you have to learn to be yourself at the bargaining table. To be great you have to add to your strengths, not replace them.

5. 'Even' wasted minute is a wasted dollar' is best associated with :

- A. The Analysts
- B. The Accommodators
- C. The Assertives
- D. None of the options

6. With respect to the passage, identify which of the following statement is correct:

- A. One's personal negotiation style and that of one's counterpart is genetically transmitted
- B. Bargaining style is the outcome of interaction between a person and his/her counterpart
- C. Successful negotiators are good at 'mirroring' others
- D. To negotiate effectively, one has to understand his/her counterpart's 'normal'

7. Select the most appropriate title for this passage :

- A. Hard Bargaining Tactics
- B. What Type of a Negotiator Are You?
- C. Punching Back: Using Assertion Without Getting Used
- D. The Three Types of Leverage

8. Finishing the negotiation is more important than 'getting it right' for:

- A. ^{The} Analysts
- B. The Accommodators
- C. ^{The} Assertives
- D. None of the options

Direction (9-12): Read the passage and answer the questions.

Much debate surrounds which kind of political system best achieves a functioning market economy with strong protection for property rights. People in the west tend to associate a representative democracy with a market economic system, strong property rights protection, and economic progress. Building on this, we tend to argue that democracy is good for growth. However, some totalitarian regimes have fostered a market economy and strong property rights protection and have experienced rapid economic growth. Five of the fastest-growing economies of the past 30 years - China, South Korea, Taiwan, Singapore, and Hong Kong - had one thing in common at the start of their economic growth: undemocratic governments. At the same time, countries with stable democratic governments, such as India, experienced sluggish economic growth for long periods. In 1992, Lee Kuan Yew, Singapore's leader for many years, told an audience, "I do not believe that democracy necessarily leads to development, I believe that a country needs to develop discipline more than democracy. The exuberance of democracy leads to undisciplined and disorderly conduct which is inimical to development."

However, those who argue for the value of a totalitarian regime miss an important point: If dictators made countries rich, then much of Africa, Asia, and Latin America should have been growing rapidly during 1960 to 1990, and this was not the case. Only a totalitarian regime that is committed to a market system and strong protection of property rights is capable of promoting economic growth. Also, there is no guarantee that a dictatorship will continue to pursue such progressive policies. Dictators are rarely benevolent. Many are tempted to use

the apparatus of the state to further their own private ends, violating property rights and stalling economic growth. Given this, it seems likely that democratic regimes are far more conducive to long-term economic growth than are dictatorships, even benevolent ones. Only in a well-functioning, mature democracy are property rights truly secure. Nor should we forget Amartya Sen's arguments where he says that states, by limiting human freedom, also suppress human development and therefore are detrimental to progress.

While it is possible to argue that democracy is not a necessary precondition for a free market economy in which property rights are protected, subsequent economic growth often leads to establishment of a democratic regime. Several of the fastest-growing Asian economies adopted more democratic governments during the past three decades, including South Korea and Taiwan. Thus, although democracy may not always be the cause, of initial economic progress, it seems to be one consequence of that progress.

9. East Asian economic growth model exhibits the following sequence :

- A. Democratic regime in the beginning followed by a totalitarian regime
- B. Undemocratic regime in the beginning succeeded by a relatively more democratic regime
- C. Undemocratic regimes in the beginning as well as in the subsequent stages
- D. Malevolent dictatorship followed by benevolent dictatorship

10. The necessary condition for economic growth is:

- A. Democracy and market economy
- B. Totalitarian regime and protection of property rights
- C. Benevolent dictatorship
- D. Market economy and protection of property rights

11. The author believes that:

- A. Democracy is neither the cause nor the consequence of growth
- B. Democracy is only the cause and not the consequence of growth
- C. Democracy can be both the cause and the consequence of economic progress
- D. Democracy is only the consequence and can never be the cause of growth

12. The argument in the passage is built on the premise:

- A. Neither the democracy nor a totalitarian regime in itself ensures economic growth
- B. Democratic regime alone is conducive to economic growth
- C. Only a totalitarian regime is conducive to economic growth
- D. None of the options

Direction: Read the passage and answer the questions.

Japan presents an interesting case study of how culture can influence competitive advantage. Some scholars have argued that the culture of modern Japan lowers the costs of doing business relative to the costs in most Western nations. Japan's emphasis on group affiliation, loyalty, reciprocal obligations, honesty, and education all boost the competitiveness of Japanese companies. The emphasis on group affiliation and loyalty encourage individuals to identify strongly with the companies in which they work. This tends to foster an ethic of hard work and cooperation between management and Labour "for the good of the company." Similarly, reciprocal obligation and honesty help foster an atmosphere of trust between companies and their suppliers. This encourages them to enter into long-term relationships with each other to work on inventory reduction, quality control, and design - all of which have been lacking in West, where The relationship between a company and its suppliers tends to be a short-term one structured around competitive bidding rather than one based on long-term mutual commitments. In addition, the availability of a pool of highly skilled labor, particularly engineers, has helped Japanese enterprises develop cost-reducing process innovations that have boosted their productivity. Thus, cultural factors may help explain the success enjoyed by many Japanese businesses in the global market place. Most notably, it has been argued that the rise of Japan as an economic power during the second half of the twentieth century may be in part attributed to the economic consequences of its culture

It also has been argued that the Japanese culture is less supportive of entrepreneurial activity than, say American society. In many ways entrepreneurial activity is a product of an Individualistic mind-set, not a classic characteristic of the Japanese. This may explain why American enterprises, rather than Japanese corporations, dominate industries where entrepreneurship and innovation are highly valued, such as computer software and biotechnology. Of course, obvious and significant exceptions to this generalization exist. Masayoshi Son recognized the potential of software far faster than any of Japan's corporate giants; set up his company, Softbank, in 1981; and over the past 30 years has built it into Japan's top software distributor. Similarly, dynamic entrepreneurial individuals established major Japanese companies such as Sony and Matsushita. But these examples may be the exceptions that prove the rule, for as yet there has been no surge in entrepreneurial high-technology enterprises in Japan equivalent to what has occurred in the United States.

13. Japanese business practices emphasize :

- A. Relationship built on market transactions
- B. Relationship relying on legal contracts
- C. Relationship based on industrial norms
- D. Relationship built on trust and mutual commitment

Direction (14-16): Read the passage and answer the questions.

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14. Masayoshi Son represents:

- A. a typical Japanese cultural stereotype
- B. typical Confucian traits
- C. an exception to the Japanese cultural stereotype
- D. none of the options

15. In the passage the author mainly tries to:

- A. find cultural roots of competitive advantage of a nation
- B. find the reason for not so good labour relations in Japan
- C. find the reason for entrepreneurial zeal of the Japanese
- D. find the reason for the sluggishness of American firms

16. Japanese culture is supportive of:

- A. Collaborative attitude
- B. Entrepreneurial Spirit
- C. Product Innovation
- D. Short-term relationships

Direction: for the question: Solve the question and mark the appropriate answer.

17.

Comprehension: Use the table for answering the following questions

(i) Boisterous	(viii) Scrupulous	(xv) Capricious
(ii) Evanescent	(ix) Iconoclast	(xvi) Troglodytic
(iii) Obdurate	(x) Peccadillos	(xvii) Unctuous
(iv) Sardonic	(xi) Loquacious	(xviii) Obsequious
(v) Tendentious	(xii) Avaricious	(xix) Lugubrious
(vi) Vicissitude	(xiii) Quixotic	(xx) Vociferous
(vii) Lachrymose	(xiv) Proselytize	

Below given (A) and (B) explain the meaning/synonym of the two words from the above table. Identify the correct matching option from the choices given below:

(A) Change of fortune

(B) Unruly

- A. ^(A) – (xi) ; (B) – (ii)
- B. (A) – (vi) ; (B) – (i)
- C. (A) – (i) ; (B) – (xiv)
- D. ^(A) – (vi) ; (B) – (xi)

Direction: for the question: Solve the question and mark the appropriate answer.

18. Comprehension: Use the table for answering the following questions

(i) Boisterous	(viii) Scrupulous	(xv) Capricious
(ii) Evanescent	(ix) Iconoclast	(xvi) Troglodytic
(iii) Obdurate	(x) Peccadillos	(xvii) Unctuous
(iv) Sardonic	(xi) Loquacious	(xviii) Obsequious
	Avaricious	
	Quixotic	

Complete the crosswords using words from the above table. There are more words than required.

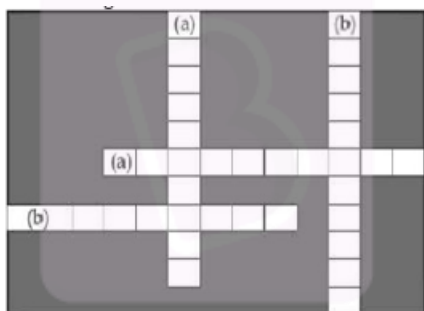
Hint:

A. Across : Producing tears

B. Across : Mocking

A. Down : Unpredictable

B. Down : Resembling a caveman



- A. (A) - Across - (ii) ; (B) - Across - (iii) ;
 B. (A)- Across - (vii) ; (B) - Across - (iv) ;
 C. (A) - Across - (ii) ; (B) - Across - (xvii) ;
 D. (A) - Across - (vii) ; (B) - Across - (iv);

Direction: for the question: Solve the question and mark the appropriate answer.

19. Comprehension: Use the table for answering the following questions:

(i) Boisterous	(viii) Scrupulous	(xv) Capricious
(ii) Evanescent	(ix) Iconoclast	(xvi) Troglodytic
(iii) Obdurate	(x) Peccadillos	(xvii) Unctuous
(iv) Sardonic	(xi) Loquacious	(xviii) Obsequious
(v) Tendentious	(xii) Avaricious	(xix) Lugubrious
(vi) Vicissitude	(xiii) Quixotic	(xx) Vociferous
(vii) Lachrymose	(xiv) Proselytize	

Below given (A) and (B) explain the meaning/synonym of two words from the above table.
Identify the correct matching option from the choices given below:

(A) Idealistic but impractical

(B) Extremely thorough

A. (A) - (ix) ; (B) - (ii)

B. (A) - (xiii); (B) - (xviii)

C. (A) - (xiii) ; (B) - (viii)

D. (A) - (xii) ; (B) - (viii)

Direction: Choose the pair of words which best expresses the relationship similar to that expressed in the capitalised pair.

20. DILATE : CONTRACT ::

A. WAX: WANE

B. HOCK : PAWN

C. SCRIBBLE : WRITE

D. CONTAMINATE : SPREAD

Direction: Choose the pair of words which best expresses the relationship similar to that expressed in the capitalised pair.

21. SERENE : AGITATED ::

A. REVERBERATE : ECHO

B. FATIGUE : WEARY

C. ODIIOUS : PLEASANT

D. DETHRONE : DEPOSE

Direction: Choose the pair of words which best expresses the relationship similar to that expressed in the capitalised pair.

22. PERTINACIOUS : ASTUTE ::

A. FOIBLE : WEAKNESS

B. DEMURE : INDECOROUS

C. CHAFFING : SERIOUS

D. GRANDIOSE : SIMPLE

Direction: Choose the pair of words which best expresses the relationship similar to that expressed in the capitalised pair.

23. SAVAGE : BARBARIC ::

A. LUCID : TURBID

B. SWALLOW : REJECT

C. PEURILE : SENILE

D. VENOMOUS : VIRULENT

Direction: Fill in the blank with the right options provided.

24. The peasant refused to grovel _____ the feet of his master.

- A. On
- B. By
- C. Upon
- D. at

Direction: Fill in the blank with the right options provided.

25. Only the blood-stained road was a witness _____ his assassination.

- A. at
- B. on
- C. over
- D. to

Direction: Choose the option which is grammatically correct and expresses the meaning of sentence correctly.

26. Identify the correct sentence from the given options :

- A. When fishing you can always tell when you lose a fish because the line feels loose.
- B. When fishing you can always tell when you loose a fish because the line feels lose.
- C. When fishing you can always tell when you loose a fish because the line feels loose.
- D. When fishing you can always tell when you lose a fish because the line lose.

Direction: Solve the question and mark the appropriate answer.

27. Match each word in the left hand column with the description in the right hand column which best describes its meaning/synonym:

(A) Schism - (i) Mollifying; Placating; Placebo; Sop

(B) Torsion - (ii) A soft gentle wind

(C) Zephyr - (iii) Twisting or turning something especially one end of something while the other end is held fixed

(D) Palliative - (iv) Courageous; Fearless; Bold; Valiant

(e) Intrepid - (v) Split; Division; Faction

- A. (A) - (iv); (B) - (ii) ; (C) - (iii); (D) - (i); (e) - (v)
- B. (A) - (v); (B) - (iii); (C) - (ii); (D) - (i); (e) - (iv)
- C. (A) - (iv); (B) - (ii); (C) - (iii); (D) - (i); (e) - (v)
- D. (A) - (v); (B) - (ii); (C) - (iii); (D) - (i); (e) - (iv)

Direction: Choose the appropriate meaning of the given idiom/phrase, from the options.

28. Ante meridiem :

- A. Between midnight and noon
- B. An old mother
- C. A great mother
- D. None of these

Direction: Choose the appropriate meaning of the given idiom/phrase, from the options.

29. *To flog a dead horse:*

- A. To do a thing in vain
- B. To act in a foolish way
- C. To criticize strongly
- D. Try to revive interest in a subject that is out of date

Direction: Choose the appropriate meaning of the given idiom/phrase, from the options.

30. A pipe dream :

- A. A bad dream
- B. A pleasant dream
- C. An impracticable plan
- D. A foolish idea

Direction: Complete the sentence by filling in the appropriate blank/blanks from the options provided.

31. In _____ of international matters, there is always an element of risk in _____ one might do.

- A. case; whatever
- B. spite; whatever
- C. many; doing
- D. spite; whichever

Direction: Complete the sentence by filling in the appropriate blank/blanks from the options provided.

32. Sunita's _____ in athletics yielded rich _____ as she got a scholarship.

- A. performance; money
- B. excellence; dividends
- C. won; appreciation
- D. failure; appointment

Direction: The question consists of four statements labelled A, B, C and D which when logically ordered form a coherent passage. Choose the option that represents the most logical order.

33. (A) The commission also wants insurers to be legally bound to provide compulsory cover for pedestrians and cyclists involved in accidents with cars.

(B) A shake up of the law governing the industry across Europe will make it far easier for individuals to switch insurance companies.

(C) Plans were announced by the European Commission that should lead to greater competition in the vehicle insurance market.

(D) It should mean that companies are no longer able to restrict the length of time motorists may keep their vehicles in EU states other than the ones in which they are registered.

A. BDAC

B. CBDA

C. DBAC

D. ABDC

Direction: The question consists of four statements labelled A, B, C and D which when logically ordered form a coherent passage. Choose the option that represents the most logical order.

34. (A) Some people are born with greater possibilities or 'potential intelligence' than others.

(B) Intelligence is improved by learning.

(C) It is no longer thought that intelligence is a general quality, underlying all behaviour and inherited wholly from our parents.

(D) However, this potential may not develop unless it is encouraged and stimulated by influences surrounding the child from birth.

A. BDAC

B. DCBA

C. ADCB

D. CBAD

Direction: The question consists of four statements labelled A, B, C and D which when logically ordered form a coherent passage. Choose the option that represents the most logical order.

35. (A) Particular finger positions or gestures of the hand, common to their age and civilization, delivered a message that was instantly recognized by those who understood the symbolism.

(B) Since ancient times hands have been used in cave paintings, drawings, sculpture and line art as symbols of communication.

(C) European religious paintings represented the Holy Trinity by the extended thumb, index and middle fingers of a hand.

(D) Ancient Egyptian and Semitic art, for example, depicted celestial power by a hand painted in the sky.

A. ADCB

B. BADC

C. BDAC

D. ABDC

36. You travel by Delhi Metro every day from Botanical Garden, Noida to Hauz Khas, Delhi. At Hauz Khas metro station, you use an escalator to get out of the station. The escalator takes 80 seconds. One day, the escalator was not working and you walk up the escalator in 50 seconds. How many minutes does it approximately take you to walk down the working escalator?

A. 1.5 minutes

B. 2.2 minutes

C. 2.8 minutes

D. 2.6 minutes

37. If $x = 8 - \sqrt{32}$ and $y = 2 + \sqrt{2}$, then $\left(x + \frac{1}{y}\right)^2$ is given by

A. $\frac{16}{25}x^2$

B. $\frac{64}{81}y^2$

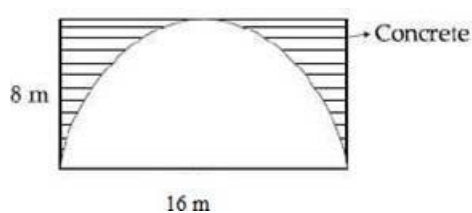
C. $\frac{25}{16}y^2$

D. $\frac{81}{64}x^2$

38. If the co-ordinates of orthocentre and the centroid of a triangle ABC are $(-5, 7)$ and $(5, 5)$, then the circumcentre of the triangle ABC is

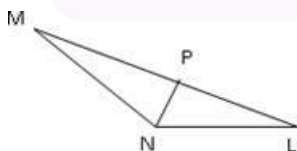
- A. $(25, 1)$
- B. $(10, 4)$
- C. $(-5, 2)$
- D. $(0, 6)$

39. Consider a cuboidal underground tunnel of length 500 m whose cross-section is given in the figure, if 1 m^3 of concrete costs 1000 rupees, find the amount of money needed to build the tunnel.



- A. $8(4 - \pi) 10^6$ rupees
- B. $64(4 - \pi) 10^6$ rupees
- C. $16(4 - \pi) 10^6$ rupees
- D. $32(4 - \pi) 10^6$ rupees

40. In $\triangle MNL$, line NP bisects the angle MNL. If $NP : NL = 2 : 3$ and $\angle MNL = 120^\circ$. Then $NP : NL : MN$ is:



- A. $2 : 3 : 4$
- B. $2 : 3 : 6$
- C. $2 : 3 : 5$
- D. $2 : 3 : 9$

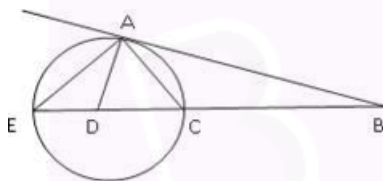
41. A group of women in a society decided to execute interior and exterior decoration of the society in a week's time. Since 11 women dropped out every day from the second day, the entire decoration was completed on 12th day. How many women participated at the beginning? (Answer to the nearest integer)

- A. 137
- B. 141
- C. 145
- D. 148

42. Joseph is in a dilemma. He has been offered a job which would pay him Rs. 80,000 per month for first three years and Rs. 1,20,000 per month for the next three years, and Rs. 1,50,000 per month for the remaining four years. He has also been offered an MBA at a prestigious place and he is considering whether to accept the job or go for the MBA. The first year tuition fee for the MBA program is Rs. 16,00,000 and the second year tuition fee for the MBA program is Rs. 20,00,000. After MBA, he'll get a salary of Rs. 2,00,000 per month for the first four years and then Rs. 2,50,000 per month for the remaining four years. What will be the approximate percentage gain for Joseph in opting for the MBA instead of the job in the 10 years horizon considering no discounting of money?

- A. 23%
- B. 25%
- C. 27%
- D. 29%

43. AB is the tangent on the circle at point A. The line BC meets the circle at points C and E. Line AD bisects the angle EAC. If angle EAC = 60° and angle BAC : angle ACB = 2 : 5. Find angle ABC:



- A. 40°
- B. 60°
- C. 30°
- D. None of the options

44. KBC restaurant chain regularly conducts survey of its customers. The customers are asked to rate the food quality, service and price as Excellent, Good and Fair. Customers are also asked whether they would come back. It was found that 76% of customers say that they will come back. Amongst those who say that they will come back, 57% rate the restaurant as Excellent, 36% rate it as Good and remainder rate it as Fair. Of those who say that they will not return, the respective values are 14%, 32% and 54%. What approximate percentage of customers rated the restaurant as good?

- A. 27.4%
- B. 35 %
- C. 51 %
- D. 30.7%

45. Four couples are to be seated in a circular table such that each couple sits together. In how many ways they can sit such that two males sit to the right of their female partners and the other two males sit to the left of their female partners?

- A. 36
- B. 288
- C. 1440
- D. 720

46. Nawab has two sons Saif and Amir who have export businesses. Nawab's satisfaction/utility level is given by adding twice of the satisfaction level of Saif with the satisfaction level of Amir. If Saif makes a profit of Rs.100, his satisfaction level goes up by 10% and if he suffers a loss of Rs.100, his satisfaction level goes down by 10%. If Amir makes a profit of Rs. 100, his satisfaction level goes up by 5% and if he suffers a loss of Rs. 100, his satisfaction level goes down by 15%. Currently, Nawab's satisfaction level is 24 and the satisfaction level of Saif is same as the satisfaction level of Amir. If Saif makes a profit of Rs.100 and Amir suffers a loss of Rs. 100, what is the approximate percentage change in Nawab's satisfaction level?

- A. 1.25%
- B. 1.33 %
- C. 1.5%
- D. 1.66%

47. A man standing on the line joining the two poles finds that the top of the poles make an angle of elevation of 60° and 45° respectively. After walking for some time towards the other pole, the angles change to 30° and 60° respectively. The ratio of the height of the poles is:

- A. $\frac{\sqrt{3}-1}{2}$
- B. $\frac{\sqrt{3}+1}{2}$
- C. $\frac{\sqrt{3}-1}{4}$
- D. $\frac{\sqrt{3}+1}{4}$

48. An E-rickshaw owner makes 24 trips a month with 4 passengers per trip. If his interest cost for purchase of E-rickshaw is Rs. 120/month, he earns 15 percent profit a month (Profit is the difference between revenue and cost). What will be the approximate percentage profit for the same month if the owner undertakes 20 trips a month with 5 passengers and his interest cost is reduced by 10 percent for the month?

Assume- : (A) Total cost to be proportional to the interest cost;

(B) Revenue per passenger is the same in both cases

- A. 33.33
- B. 66.67
- C. 72
- D. 100

49. 400 students were admitted to the 2018-19 MBA batch. 200 of them did not choose "Business Statistics". 100 of them did not choose "International Management". There were 80 students who did not choose any of the two subjects. Find the number of students who chose both Business Statistics and International Management.

- A. 180
- B. 220
- C. 280
- D. 300

50. At what time between 2.00 pm and 3.00 pm, the two arms of a watch are completely opposite to each other?

- A. 2.40 pm
- B. 2.44 pm
- C. 2.45 pm
- D. 2.47 pm

51. The number $37^{371} - 26^{371}$ is divisible by:

- A. 10
- B. 11
- C. 12
- D. 15

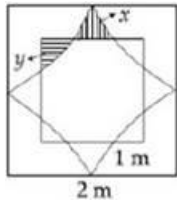
52. A motorboat takes the passengers from Rishikesh to Haridwar and back. Both the cities, Rishikesh and Haridwar are located on the banks of River Ganga. During Kumbh Mela, to earn more money, the owner of the motorboat decided to have more trips from Rishikesh to Haridwar and back, so he increased the speed of the motorboat in still water, by 50%. By increasing the speed, he was able to cut down the travel time from Rishikesh to Haridwar and back, by 60%. What is The ratio of the speed of motorboat in still water to that of the speed of river Ganga?

- A. $\sqrt{\frac{11}{6}}$
- B. $\frac{11}{6}$
- C. $\sqrt{\frac{3}{2}}$
- D. $\sqrt{\frac{3}{2}}$

53. A cricket team has 11 players and each of them has played 20 matches till date. Vital, Rohit, Mahendra, Rahul and Shikhar have scored runs at an average of 60, 55, 50, 45 and 40 respectively. Rest of the players have scored at an average of 25 each. In the next 10 matches, Virat and Rohit each scored 900 runs whereas Mahendra scored twice that of Rahul. After 30 matches, if Virat's new average score is twice that of Rahul, what is the approximate average score of Mahendra?

- A. 49
- B. 41
- C. 43
- D. 45

54. A square of Length 1 m is inside a square of length 2 m and four quarter elides are joined as shown in the figure. The value, of $y-x$ is given by.



- A. $\frac{8-\pi}{10}$
 B. $\frac{4-\pi}{5}$
 C. $\frac{2\pi-1}{8}$
 D. $\frac{\pi-3}{4}$

55. Rohit purchased a cistern which had a leakage. The cistern can be filled by two inlet pipes which can individually fill the cistern in 12 min and 15 min respectively. Despite leakage, the two inlet pipes together can fill the cistern in 20 min. How long will it take to completely full the cistern due to Leakage?

- A. 10 min
 B. 12 min
 C. 15 min
 D. 16 min

56. In a triangle, the two longest side are 13 cm and 12 cm. The angles of the triangle are in arithmetic progression. The radius of the circle inscribed in this triangle is approximately :

- A. $\sqrt{3}$ cm
 B. $\sqrt{3-1}$ cm
 C. 2 cm
 D. 1 cm

57. Consider the equation:

$$|x-5|^2 + 5|x-5| - 24 = 0$$

The sum of all the real roots of the above equation is :

- A. 2
 B. 3
 C. 8
 D. 10

58. According to birth registration data available with the South Delhi Municipal Corporation, 7 babies were born in a particular week in a private hospital. What is the probability that three babies were born on the same day of the week?

- A. $1800/7^5$
- B. $1600/7^7$
- C. $2100/7^7$
- D. $2400/7^5$

59. Monika buys a Samsung's 360 litre refrigerator from M/s Cold rush Agencies for Rs. 42,000. She makes a down payment of Rs. 12,000 and the remaining amount in 4 equal half yearly installments. If M/s Coldrush Agencies charge an interest of 10% per annum, approximately what amount Monika has to pay every six month?

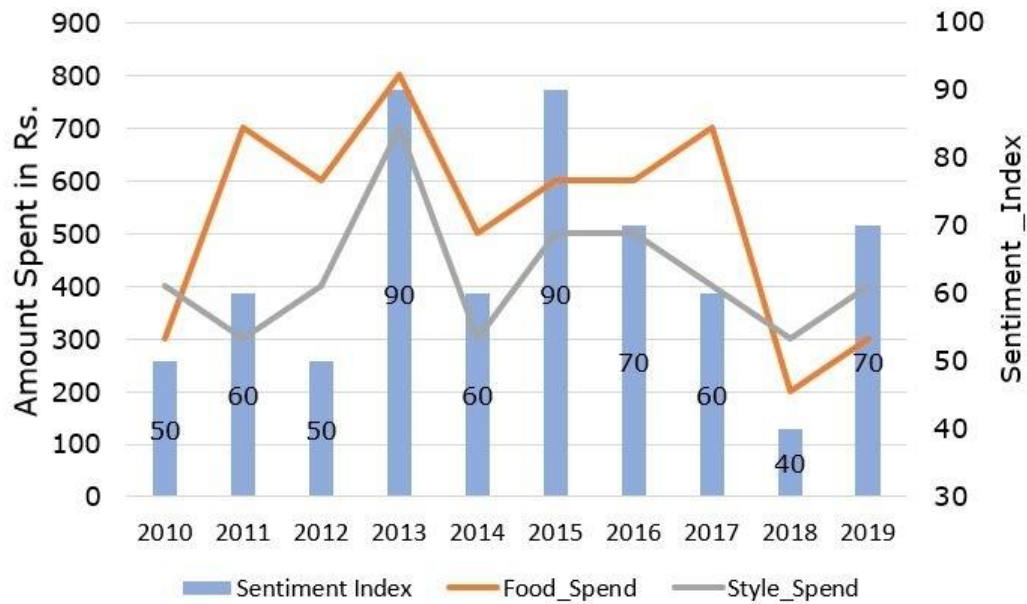
- A. Rs. 8130
- B. Rs. 8600
- C. Rs. 8460
- D. Rs. 8620

60. Ms. Debjani after her MBA graduation wants to have a start-up of her own. For this, she uses Rs. 8,00,000 of her own savings and borrows Rs. 12,00,000 from a public sector bank under MUDRA Scheme. As per the agreement with the bank, she is supposed to repay the principle of this loan equally over the period of the loan which is 25 years. Two years after taking the first loan, she borrowed an additional loan of Rs. 8,00,000 to finance expansion plan of her start-up. If Ms. Debjani clears all her loans in 25 years from the date of taking the first loan, how much total interest she has to pay on her initial borrowing? Assume simple interest rate at 8 percent per annum.

- A. 12,48,000
- B. 12,84,000
- C. 14,20,000
- D. 12,96,000

Direction: Answer the questions with the given information and the graph.

The analyst at a retail giant has modelled the consumer spending and consumer sentiment to prepare a strategy on product offers in the upcoming festive season. The data given in the figure are from last 10 years on 3 parameters namely, food spending (Food_Spend), style spending (Style_Spend), and sentiment index (Sentiment_Index). Study the figure below and Answer the following questions :



61. From the years mentioned below, in which year total of Food_Spend and Style_Spend as a proportion of Sentiment_Index is lowest ?

- A. 2011
- B. 2013
- C. 2016
- D. 2017

62. From the years mentioned below, in which year Food_Spend as a proportion of Style_Spend is lowest ?

- A. 2012
- B. 2013
- C. 2015
- D. 2016

63. In which year, ratio of annual change in Style_Spend to annual change in Sentiment_Index is highest ?

- A. 2011
- B. 2012
- C. 2014
- D. 2017

64. In which year, highest annual percentage change in Style_Spend is recorded ?

- A. 2015
- B. 2014
- C. 2013
- D. 2011

Direction: Answer the questions with the given information and the data.

Given below are transactions of 17 customers who brought products available from a range of 5 products namely Product A, Product B, Product C, Product D and Product E, on a particular day. “1” means product was purchased and “0” means product was not purchased on that day. The retail manager wants to study the product purchase behavior based on customer transactions. Example of Paired Product purchase, there are three paired product purchases made by customer with Customer_ID : 101 - (1) Product A and Product E, (2) Product A and Product D and (3) Product D and Product E

Customer_ID	Product A	Product B	Product C	Product D	Product E
101	1	0	0	1	1
102	1	0	0	1	0
103	0	1	1	1	0
104	1	1	0	0	0
105	0	1	0	1	0
106	1	1	0	1	1
107	0	0	1	0	1
108	0	1	1	0	0
109	0	0	1	0	1
110	0	1	0	1	1
111	0	1	0	0	0
112	0	0	1	1	1
113	0	1	0	1	1
114	0	0	0	1	0
115	1	1	1	1	1
116	0	1	0	1	0
117	1	1	0	1	1

65. How many paired product purchases were done with Product A as one product ?

- A. 16
- B. 17
- C. 18
- D. 19

66. Assuming profit margin of the products is as follows : Product A - ₹ 50, Product B - ₹ 45, Product C - ₹ 60, Product D - ₹ 40 and Product E - ₹ 70, which of the following paired product purchases generates highest profit margin given the existing buying frequency ?

- A. Product A and Product D
- B. Product A and Product E
- C. Product B and Product D
- D. Product B and Product E

67. Given the profit margins of the products as follows : Product A - ₹ 50, Product B - ₹ 45, Product C - ₹ 60, Product D - ₹ 40 and Product E - ₹ 70, and the retailer decides to offer discount in case customer buys more than two products. The discount is equal to 10% of the margin of higher margin product in the combination of products purchased, then how many customer in the sample data generate profit margin of ₹ 150 or more ?

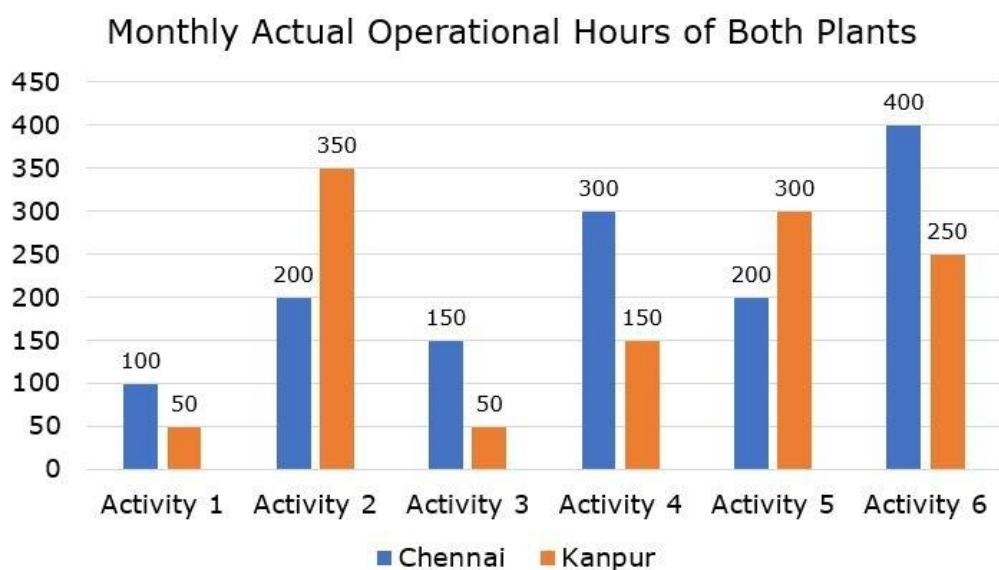
- A. 4
- B. 5
- C. 6
- D. 7

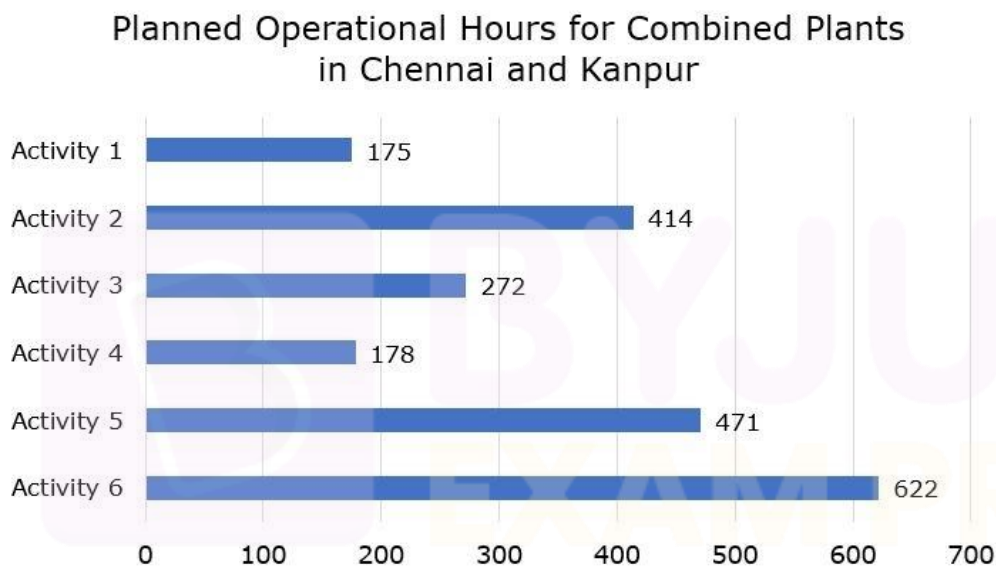
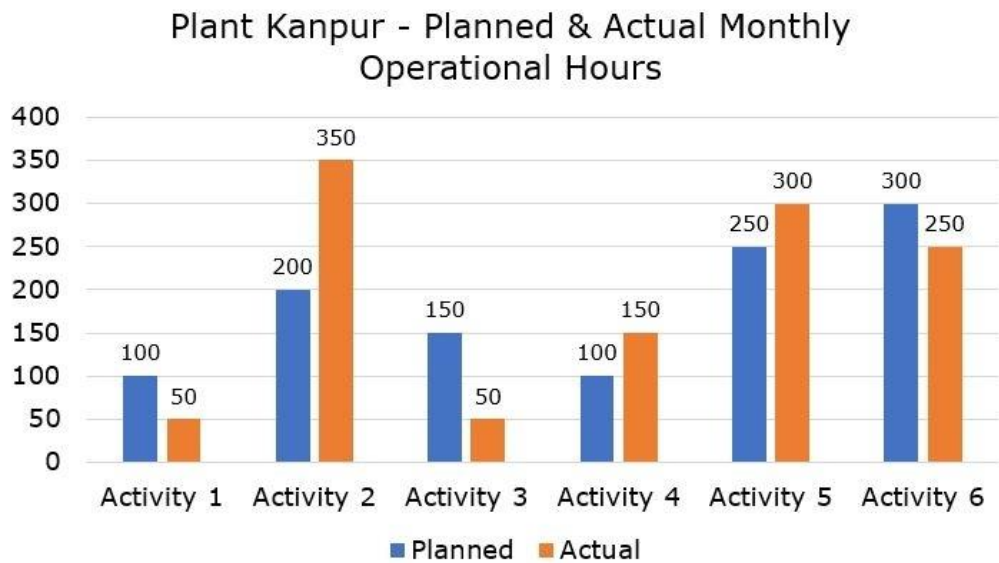
68. How many customers buy lowest selling product pair as well as highest selling product pair ?

- A. 2
- B. 0
- C. 1
- D. 3

Direction (69-72): Answer the questions with the given information and the data.

The figures given below show the amount of work distribution (in operational hours) for a toy manufacturing company having manufacturing plants in Chennai and Kanpur. Each plant carries out six activities. Planned operational cost per hour of Chennai and Kanpur plants are ₹ 250 and ₹ 300 respectively. However, the actual operational cost per hour is ₹ 270 in Chennai and ₹ 315 in Kanpur. Cost Difference (in %) = $\frac{\text{Absolute ((Actual Cost - Planned Cost))}}{\text{Planned Cost}} \times 100$





69. Overall Cost difference in Chennai plant is approximately :

- A. 39%
- B. 41%
- C. 65%
- D. 70%

70. In how many activities plant in Chennai could meet at least 50% shortfall in the actual operational hours compared to planned operational hours of plant in Kanpur ?

- A. 1
- B. 2
- C. 3
- D. 4

71. Which of the following activities has the maximum cost difference in Kanpur Plant ?

- A. Activity 1
- B. Activity 3
- C. Activity 4
- D. Activity 5

72. In how many activities does the plant in Chennai have higher planned operational hours as compared to the plant in Kanpur ?

- A. 1
- B. 2
- C. 3
- D. 4

Direction (73-76): Chennai has more planned operational hours in Activity 2 and 6

Answer the questions with the given information and the data.

The following table gives the number of T-Shirts sold (in thousand units) in Delhi and Mumbai. The T-Shirts are sold in

different styles (S1, S2, S3, and S4) with different colours as shown in the table.

Colour	Delhi style				Mumbai style			
	S1	S2	S3	S4	S1	S2	S3	S4
Pink	61	60	69	55	65	95	66	92
Red	76	70	70	95	76	89	65	81
Green	71	89	92	65	61	70	60	72
Yellow	50	63	76	95	69	60	69	66
Blue	98	99	54	82	94	64	75	74
White	61	74	75	54	92	89	85	72
Black	90	51	76	51	86	93	94	97

73. The average sales of which colour T-Shirt sold is the same in both cities ?

- A. Yellow
- B. Blue
- C. Black
- D. Red

74. Which style T-Shirt has highest difference in number of units sold between two cities of Delhi and Mumbai?

- A. S1
- B. S2
- C. S3
- D. S4

Direction: Chennai has more planned operational hours in Activity 2 and 6

Answer the questions with the given information and the data.

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Green	71	89	92	65	61	70	60	72
Yellow	50	63	76	95	69	60	69	66
Blue	98	99	54	82	94	64	75	74
White	61	74	75	54	92	89	85	72
Black	90	51	76	51	86	93	94	97

75. If the profit margin of T-Shirts of various styles S1, S2, S3 and S4 are = 100, ₹ 100, ₹ 120 and ₹ 120 respectively, then among the colour and city combinations given below, which combination has the maximum profit ?

- A. Red-Mumbai
- B. Red-Delhi
- C. Green-Delhi
- D. Blue-Mumbai

76. From the combinations given below, which one has minimum difference in units sold across cities of Delhi and Mumbai ?

- A. Red - S2
- B. Green - S2
- C. Yellow - S1
- D. Black - S3

Direction (77-80): Answer the questions based on the information provided.

In Gargi's family there are 7 members A, B, C, D, E, F and G other than her consisting of Mother, Father, Brother, Sister, Uncle, Grandfather and Grandmother. They are Doctor, Professor, Director, Actor, Minister, Business Person and Artist by profession not necessarily in the same order. Gargi is a Manager of a leading restaurant and invites the family to her restaurant having round tables for seating to have dinner. The family members select a table for dinner while Gargi is on duty. Few other details are :

- (A) The mother and father do not sit together.
- (B) C is seated on the immediate left of Professor and sits A with B
- (C) The artist is either the sister or grandmother and sits to the immediate right of Father.
- (D) The grandmother is seated on the immediate left of D who is an actor.
- (e) G who is an artist sits with the Business person, F who is a female.
- (f) E sits one place away to the left of Director.
- (g) There is one family member between Grandmother and C who is a Director.
- (h) Father is a doctor and sits between Professor and Sister.
- (i) Brother is not a Professor and sits with Grandmother.

77. How many minimum/least number of people are between the Business person and Professor ?

- A. 3
- B. 2
- C. 4
- D. 1

78. If B is a Doctor, then who is A ?

- A. Father
- B. Uncle
- C. Professor
- D. Mother

79. If C is the Uncle, then Professor is :

- A. Grandfather
- B. A
- C. B
- D. Mother

80. Who sits three places to the right of Mother ?

- A. Director
- B. Uncle
- C. Grandfather
- D. Brother

Direction (81-83): Answer the questions based on the information provided.

A group of students A, B, C, D, E, F, G, H and I visit Sheesh Mahal in Jaipur and play a game of standing in a horizontal line in front of a mirror as per the directions seen in the reflection. The group consists of four girls and five boys and none of the boys are at the extreme end positions. All the boys stand together with no girl in between. A takes the lead and stands in the centre to give directions as per those seen in the reflection. Some other directions which A gives are :

(A) G is on the extreme left while A is to the immediate left of D

(B) C stands one place to the right of A and is not a girl.

(C) H is second to the left of B and to the immediate right of G.

(D) E is not on the extreme ends and is not a girl.

(e) B always stands between two boys.

81. Which of the following statement is always true ?

- A. F and I are girls
- B. E is a boy but A is a girl
- C. A and E stand together
- D. C and I stand together

82. Who is three places to the right of A considering A's direction sense and not that of the reflection ?

- A. F
- B. I
- C. H
- D. E

83. If there are two students between F and D, then I as per reflection is :

- A. On the extreme right
- B. Immediate left of D
- C. Immediate right of C
- D. Four places to the right of A

Direction: Answer the questions based on the information provided.

In a building with various offices on 12 floors there are two lifts. Lift 1 halts at even numbered floors and Lift 2 at odd numbered. A, B, C and D have their offices on 2, 8, 7 and 11 floors respectively. The office reaching time for A and C is 9:10 am while for B and D is 9:15 am and 9:20 am respectively. The attendance will be marked on the floor office. The lift takes 30 seconds to cross from one floor to another and halts on the selected floor for 30 seconds. The employees have to complete 8 hours and 30 minutes per day and are allowed to be late in the morning up to a maximum of 30 minutes which has to be compensated for in the evening. They have to enter the building from Ground i.e. '0' floor and it is not necessary that the lift is always available.

84. D steps into Lift 1 by mistake with in it at 9:00 am at the ground floor and C is in Lift 2 at ground floor at the same time and realises only when the lift has started. Then approximately at what time will D reach office, if Lift 2 halts for additional 30 seconds after D boards it ?

- A. 9:16 am
- B. 9:14 am
- C. 9:11 am
- D. 9:10 am

85. If A reaches the building at 9:08 am and Lift 1 is at the floor with only B in it, at what time can at the earliest leave from office on that given day ?

- A. 5:40 pm
- B. 5:42 am
- C. 5:47 pm
- D. 5:45 pm

Direction (86-87): Answer the questions based on the information provided.

In an organisation with three departments i.e. Marketing, Finance and HR, it was decided to shuffle the 70 employees between departments. To make optimum use of resources, the management assesses their capability based on their qualification. 3 employees can work in every department. 7 employees can work in Finance and Marketing only. 10 can work only in HR while the number of employees only in Marketing is double of that in only Finance. Employees in only Finance cannot be less than 10 while employees in Finance and HR only are three times of two less than that of Marketing and HR only. The organisation has employees with all possible combinations of their capabilities.

86. How many employees are capable to work in Marketing and HR only ?

- A. 1
- B. 2
- C. 5
- D. 7

87. How many employees at the maximum are capable to work in Finance ?

- A. 31
- B. 33
- C. 28
- D. 32

Direction: For the following questions Answer them individually

88. Complete the given sequence 63, 215, 511, 999

- A. 1330
- B. 1727
- C. 1335
- D. 1735

Direction (89-90): Answer the questions based on the information provided.

A word arrangement, when rearranged by given input follow a particular rule/logic in each step.

Following is an example of input and rearrangement. Study that rule/logic and apply on given problem.

INPUT one cannot but feel sorry for him

Steps /Results :

(I) but cannot one sorry feel him for

(II) cannot but feel sorry one for him

(III) but cannot sorry feel him for one

(IV) sorry cannot but him feel one for

89. If Step VI reads, 'the best way of promoting our nation', what will be the arrangement of the input ?

- A. best the nation way of our promoting
- B. our promoting the best nation way of
- C. promoting best nation of the our way
- D. of our best the way nation promoting

90.If Step V reads, 'weeks of tepid slothful and weak performance', what would step VI read?

- A. performance weeks and tepid of weak slothful
- B. of weeks slothful tepid performance weak and
- C. of tepid slothful performance weak and weeks
- D. performance and tepid weeks of weak slothful

91.2014 Hong Kong protest was termed as:

- A. Red Shirt
- B. Umbrella Protest
- C. Million man march
- D. March for our lives

92.Match the Juice brands with their Company.

Juice	Company
(a) Tropicana	(i) Coca cola
(b) Real	(ii) Hector Beverages
(c) Ceres	(iii) Pioneer Foods
(d) Paper Boat	(iv) Pepsi co. India
(e) Minute maid	(v) (Dabur)

A. (a) -(iv), (b) -(iii), (c) -(v), (d) -(ii), (e) -(i)
B. (a) -(iv), (b) -(v), (c) -(ii), (d) -(iii), (e) -(i)
C. (a) -(iv), (b) -(v), (c) -(iii), (d) -(ii), (e) -(i)
D. (a) -(iv), (b) -(ii), (c) -(iii), (d) -(v), (e) -(i)

93.Which company launched India's first ethanol based bike ?

- A. HERO
- B. HONDA
- C. TVS
- D. BAJAJ

94. The Gandhi Solar Park (GSP) was recently inaugurated at the headquarters of which international organisation ?

- A. IMF
- B. European Union
- C. United Nations
- D. WHO

95. Adani Group won the bid to manage and develop which of the following airports in India?

- A. Nagpur
- B. Bengaluru
- C. Hyderabad
- D. Lucknow

96. "83" is a biopic on which famous personality ?

- A. Sunil Gavaskar
- B. Mohinder Amarnath
- C. Kapil Dev
- D. MS Dhoni

97. The 2018 Winter Olympics games were held in :

- A. South Korea
- B. Canada
- C. Sweden
- D. Romania

98. Match the Sea Port with the Country where it is located:

- | Sea port | Country |
|-----------------|---------------------|
| (a) Busan | (i) The Netherlands |
| (b) Jebel Ali | (ii) Belgium |
| (c) Qingdao | (iii) U.A.E |
| (d) Antwerp | (iv) South Korea |
| (e) Rotterdam | (v) China |
- A. (a) -(iv), (b) -(iii), (c) -(v), (d) -(ii), (e) -(i)
B. (a) -(iv), (b) -(v), (c) -(ii), (d) -(iii), (e) -(i)
C. (a) -(iv), (b) -(v), (c) -(iii), (d) -(ii), (e) -(i)
D. (a) -(iv), (b) -(ii), (c) -(iii), (d) -(v), (e) -(i)

99. He is a French Business magnate, investor and an art collector. He is the Chairman and Chief executive of LVMH, the world's largest luxury goods company. He is the second richest person in the world according to Forbes Magazine as on July 2019. Identify the Personality.

- A. Carrie Perrodo
- B. Francois Pinault
- C. Patrick Drahi
- D. Bernard Arnault

100. Which ministry launched the UDAAN Scheme?

- A. Ministry of External Affairs
- B. Ministry of Skill Development and Entrepreneurship
- C. Ministry of Women and Child Development
- D. Ministry of Defence

101. According to latest UN International Migrant Stock 2019 report, which country is the leading country of origin of international migrants in 2019?

- A. India
- B. Mexico
- C. China
- D. Russia

102. Scientist's plan to build an elevator between Earth and the Moon to cut down on the rocket fuel needed for a trip between the Earth and the Moon is known as:

- A. Space Line
- B. Space Lift
- C. Space Elevator
- D. Space Bridge

103. Who is the co-founder of multi-brand sneaker store "VegNonVeg" ?

- A. Karan Johar
- B. Aditya Birla
- C. Anand Ahuja
- D. Sanjay Kapoor

104. Which of the following is not a recipient of Ramon Magsaysay Award ?

- A. Ravish Kumar
- B. Arvind Kejriwal
- C. Kiran Bedi
- D. C. N. R. Rao

105. Which of the following country is not a member of BIMSTEC ?

- A. Bhutan
- B. China
- C. India
- D. Myanmar

106. With which of the following countries Afghanistan shares its border ?

- (a) Turkmenistan
- (b) Uzbekistan
- (c) Tajikistan
- (d) Iran
- (e) Kyrgyzstan

Select the correct option :

- A. (a), (b) and (d) only
- B. (b), (c), (d) and (e) only
- C. (c), (d) and (e) only
- D. (a), (b), (c) and (d) only

107. Name of which of the following shoe brands derived its logo from a 'wild cat' found in Americas ?

- A. Nike
- B. Reebok
- C. Puma
- D. Fila

108. Match the festivals with the states in which they are celebrated :

Festivals	States
(a) Losar	(i) Madhya Pradesh
(b) Lokrang	(ii) Sikkim
(c) Bahu Mela	(iii) Jammu and Kashmir
(d) Shigmo	(iv) Nagaland
(e) Sekrenyi	(v) Goa
A. (a) -(i), (b) -(ii), (c) -(iii), (d) -(iv), (e) -(v)	
B. (a) -(ii), (b) -(i), (c) -(iii), (d) -(v), (e) -(iv)	
C. (a) -(v), (b) -(ii), (c) -(iii), (d) -(iv), (e) -(v)	
D. (a) -(i), (b) -(ii), (c) -(iii), (d) -(v), (e) -(iv)	

109. The terms "Technical foul" and "Flagrant Foul" are most commonly associated with which of the following sport ?

- A. Table Tennis
- B. Badminton
- C. Basketball
- D. Football

110. Identify the name of ISRO Mission whose objective is to carry a three member crew to low earth orbit and return them safely to a pre-defined destination on earth ?

- A. AsroSat
- B. Aditya - L1
- C. Gaganyaan
- D. Akash

###ANSWERS###

1. Ans. C.

Refer to the following lines in the passage;

"Sustaining innovations are nearly always developed and introduced by established industry leaders. Month after month, year after year, they launch new and improved products to gain an edge over the competition." and "Disruptive innovations occur so intermittently that no company has a routine process for handling them. "

Going by these lines, we can say that Option C is the correct answer.

2. Ans. C.

Option A is wrong. The quality of the products hasn't been discussed by the passage.

Option B is incorrect as nowhere does the passage compare the two on the basis of the quality of the trained workforce.

Further, the new markets prefer start ups, not because their products are cheaper, but because their innovations are different from the existing products in the market. Therefore Option D can be ignored.

Option C sums up the main argument of author. Hence, this is the correct answer.

3. Ans. B.

Option A is making a claim completely opposite to what the passage says. The passage says that disruptive innovation is indeed useful to the customers, and brings in a new wave of innovation.

The passage says that DI is more easily carried out by start ups, whereas option C says that "product introduced due to DI require large investment" .Hence Option C can be ignored as well. Option D is incorrect as the passage says that smaller companies are at advantage in entering new markets. Option B ,which states that DI has lower profit margins, and initially has smaller markets, is the correct answer.

4. Ans. D.

As per the passage, industry leaders are more skewed towards developing sustaining technologies which does not imply that they cannot implement DI successfully in their companies. Therefore we can ignore Option A.

The passage states that though the larger companies recognize the positives of DI, they prefer to concede ground to smaller companies, and prefer to pursue sustainable innovation. Therefore, Option B is quite close, but it cannot be clearly inferred.

Option C is out of context and hence can be ignored.

Option D is the correct answer.

5. Ans. C.

As per the 4th para from last, “The assertives believe that time is money”. Therefore, the phrase “every wasted minute is a wasted dollar” would be best associated with The assertives.

6. Ans. D.

It can be easily inferred from the para that negotiation tactics are not genetically transmitted. Therefore option A is incorrect.

We can ignore option B because The passage states that though the bargaining style of people varies subtly wrt the person with whom one is bargaining, the negotiation tactics usually don't change. The passage never says that mirroring someone is an effective negotiation tactic hence option C is fundamentally wrong.

Option D can be easily inferred and is the correct answer.

7. Ans. B.

The passage is more about the different types of negotiators. It is not a note on “the bargaining tactics”. Hence, option A is incorrect. Option C is narrow as it talks about Punching Back. Option C is fundamentally wrong as the passage never talks about different types of leverage. Option B is the correct answer as the passage lists down different types of Negotiators.

8. Ans. C.

Refer to the following lines in passage, "" The Assertive type believes time is money. For them, getting the solution perfect isn't as important as getting it done." We can infer that the Assertive type believes that finishing the negotiation is more important than getting it right. Option C is the correct answer.

9. Ans. B.

Refer to the following lines of the last paragraph; " Several of the fastest-growing Asian economics adopted more democratic governments during the past three decades, including South Korea and Taiwan". Going by these lines. Option B fits the bill.

10. Ans. D.

The author believes that both democratic and undemocratic governments have their pros and cons. He believes that undemocratic governments that have been successful in establishing strong market economies and have duly taken care of their property rights have witnessed a period of rapid growth. And in the 2nd para, he states that in a well functioning, mature democracy, property rights are truly secure.

In a way he believes, none of the political system guarantees economic growth necessarily.

Options A,B,C are therefore wrong. However the only necessary condition for economic growth is Only market economy and property rights (Option D.. Option D hence is the correct answer.

11. Ans. C.

Refer to the following lines of the paragraph, ""although democracy may not always be the cause of initial economic progress,it seems to be one consequence of that progress." From the above lines it can be inferred that democracy can both be the cause and the consequence of the economic progress"

From these lines, clearly C can be inferred.

12. Ans. A.

From the passage above, we can easily infer that the author believes that both democratic and undemocratic governments have their pros and cons and none of the political system guarantees economic growth necessarily.

Therefore, Option A is the correct answer.

13. Ans. D.

Refer to the following lines; "... reciprocal obligation and honesty help foster an atmosphere of trust between companies and their suppliers." Going by these lines, Option D which says that "Relationship built on trust and mutual commitment" fits the bill.

14. Ans. C.

Refer to the following lines of the last paragraph, "Of course, obvious and significant exceptions to this generalization exist. Masayoshi Son recognized the potential of software far faster Than any of Japan's corporate giants; set up his company".

Clearly, He is being seen as exception to the Japanese Cultural Stereotype. Hence Option C is the correct answer.

15. Ans. A.

The main idea of the passage is pretty much present in the very first line; "Japan presents an interesting case study of how culture can influence competitive advantage". Option A fits the bill. The passage does not talk about the sour labour relations in Japan. Hence option B can be ignored. Option C is wrong because the passage says that Japanese are actually less supportive of the entrepreneurial activities. The sluggishness of American firms is a part of the entire discussion, not the main idea.

16. Ans. A.

We can infer from the passage that the Japanese prefer long term relationships to short term relationships. Hence option D is wrong. The passage says that Japanese culture is not very supportive of entrepreneurial spirit as compared to their western counterparts. Hence, option B is incorrect. The passage makes no mention of Japanese being particularly supportive of product innovation. Hence, this option is incorrect as well.

Option A , which says that Japanese culture is supportive of collaborative attitude is the correct answer.

17. Ans. B.

The word vicissitude means change of fortune. Similarly, the word boisterous means unruly. Option B is the correct answer

18. Ans. B.

Analyzing Option B;

(A) Across : lachrymose = producing tears.

(B) across : sardonic = to mock someone.

(C. Down : capricious =unpredictable.

19. Ans. C.

“Quixotic” means idealistic and impractical. The word scrupulous means completely thorough, to the minutest of details. Option C is the correct answer.

20. Ans. A.

Dilate and contract refers to the contraction and dilation of the pupil of the eyes. Therefore they are antonyms of each other. Wax and wane similarly refers to the waxing and waning of the moon. Option A would thus be the correct answer as it depicts similar relationship.

21. Ans. C.

“Serene” means peaceful and “Agitated” means Angry. Both are antonyms. Only Option C depicts similar relationship. Odious, which means “Repulsive” is the opposite of “Pleasant”. Hence, Option C is the correct answer.

22. Ans. A.

Pertinacious and astute are synonyms, and both mean “holding firmly to an opinion”. The only synonyms in the given options are foible and weakness. Option A is the correct answer

23. Ans. D.

Savage and barbaric are synonyms; both mean “Ruthless”. The only other synonyms among the options are venomous and virulent; both meaning Poisonous. Hence, option D is the correct answer

24. Ans. D.

The peasant refused to grovel (meaning “to kneel”) at the feet of his master. The correct preposition which fits in the given context is "at". Hence, D is the correct answer.

25. Ans. D.

Only the blood-stained road was a witness to his assassination. The correct preposition that fits in the given context is "to". Option D is the correct answer.

26. Ans. A.

Only option A makes the correct usage of “Lose” or “Loose”. The meaning of the word lose is to be deprived of. The meaning of the word loose is not tight.

Hence A is the correct answer.

27. Ans. B.

Analyzing the Option B

Schism : Split or a division, Torsion: twisting of an object because of applied torque, Zephyr : A gentle wind, Palliative : a medicine that relieves pain, Intrepid : courageous. Option B is the correct answer.

28. Ans. A.

Ante-Merdiem means the time between “Midnight and Noon”.

29. Ans. C.

“To flog a dead horse is to do something in vain”. Option A is the correct answer.

30. Ans. C.

The meaning of the idiom , a pipe dream is to have an impracticable plan. Option C is the correct answer.

31. Ans. A.

In “spite” doesn’t fit the context here, So B and D can be ignored. C is wrong because “doing” doesn’t fit in the second blank. Only A fits the context. “ In case of international matters, there is always an element of risk in whatever one might do”.

32. Ans. B.

Option A can be ignored because “money” doesn’t make sense in the second blank. Option C can be ignored as well because “won” doesn’t fit in the first blank. Option D is wrong as “failure” will completely change the sense of the sentence. Only Option B fits the bill.

33. Ans. B.

Sentence C is a very good opening sentence as it kicks-open the entire discussion for us. Also, the remaining sentences are in present tense, only this one is in past tense. So it makes sense to take the “Past Tense to Present Tense” route.

Sentence B & D follow a cause-effect relationship and as such BD can be placed post C as the aftermath of the plans announced in C.

Sentence A introduces an additional point, as evident from “also”. Hence it can be placed in the end.

Therefore CBDA is the correct order.

34. Ans. D.

C is a very good opening sentence as it introduces the central problem and doesn't shed much information, rather sets a direction for the remaining portion of the passage. B clears the air by letting us know "How does the Intelligence actually improve" and hence can be placed post C. A & D and in this order elaborate on the premise being set by CB and can be placed post B

Hence CBAD is the correct order.

35. Ans. B.

Sentence B opens up the topic, by introducing the very idea on which this paragraph is based, i.e., Usage of Hands in Cave Painting, Drawings etc since the ancient times. A takes the story ahead can be placed post B while D cites an example to elaborate more on A. C is the next example, but it will be placed after D, because D mentions "For example" in it, thus it should precede C. Hence the order is BADC

36. Ans. B.

By using the escalator, one can get out of the station in 80 sec.

consider the number of steps = 80

Speed of the escalator = 1 step/sec

When the escalator was not working, the time taken by a person = 50 sec

The speed of the person = $\frac{80 - 8}{50 - 5}$ steps/sec

Speed when escalator is working = $\frac{8}{5} - 1 = \frac{3}{5}$ steps per sec

Time taken = $\frac{80}{\frac{3}{5}} = 133.3$ seconds which is closest to 2.2 mins

37. Ans. D.

$$\frac{1}{y} = \frac{1}{2 + \sqrt{2}} = \frac{2 - \sqrt{2}}{2}$$

$$x + \frac{1}{y} = 8 - \sqrt{32} + \frac{2 - \sqrt{2}}{2} = 8 - 4\sqrt{2} + 1 - \frac{\sqrt{2}}{2} = 9 - \frac{9\sqrt{2}}{2} = 9\left(1 - \frac{1}{\sqrt{2}}\right)$$

Squaring both sides

$$\left(x + \frac{1}{y}\right)^2 = 81\left(1 + \frac{1}{2} - \frac{2}{\sqrt{2}}\right) = 81\left(\frac{3}{2} - \sqrt{2}\right)$$

Using options

$$x^2 = (8 - \sqrt{32})^2 = (64 + 32 - 2(8)(\sqrt{32})) = (96 - 64\sqrt{2})$$

$$\frac{81x^2}{64} = \frac{81(96 - 64\sqrt{2})}{64} = 81\left(\frac{3}{2} - \sqrt{2}\right) = \left(x + \frac{1}{y}\right)^2$$

Options D is correct choice.

38. Ans. B.

Centroid divides orthocenter and circumcenter in the ratio of 2:1

The co-ordinates of orthocentre and the centroid of a triangle ABC are (−5, 7) and (5, 5)

Let the co-ordinate of circumcenter be (x,y)

$$\text{So, } 5 = \frac{2x-5}{3} \text{ and } 5 = \frac{2y+7}{3}$$

$$X = 10 \text{ and } y = 4$$

(10,4) is the coordinate of circumcentre

39. Ans. C.

$$\text{Volume of tunnel} = \frac{1}{2}\pi(8^2)(500) = 32\pi(500)$$

$$\text{Volume of cuboid} = 500(16)(8)$$

$$\text{Volume of concrete} = 500(16)(8) - 32\pi(500) = 500(32)(4 - \pi)$$

$$\text{Cost} = 1000(500)(32)(4 - \pi) = 32(4 - \pi)10^6$$

40. Ans. B.

Let NP = 2x and NL = 3x

$$NP = \frac{2(MN)(NL)}{MN + NL} (\cos 60)$$

$$2x = \frac{2(MN)(3x)}{MN + 3x} \left(\frac{1}{2}\right)$$

$$MN = 6x$$

So, NP: NL: MN = 2:3:6

41. Ans. C.

Let x be the number of women who participated in beginning

Let the efficiency of each of them be 1

Total work = 7x

Number of women who worked on first day = x

Number of women who worked on second day = x-11

Number of women who worked on third day = x-22

Number of women who worked on day 12 = x-121

Therefore, $x + (x-11) + (x-22) + \dots + (x-121) = 7x$

$$12x - 11(1 + 2 + \dots + 11) = 7x$$

$$5x = \frac{11(11)(12)}{2}$$

$$X = 145.2 \text{ nearest to } 145$$

42. Ans. B.

The sum accrued by Joseph if he had taken the job = $(80000 \times 3 + 120000 \times 3 + 150000 \times 4)12$
 $= 144(10^5)$

If Joseph has taken the MBA program, tuition fee for the program = $1600000 + 2000000$

Sum accrued post MBA = $200000 \times 12 \times 4 + 250000 \times 12 \times 4 = 21600000$

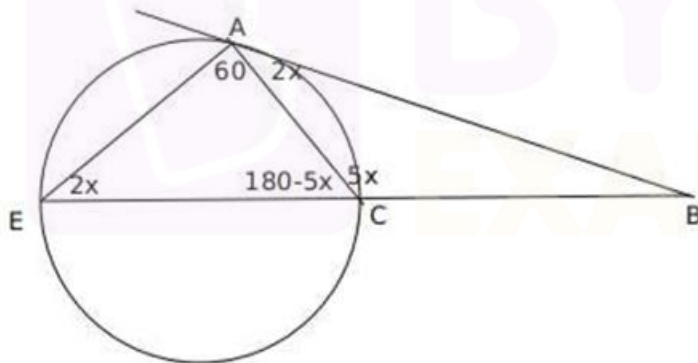
Net amount = $21600000 - 3600000 = 180(10^5)$

Gain = $180(10^5) - 144(10^5)$

$= 36(10^5)$

Percentage gain = $\frac{36(10^5)}{144(10^5)} (100) = 25\%$

43. Ans. A.



Let us consider angle CAB = $2x$ and angle ACB = $5x$

From Apollonius theorem, angle AEC = $2x$

In triangle AEC, $60 + 180 - 5x + 2x = 180$

$3x = 60$

So, $x = 20$

Angle ABC = $180 - 7x = 40^\circ$

44. Ans. B.

Let the total customers be 100.

Number of customers who said that they will return = 76

Number of customers who said that will not return = 24

Number of customers among those who said that they will return rated the restaurant as good = $76(0.36)$

Number of customers among those who said that they will not return rated the restaurant as good = $24(0.32)$

Number of customers who rated the restaurant as good = $76(0.36) + 24(0.32) = 35.04$

Percentage of customers who rated the restaurant as good = 35% (approx.)

45. Ans. A.

The number of ways in which 2 couples to be selected = ${}^4C_2 = 6$

Number of ways in which 4 couples can sit on circular table = $3!$

Total ways = $6(3!) = 36$

46. Ans. D.

Nawab's satisfaction/ utility level is given by adding twice of the satisfaction level of Saif with the satisfaction level of Amir.

Saif makes a profit of ₹ 100, his satisfaction level goes up by 10% and if he suffers a loss of ₹100, his satisfaction level goes down by 10%.

Amir makes profit of ₹ 100, his satisfaction level goes up by 5% and if he suffers a loss of ₹ 100, his satisfaction level goes down by 15%.

Nawab's satisfaction level is 24 and the satisfaction level of Saif is the same as the satisfaction level of Amir Let x be the satisfaction level of Saif and Amir currently

Then, $2x + x = 24$

So, $x=8$

If Saif makes a profit of 100 and Amir suffers a loss of ₹ 100, the satisfaction level of Saif and Amir goes up by 10% and goes down by 15% respectively.

So, as current satisfaction level is $x = 8$

New satisfaction level of Saif = $8(1.1) = 8.8$

New satisfaction level of Amir = $8(0.85) = 6.8$

Nawab's satisfaction level = $2(8.8) + 6.8 = 24.4$

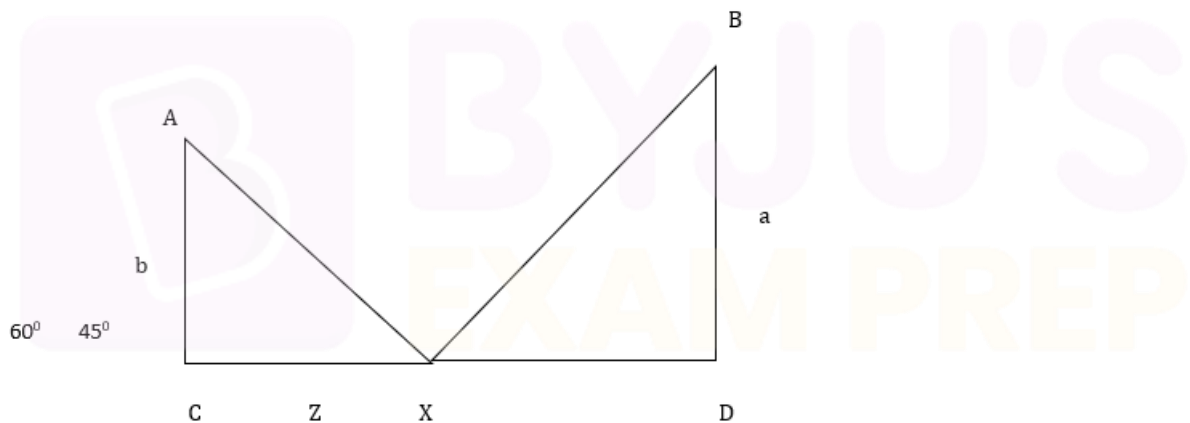
$$\text{Percentage change} = \frac{24.4 - 24}{24} (100) = 1.67\%$$

47. Ans. A.

Let 'a' and 'b' be the heights of the two poles

X be the initial position of the man and the angles of elevation be 60° and 45°

Z be the final position of man



$$XC = b (\tan 45 = 1)$$

$$XD = \frac{a}{\sqrt{3}} (\tan 60 = \sqrt{3})$$

$$\text{Distance between poles} = XC + XD = a + \frac{b}{\sqrt{3}} \dots\dots\dots \text{eq 1}$$

After walking some distance angle changes to 30° and 60°

$$\frac{1}{\sqrt{3}} = \frac{a}{CZ}$$

$$\text{So, } CZ = \sqrt{3}a$$

$$\sqrt{3} = \frac{b}{ZD}$$

$$ZD = \frac{b}{\sqrt{3}}$$

$$\text{Distance between poles} = \frac{\sqrt{3}}{a} + \sqrt{3}b \dots\dots\dots \text{eq2}$$

From 1 and 2

$$b + \frac{a}{\sqrt{3}} = \sqrt{3}a + \frac{b}{\sqrt{3}}$$

$$\text{So, } \frac{a}{b} = \frac{\sqrt{3}-1}{2}$$

48. Ans. A.

Consider the revenue per passenger = P

$$\text{Total revenue} = 24 \times 4P = 96P$$

Since the total cost is proportional to interest, it can be assumed as 120K

$$\text{Revenue} = \text{Total cost} \left(\frac{100 + \text{Profit}}{100} \right)$$

$$96P = 120K \left(\frac{115}{100} \right) \dots\dots\dots \text{eq 1}$$

$$\text{New Revenue} = 20 \times 5P = 120(0.9)K \left(\frac{100 + \text{Profit}}{100} \right) \dots\dots\dots \text{eq 2}$$

Dividing eq 2 by eq 1 and solving

We get profit % = 33%

49. Ans. A.

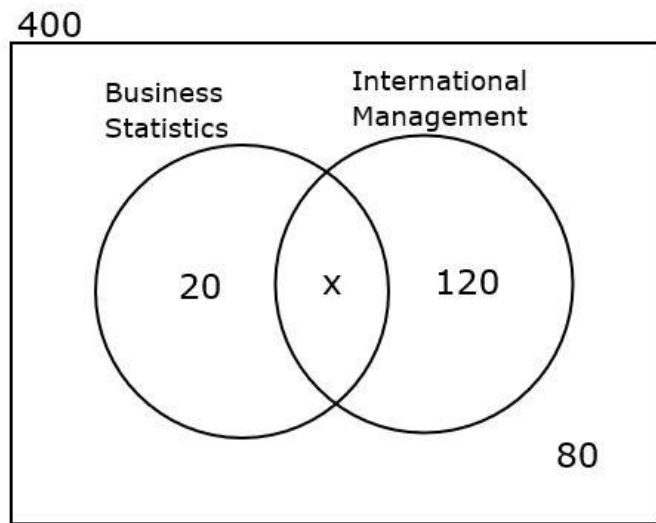
The number of students in 2018-19 MBA batch = 400

Number of students who did not choose 'Business Statistics' = 200

Number of students who did not choose 'International Management' = 100

Number of students who did not choose any of the two subjects = 80

Number of students who choose at least one of the two subjects = $400 - 80 = 320$



$$140 + x = 320$$

$$x = 320 - 140 = 180$$

50. Ans. B.

Time when the t20 hands of the clock are completely opposite to each other between 2.00 pm and 3.00 pm

let x be the minutes covered in between 2.00 pm and 3.00 pm

$$\left| \frac{60(2) - 11x}{2} \right| = 180$$

$$X = 43.6 \text{ and } 21.9$$

So time = 2.44 pm

51. Ans. B.

By checking the alternatives and finding remainder from these.

Option A :

Checking remainder by 10

$$37^{371} = (-3)^{371} = (9)^{185}(-3) = (-1)^{185}(-3) = 3$$

$$26^{371} = (-4)^{371}$$

As power is $2k + 1$, unit digit will be 4 but in negative

So, remainder = 6

Final remainder = $3 - 6 = -3$ or 7

Option b

Checking remainder by 11

$$37^{371} = 4^{371} = 2^{742} = (32)^{148}(4) = (-1)^{148}(4) = 4$$

$$26^{371} = (-4)^{371} = -(2)^{742} = -4$$

So, final remainder = $4 - 4 = 0$

52. Ans. A.

Let the speed of the boat in the still water = $100x$ and the travel time = $100t$ and the distance between Rishikesh and Haridwar be 'd'

Since the owner of the motorboat decides to increase the number of trips, he increased the speed. Increased speed in still water = $150x$

Final travel time = $40t$

$$\frac{d}{100x + 100r} + \frac{d}{100x - 100r} = 100t$$

After change of speed

$$\frac{d}{150x + 100r} + \frac{d}{150x - 100r} = 40t$$

Dividing 1 by 2, we get

$$\frac{x}{r} = \sqrt{\frac{11}{6}}$$

53. Ans. C.

The average scores of Virat, Rohit, Mahendra, Rahul and Shikhar in the first 20 matches are 60, 55, 50, 45, 40 respectively.

In the next 10 matches, Virat and Rohit each scored 900 runs whereas Mahendra scored twice that of Rahul.

Virat's score in 30 matches = $60 \times 20 + 900 = 2100$

Let us consider Rahul scored x runs in last 10 matches, then Mahendra scores $2x$ runs.

Rahul's score in 30 matches = $45 \times 20 + x = 900 + x$

Mahendra's score in 30 matches = $50 \times 20 + 2x = 1000 + 2x$

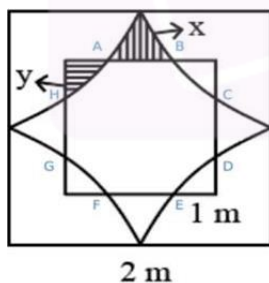
It is given that After 30 matches, Virat's new average score is twice that of Rahul.

$$2100 = 2(900 + x) \quad x = 150$$

Mahendra's score in 30 matches = 1300

Average score of Mahendra = 43

54. Ans. D.



From the above figure area of the region bounded by ABCDEFGH = Area of the square with side 2 - Area of 4 Quadrants - $4x$

$$= 4 - \pi - 4x$$

Also, the area of ABCDEFGH = Area of square with side 1 - $4y$

$$= 1 - 4y$$

Then, $4 - \pi - 4x = 1 - 4y$

$$y - x = \frac{\pi - 3}{4}$$

55. Ans. A.

Let the capacity of the cistern be LCM of 12 and 15 = 60l

The rate of flow through the inlet pipe 1 = $\frac{60}{12} = 5$ l/min

The rate of flow through the inlet pipe 2 = $\frac{60}{15} = 4$ l/min

It is given that despite leakage the two inlet pipes together can fill the cistern in 20 min.

Let the flow through the leakage be x l/min

$$(5+4-x)20=60$$

$$9-x=3$$

$$x=6$$

The leakage will empty the cistern in $\frac{60}{6} = 10$ min

56. Ans. D.

Let x be the other side.

It is given that the angles are in AP, so the angles are 60-x, 60, 60+x

$$\cos 60 = \frac{x^2 + 169 - 144}{2(x)(13)}$$

$$x^2 - 13x + 25 = 0$$

$$x = 10.6 \text{ or } 2.35$$

$$\text{Inradius} = \frac{\text{Area}}{\text{semiperimeter}}$$

When x = 10.6

$$R = \frac{\frac{1}{2}(12)(10.6)(\sin 60)}{17.8} = 3.9$$

Similarly When x = 2.35 , R = 0.9 = 1 approx

57. Ans. D.

Let's consider $x - 5$ as 'p'

Case 1: $p \geq 0$

$$|x - 5|^2 + 5|x - 5| - 24 = 0$$

$$p^2 + 5p - 24 = 0$$

$$p^2 + 8p - 3p - 24 = 0$$

$$p(p + 8) - 3(p + 8) = 0$$

$$(p + 8)(p - 3) = 0$$

$$p = -8 \text{ and } p = 3$$

$x - 5 = 3, x = 8$ This is a real root since x is greater than 5. $x - 5 = -8, x = -3$.

This root can be negated because x is not greater than 5.

Case 1: $p < 0$

$$p^2 - 5p - 24 = 0$$

$$p^2 - 8p + 3p - 24 = 0$$

$$p = 8, -3$$

$x - 5 = 8, x = 13$.

This root can be negated because x is not less than 5 $x - 5 = -3, x = 2$. This is a real root because x is less than 5. The sum of the real roots = $8 + 2 = 10$

58. Ans. A.

The three babies who are born on the same day of the week can be selected in 7C_3 ways

The number of ways in which a particular day can be selected = 7^7

The remaining four babies can be born in $6 \times 5 \times 4 \times 3$ ways

The probability that three babies were born on the same day of the week

$$= \frac{{}^7C_3 \times 6 \times 5 \times 4 \times 3}{7^7}$$

$$= \frac{1800}{7^5}$$

59. Ans. C.

Cost of refrigerator = 42,000

Amount paid as down payment by Monika = 12,000

So the amount on which Monika has to pay the interest = 30,000.

Interest charged per annum = 10%

Since she is repaying the amount half-yearly, the interest = 5%

$$30000 \left(\frac{105}{100} \right) = \frac{x}{1.05^3} + \frac{x}{1.05^2} + \frac{x}{1.05} + x$$

So, $x = 8460$

60. Ans. A.

For the first year, amount = 1200000(0.08)

for the second year = 1152000(0.08)

And so on, for the twenty-fifth year = 48000(0.08)

This is in AP with first term 48000(0.08) with common difference 3840

$$\text{Total interest} = \frac{25}{2} (2(48000)(0.08) + 24(3840))$$

$$= 1248000$$

61. Ans. C.

From the given graph, we can calculate total of Food_Spend and StyleSpend as a proportion of Sentiment_Index and thus see that for the year 2016 it is lowest.

Hence, option C is correct.

62. Ans. B.

$$2012: 600/400 = 1.5$$

$$2013: 800/700 = 1.14$$

$$2015: 600/500 = 1.2$$

$$2016: 600/500 = 1.2$$

2013 is the lowest and hence it is the correct Answer.

63. Ans. C.

Ratio of annual change in Style_Spend to annual change in Sentiment_Index:

$$\text{In year 2012} = (400 - 300)/(60 - 50) = 10$$

$$\text{In year 2013} = (400 - 300)/(60 - 50) = 10$$

$$\text{In year 2014} = (700 - 300)/(90 - 60) = 13.33$$

$$\text{In year 2017} = (500 - 400)/(70 - 60) = 10$$

Hence, Option C is the correct Answer.

64. Ans. C.

$$2015 = (500 - 300)/300 = 0.67$$

$$2014 = (700 - 300)/700 = 0.57$$

$$2013 = (700 - 400)/400 = 0.75$$

$$2011 = (400 - 300)/400 = 0.25$$

The highest percentage change is in the year 2013

65. Ans. B.

	A-B	A-C	A-D	A-E	B-C	B-D	B-E	C-D	C-E	D-E
101	0	0	1	1	0	0	0	0	0	1
102	0	0	1	0	0	0	0	0	0	0
103	0	0	0	0	1	1	0	1	0	0
104	1	0	0	0	0	0	0	0	0	0
105	0	0	0	0	0	1	0	0	0	0
106	1	0	1	1	0	1	1	0	0	1
107	0	0	0	0	0	0	0	0	1	0
108	0	0	0	0	1	0	0	0	0	0
109	0	0	0	0	0	0	0	0	1	0
110	0	0	0	0	0	1	1	0	0	1
111	0	0	0	0	0	0	0	0	0	0
112	0	1	1	1	0	0	0	0	1	1
113	0	0	0	0	0	1	1	1	0	1
114	0	0	0	0	0	0	0	0	0	0
115	1	1	1	1	1	1	1	1	1	1
116	0	0	0	0	0	1	0	0	0	0
117	1	0	1	1	0	1	1	1	0	1
Total	4	2	6	5	3	8	5	3	4	7

66. Ans. C.

	A-B	A-C	A-D	A-E	B-C	B-D	B-E	C-D	C-E	D-E
101	0	0	1	1	0	0	0	0	0	1
102	0	0	1	0	0	0	0	0	0	0
103	0	0	0	0	1	1	0	1	0	0
104	1	0	0	0	0	0	0	0	0	0
105	0	0	0	0	0	1	0	0	0	0
106	1	0	1	1	0	1	1	0	0	1
107	0	0	0	0	0	0	0	0	1	0
108	0	0	0	0	1	0	0	0	0	0
109	0	0	0	0	0	0	0	0	1	0
110	0	0	0	0	0	1	1	0	0	1
111	0	0	0	0	0	0	0	0	0	0
112	0	1	1	1	0	0	0	0	1	1
113	0	0	0	0	0	1	1	1	0	1
114	0	0	0	0	0	0	0	0	0	0
115	1	1	1	1	1	1	1	1	1	1
116	0	0	0	0	0	1	0	0	0	0
117	1	0	1	1	0	1	1	1	0	1
Total	4	2	6	5	3	8	5	3	4	7

Product A and Product D = $6 \times 90 = 540$

Product A and Product E = $5 \times 120 = 600$

Product B and Product D = $8 \times 85 = 680$

Product B and Product E = $5 \times 115 = 575$

67. Ans. B.

	A-B	A-C	A-D	A-E	B-C	B-D	B-E	C-D	C-E	D-E
101	0	0	1	1	0	0	0	0	0	1
102	0	0	1	0	0	0	0	0	0	0
103	0	0	0	0	1	1	0	1	0	0
104	1	0	0	0	0	0	0	0	0	0
105	0	0	0	0	0	1	0	0	0	0
106	1	0	1	1	0	1	1	0	0	1
107	0	0	0	0	0	0	0	0	1	0
108	0	0	0	0	1	0	0	0	0	0
109	0	0	0	0	0	0	0	0	1	0
110	0	0	0	0	0	1	1	0	0	1
111	0	0	0	0	0	0	0	0	0	0
112	0	1	1	1	0	0	0	0	1	1
113	0	0	0	0	0	1	1	1	0	1
114	0	0	0	0	0	0	0	0	0	0
115	1	1	1	1	1	1	1	1	1	1
116	0	0	0	0	0	1	0	0	0	0
117	1	0	1	1	0	1	1	1	0	1
Total	4	2	6	5	3	8	5	3	4	7

From the above table we can see that the Answer is 5

68. Ans. C.

	A-B	A-C	A-D	A-E	B-C	B-D	B-E	C-D	C-E	D-E
101	0	0	1	1	0	0	0	0	0	1
102	0	0	1	0	0	0	0	0	0	0
103	0	0	0	0	1	1	0	1	0	0
104	1	0	0	0	0	0	0	0	0	0
105	0	0	0	0	0	1	0	0	0	0
106	1	0	1	1	0	1	1	0	0	1
107	0	0	0	0	0	0	0	0	1	0
108	0	0	0	0	1	0	0	0	0	0
109	0	0	0	0	0	0	0	0	1	0
110	0	0	0	0	0	1	1	0	0	1
111	0	0	0	0	0	0	0	0	0	0
112	0	1	1	1	0	0	0	0	1	1
113	0	0	0	0	0	1	1	1	0	1
114	0	0	0	0	0	0	0	0	0	0
115	1	1	1	1	1	1	1	1	1	1
116	0	0	0	0	0	1	0	0	0	0
117	1	0	1	1	0	1	1	1	0	1
Total	4	2	6	5	3	8	5	3	4	7

Lowest selling pair is A-C with 2 customers.

Highest selling pair is B-D with 8 customers.

Only 115 buys both. Hence, the Answer is 1.

69. Ans. B.

		Chennai		Kanpur	
	Planned		Actual	Planned	Actual
Activity 1	75		100	100	50
Activity 2	214		200	200	350
Activity 3	122		150	150	50
Activity 4	78		300	100	150
Activity 5	221		200	250	300
Activity 6	322		400	300	250

Planned cost in chennai = $1032 * 250 = 258000$

Actual cost in chennai = $1350 * 270 = 364500$

Cost difference = $(106500/258000) * 100 = 41\%$

70. Ans. B.

			Chennai			Kanpur	
		Planned		Actual	Planned		Actual
Activity 1		75		100	100		50
Activity 2		214		200	200		350
Activity 3		122		150	150		50
Activity 4		78		300	100		150
Activity 5		221		200	250		300
Activity 6		322		400	300		250

In Activity 1, 50% shortfall of planned and actual in Kanpur is 25. Excess in chennai is 25. Hence this activity is counted.

In Activity 2 there is no shortfall

In Activity 3, the 50% shortfall is 50. Excess in chennai is 28. Hence this is incorrect

In Activity 4 and 5 there is no shortfall

In Activity 6 the 50% shortfall is 25. Excess in Chennai is 78. Hence, this activity is counted.

71. Ans. B.

			Chennai			Kanpur	
		Planned		Actual	Planned		Actual
Activity 1		75		100	100		50
Activity 2		214		200	200		350
Activity 3		122		150	150		50
Activity 4		78		300	100		150
Activity 5		221		200	250		300
Activity 6		322		400	300		250

Activity 1 : $50/100 * 100 = 50\%$

Activity 3 : $100/150 * 100 = 66.6\%$

Activity 4 : $50/100 * 100 = 50\%$

Activity 5 : $50/250 * 100 = 20\%$

Activity 3 is the correct Answer.

72. Ans. B.

			Chennai			Kanpur	
		Planned		Actual	Planned		Actual
Activity 1		75		100	100		50
Activity 2		214		200	200		350
Activity 3		122		150	150		50
Activity 4		78		300	100		150
Activity 5		221		200	250		300
Activity 6		322		400	300		250

73. Ans. D.

Yellow - Delhi : 70.75 ; Yellow - Mumbai : 66.

Blue - Delhi : 83.25 ; Blue - Mumbai : 76.75

Black - Delhi : 67 ; Black - Mumbai : 92.5

Red - Delhi : 77.75 ; Red - Mumbai : 77.75.

Red has same average sales in both cities

74. Ans. D.

S1- Delhi = 507 ; S1- Mumbai = 543 ; Difference = 36

S2- Delhi = 506 ; S2 - Mumbai = 560 ; Difference = 54

S3 - Delhi = 515 ; S3 - Mumbai = 154 ; Difference = 1

S4 - Delhi = 496 ; S4 - Mumbai = 554 ; Difference = 58.

Option D, S4 is the correct Answer.

75. Ans. C.

Red - Mumbai = $100 \times (76+89) + 120 \times (65+81) = 34020$

Red - Delhi = $100 \times (76+70) + 120 \times (70 + 95) = 34400$

Green - Delhi = $100 \times (71+89) + 120 \times (92+65) = 36040$

Blue - Mumbai = $100 \times (94+64) + 120 \times (75+74) = 33680$.

Maximum profit is with Green- Delhi

76. Ans. D.

Red S2 = $|70 - 89| = 19$

Green S2 = $|89-70| = 19$

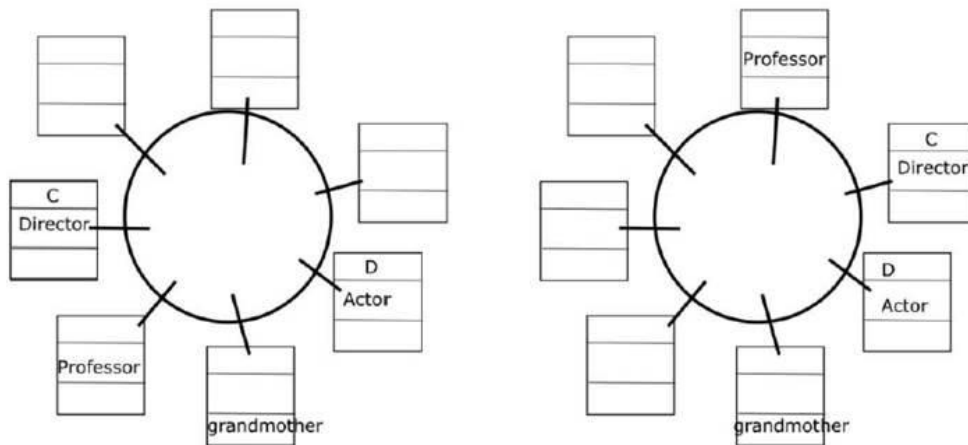
Yellow S1 = $|50-69| = 19$

Black S3 = $|76-94| = 18$.

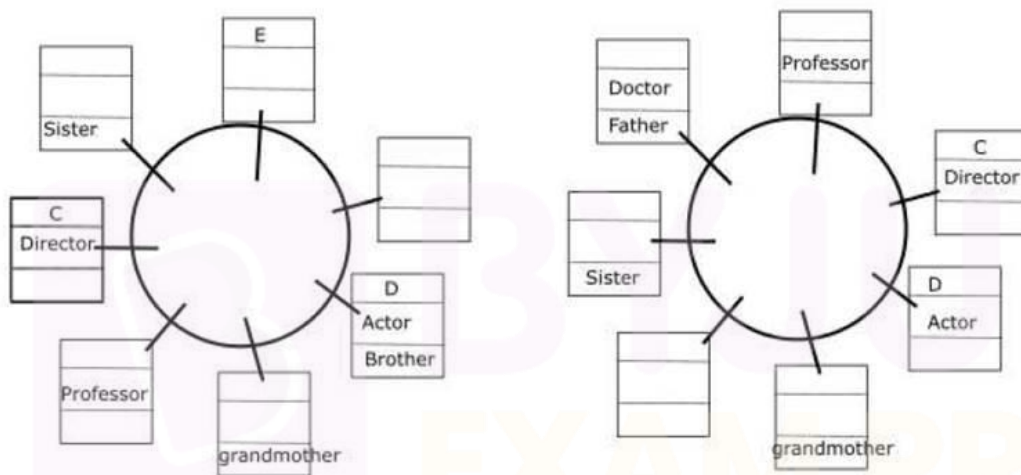
Option (D) , Black S3 is the correct Answer.

77. Ans. B.

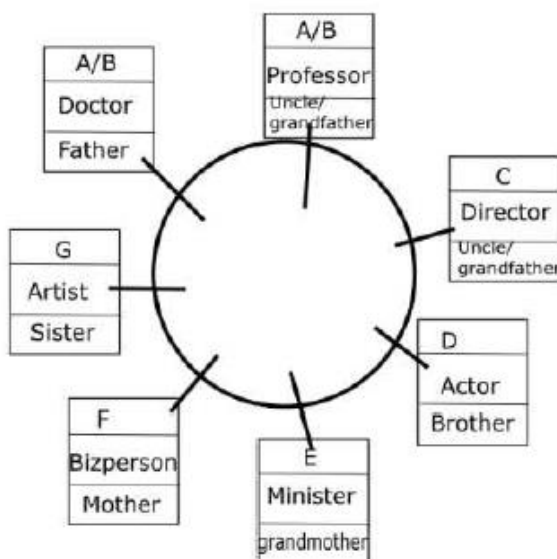
After reading the sentences D,G,B, we get two cases with the following partially filled table



After filling in details with b and e we arrive at



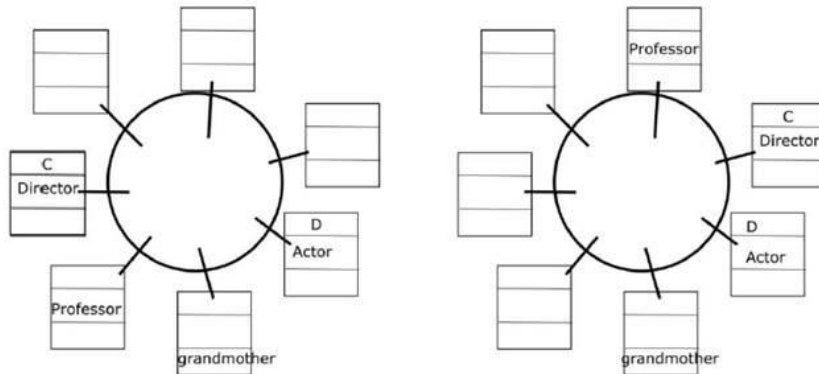
Here, father/doctor has to sit between professor and sister. This is violated in first case. Hence, it is rejected.



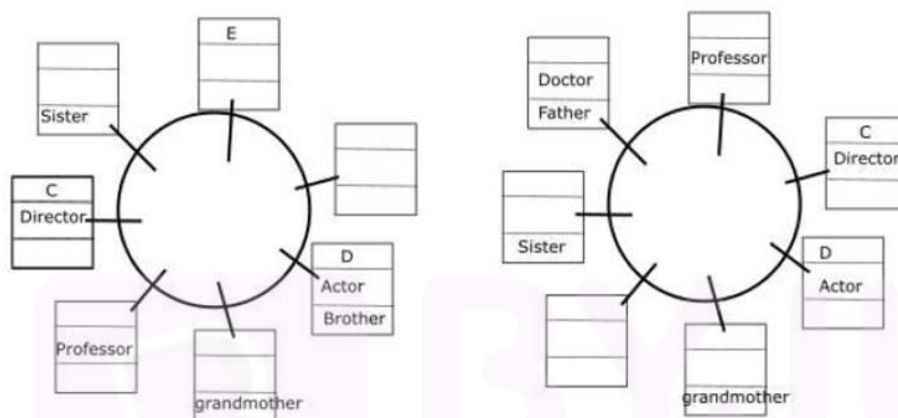
The final arrangement is as given above. There are two persons between business person and professor.

78. Ans. C.

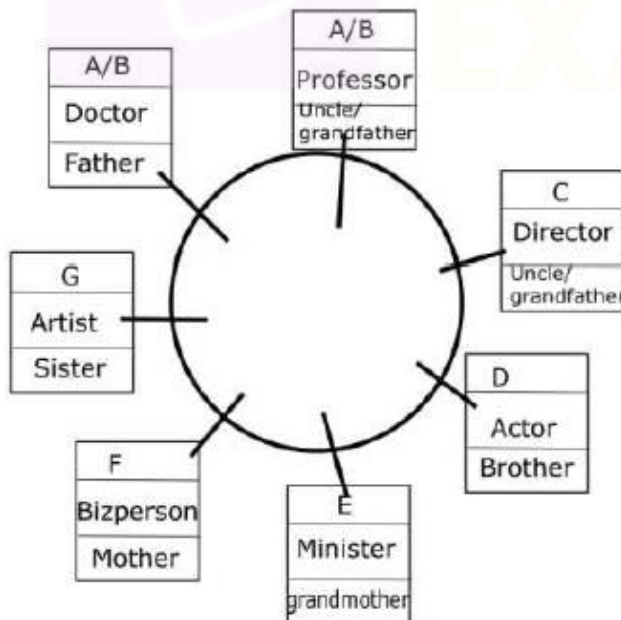
After reading the sentences D,G,B, we get two cases with the following partially filled table



After filling in details with b and e we arrive at



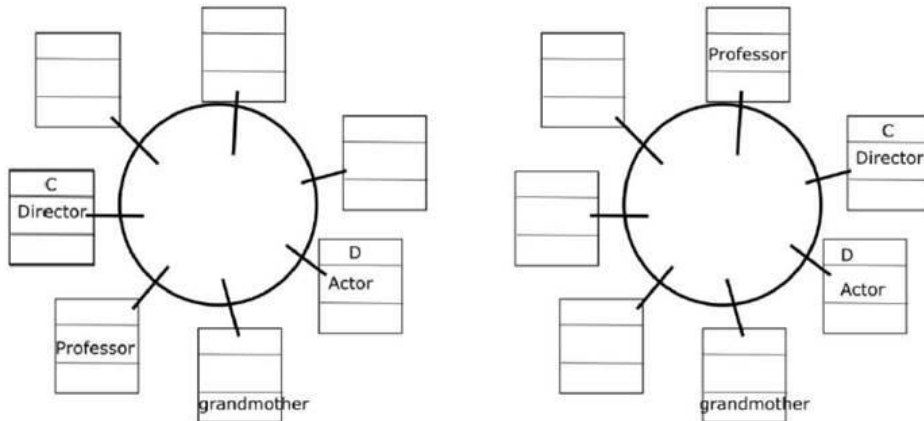
Here, father/doctor has to sit between professor and sister. This is violated in first case. Hence, it is rejected.



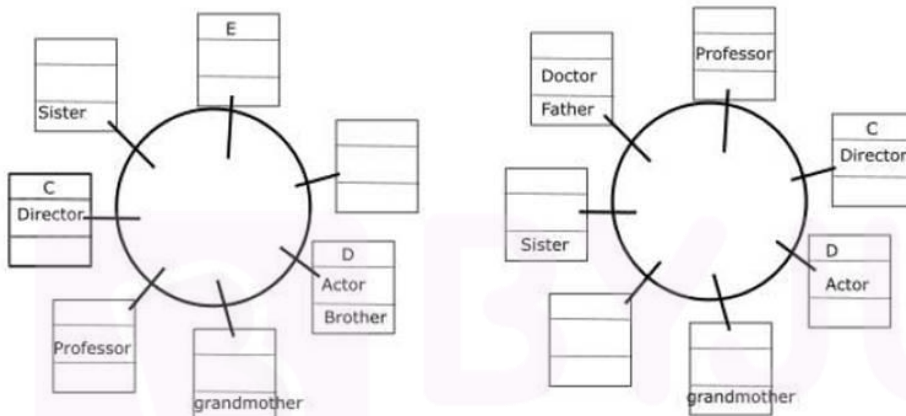
The final arrangement is as given above. If B is doctor, then A is professor.

79. Ans. A.

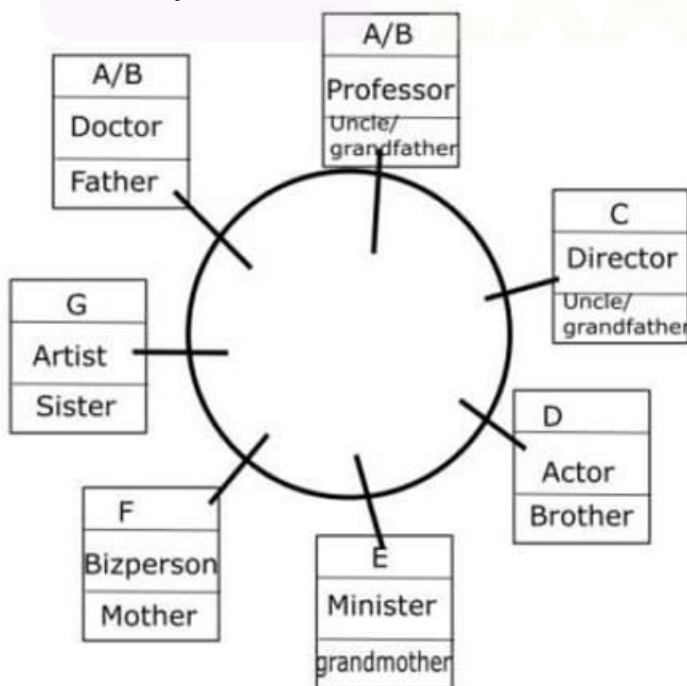
After reading the sentences D,G,B, we get two cases with the following partially filled table



After filling in details with b and e we arrive at



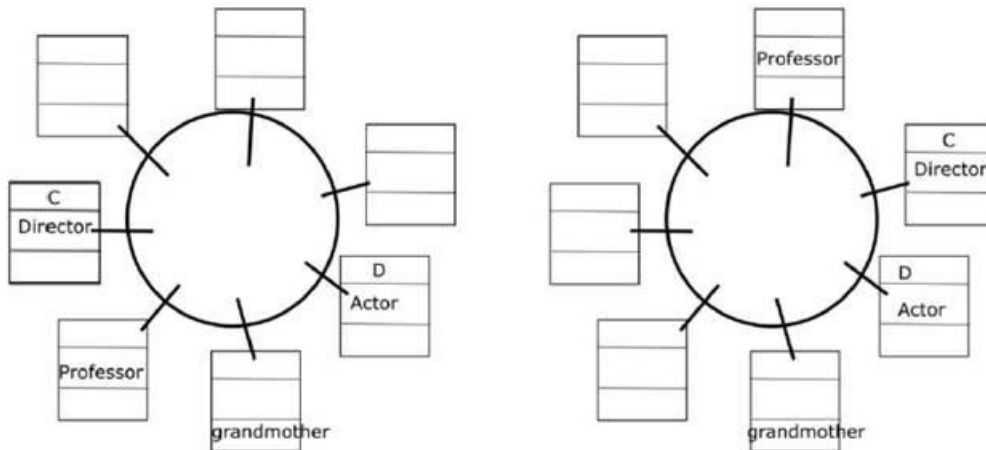
Here, father/doctor has to sit between professor and sister. This is violated in first case. Hence, it is rejected.



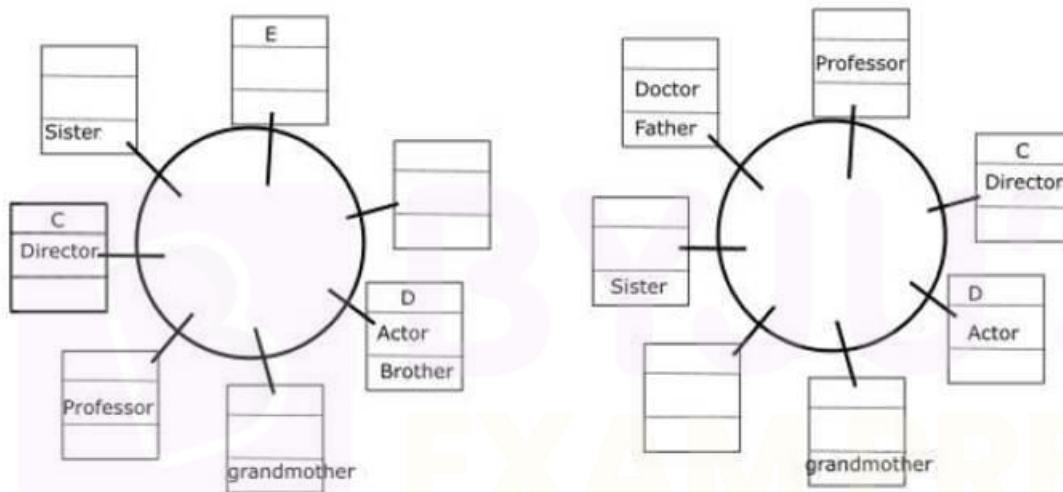
The final arrangement is as given above. If C is uncle, then professor is grandfather.

80. Ans. A.

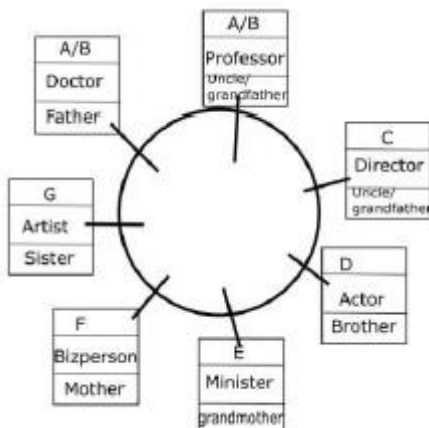
After reading the sentences D,G,B, we get two cases with the following partially filled table



After filling in details with b and e we arrive at



Here, father/doctor has to sit between professor and sister. This is violated in first case. Hence, it is rejected.



The final arrangement is as given above. Director is the correct Answer.

81. Ans. A.

After (a)



After (b)



After (c)



Boys

After (d) and (e)



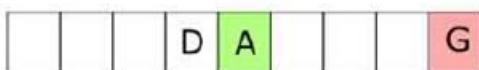
Girls



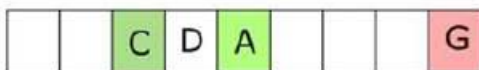
Option A is the correct Answer

82. Ans. C.

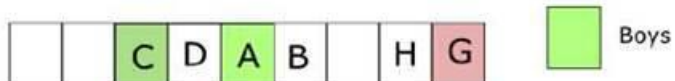
After (a)



After (b)



After (c)

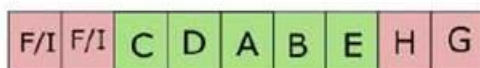


Boys

After (d) and (e)



Girls



The Answer is H.

83. Ans. C.

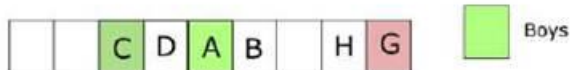
After (a)



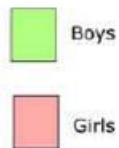
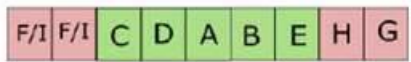
After (b)



After (c)

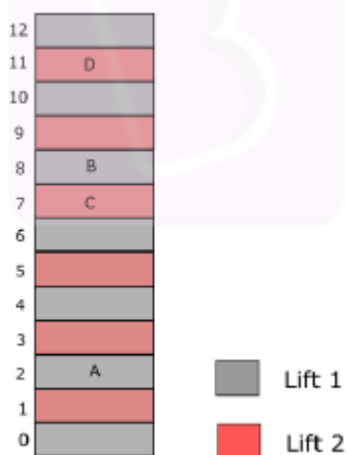


After (d) and (e)



From the diagram , we can infer that option C is the Answer.

84. Ans. B.

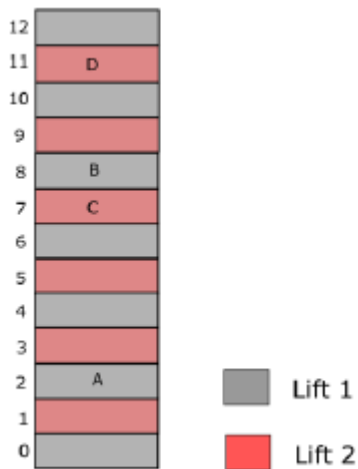


C travels for 7 floors on lift 2. It takes 3.5 minutes. Further it takes another .5 minutes at the 7th floor. Total of 4 minutes.

It travels another 3.5 minutes to the ground floor and spends 0.5 minutes halting at ground floor. Total of 8 minutes. Now it travels for 5.5 minutes to the 11th floor. The question mentions that it halts for an extra 0.5 minutes. Therefore it takes 6 minutes. Total of 14 minutes.

Answer therefore is 9:14.

85. Ans. D.



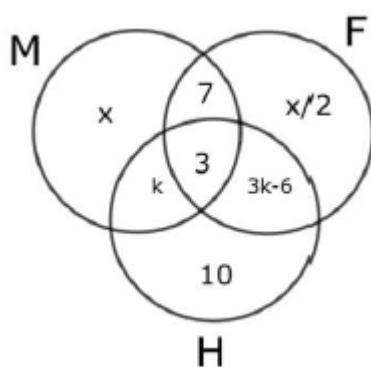
The lift is at the 6th floor. It takes 1 minute to reach 8 th floor. Further it stops for 30 seconds here.

It climbs down 8 floors. It takes 4 minutes for the same. It takes 30 seconds to halt at ground floor. Now it travels 2

floors to second floor in 1 minute. Totally it takes 7 minutes.

Therefore B reaches office at 9:15, which is his office start time. He can therefore leave office is 8 hours 30 minutes which is 5:45.

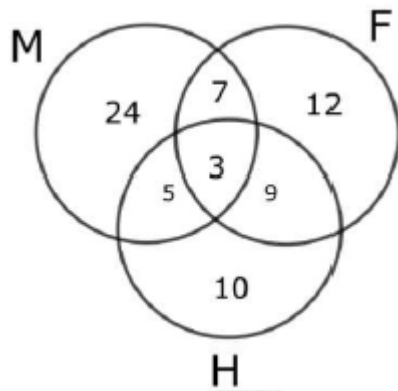
86. Ans. C.



We know that $x + x/2 + k + 3 + 3k - 6 + 10 = 70$

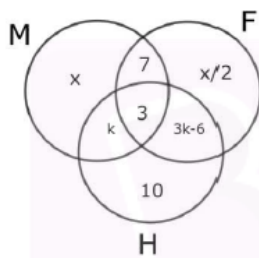
$$\frac{3x}{2} + 4k = 56$$

The Solutions possible are $x=24$, $k=5$ and $x=32$ and $k=2$. But if $k=2$ then, only finance and hr would have 0. This is not possible as the question states that there exists employees in all possible combinations



The number of employees in only marketing and HR is 5.

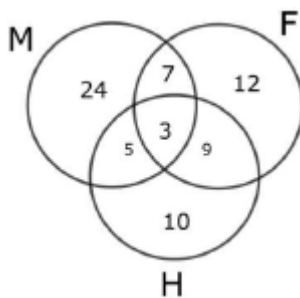
87. Ans. A.



We know that $x + x/2 + k + 3 + 3k - 6 + 10 = 70$

$$\frac{3x}{2} + 4k = 56$$

The Solutions possible are $x=24$, $k=5$ and $x=32$ and $k=2$. But if $k=2$ then, only finance and hr would have 0. This is not possible as the question states that there exists employees in all possible combinations.



Finance has 31 people.

88. Ans. B.

$$63 = 4^3 - 1$$

$$215 = 6^3 - 1$$

$$511 = 8^3 - 1$$

$$999 = 10^3 - 1$$

Similarly, the required Answer is $12^3 - 1 = 1727$

89. Ans. C.

SENTENCE: one cannot but feel sorry for him

Step 1 : but cannot one sorry feel him for

Step 2 : cannot but feel sorry one for him

Step 3 : but cannot sorry feel him for one

Step 4 : sorry cannot but him feel one for

Step 5 would be : cannot sorry feel him but for one.

Step 6 would be : sorry cannot him feel one for but.

If the step 6 was: the best way of promoting our nation

"sorry" the first word in the 6th step was at the 5th position in the sentence.

Similarly "the" must be at the 5th position. Only sentence 3 has "the" in the 5th position.

Hence, it is the correct Answer.

90. Ans. B.

SENTENCE: one cannot but feel sorry for him

Step 1 : but cannot one sorry feel him for

Step 2 : cannot but feel sorry one for him

Step 3 : but cannot sorry feel him for one

Step 4 : sorry cannot but him feel one for

Step 5 is : cannot sorry feel him but for one.

Instead it is : weeks of tepid slothful and weak performance

Step 6 would be: of weeks slothful tepid performance weak and

Option B is the correct Answer.

91. Ans. B.

2014 Hong Kong protest are often called the Umbrella Revolution or Occupy Movement.

92. Ans. C.

Juice brands with their parent company:

- Tropicana: Pepsi co. India
- Real: Dabur
- Ceres: Pioneer Foods
- Paper Boat: Hector Beverages
- Minute maid: Coca cola

93. Ans. C.

- **TVS Motor Company** launches India's first Ethanol based motorcycle '**TVS Apache RTR 200 Fi E100**'
- The Company first showcased the TVS Apache RTR 200 4V Ethanol concept in Auto Expo 2018 held in Delhi.

94. Ans. C.

PM Narendra Modi has remotely inaugurated **Gandhi Solar Park** with 193 solar panels, each representing a member of the multilateral body, at **United Nations Headquarters at New York, US** during the Gandhi@150 commemorative event to mark the 150th birth anniversary of Mahatma Gandhi on Tuesday and mark India's global leadership in renewable energy.

95. Ans. D.

Airports Authority of India (AAI) handed over the Lucknow airport to the Adani group on lease for a period of 50 years.

96. Ans. C.

- "83" is a biopic on Kapil Dev.
- Bollywood director Kabir Khan is working on it.

97. Ans. A.

2018 Winter Olympics were being held in **PyeongChang in South Korea**.

98. Ans. A.

Sea port	Country
(a) Busan	(i) The Netherlands
(b) Jebel Ali	(ii) Belgium
(c) Qingdao	(iii) U.A.E
(d) Antwerp	(iv) South Korea
(e) Rotterdam	(v) China

The list of given sea port and the associated countries are as follows:

- Busan: South Korea
- Jebel Ali: UAE (Dubai)
- Qingdao: China
- Antwerp: Belgium
- Rotterdam: The Netherlands

99. Ans. D.

- **Bernard Jean Étienne Arnault** is a French billionaire investor, businessman and art collector.
- He is the chairman and chief executive of LVMH Moët Hennessy – Louis Vuitton SE, the world's largest luxury goods company.
- He is the second richest person in the world according to Forbes Magazine as on July 2019.

100. Ans. B.

- **Ministry of Skill Development and Entrepreneurship** has launched Udaan Scheme.
- It is a Special Industry Initiative (SII) for the state of Jammu and Kashmir (J&K) and is funded by the **Ministry of Home Affairs** and implemented by **National Skill Development Corporation (NSDC)**.

101. Ans. A.

India was the leading country of origin of international migrants in 2019 with a 17.5 million strong diaspora, according to new estimates released by United Nations International Migrant Stock 2019 report, which said the number of migrants globally reached an estimated 272 million.

102. Ans. A.

- Scientist's plan to build an elevator between Earth and the Moon to cut down on the rocket fuel needed for a trip between the Earth and the Moon is known as **Space Line**.
- Journey in the elevator could take several days or even weeks, meaning that the elevator cars would need to be able to support humans during the long trip

103. Ans. C.

Anand Ahuja is known for being the brain behind **VegNonVeg**, India's first multi brand sneaker boutique and Bhane, an everyday apparel store.

104. Ans. D.

Recipient of Ramon Magsaysay Award from India are

- Vinobha Bhave
- Chintaman Deshmukh
- Mother Teresa
- Verghese Kurien
- Jayaprakash Narayan
- Satyajit Ray
- Kiran Bedi
- Arvind Kejriwal

105. Ans. B.

- **BIMSTEC** stands for **Bay of Bengal Initiative for Multi-Sectoral Technical and Economic Cooperation**
- It comprises of **Bangladesh, Bhutan, India, Myanmar, Nepal, Sri Lanka, Thailand**.

106. Ans. D.

- **Afghanistan** is a mountainous landlocked country of **Central and South Asia**.
- It is bordered by **Pakistan** to the east and south; **Iran** to the west; **Turkmenistan, Uzbekistan**, and Tajikistan to the north; and **China** to the northeast.
- **India** also shares its border with Afghanistan.

107. Ans. C.

- Puma shoe brands derived its logo from a 'wild cat' found in Americas.
- It is a genus in the family Felidae that contains the cougar (mountain lion).

108. Ans. B.

- Losar festival is associated with Sikkim.
- Lokrang is associated with Madhya Pradesh.
- Bahu Mela is associated with Jammu & Kashmir.
- Shigmo is associated with Goa.
- Sekrenyi is associated with Nagaland.

109. Ans. C.

- Technical foul and flagrant foul are most commonly associated with **basketball**.
- **Technical foul:** It is any infraction of the rules penalized as a foul which does not involve physical contact during the course of play between opposing players on the court or is a foul by a non-player. The most common technical foul is for unsportsmanlike conduct.
- **Flagrant foul:** It is an ejectable offense in leagues below the National Basketball Association (NBA).

110. Ans. C.

- **Gaganyaan** is an Indian crewed orbital spacecraft that was aimed to carry a three-member crew to low earth orbit and return them safely to a pre-defined destination on earth.
- It is intended to be the formative spacecraft of the **Indian Human Spaceflight Programme**.
- It is planned to be launched in **December 2021**.

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CAT**
Bharath Reddy



**99.90%ile
CAT**
Shreyansh Sinha



**99.10%ile
CAT**
Lalit Singhal