

XAT 2021

Quant

1. If $\log_4 m + \log_4 n = \log_2(m + n)$ where m and n are positive real numbers, then which of the following must be true?

A $\frac{1}{m} + \frac{1}{n} = 1$

B $m = n$

C $m^2 + n^2 = 1$

D $\frac{1}{m} + \frac{1}{n} = 2$

E No values of m and n can satisfy the given equation

2. Mr. Jose buys some eggs. After bringing the eggs home, he finds two to be rotten and throws them away. Of the remaining eggs, he puts five-ninth in his fridge, and brings the rest to his mother's house. She cooks two eggs and puts the rest in her fridge. If her fridge cannot hold more than five eggs, what is the maximum possible number of eggs bought by Mr. Jose?

A 9

B 17

C 11

D 20

E 29

3. Mohan has some money (₹M) that he divides in the ratio of 1:2. He then deposits the smaller amount in a savings scheme that offers a certain rate of interest, and the larger amount in another savings scheme that offers half of that rate of interest. Both interests compound yearly. At the end of two years, the total interest earned from the two savings schemes is ₹830. It is known that one of the interest rates is 10% and that Mohan deposited more than ₹1000 in each saving scheme at the start. What is the value of M?

- A 7500
- B 6000
- C To solve this, the other interest rate must also be given.
- D 4500
- E 12000

4. A small store has five units of a new phone model in stock: two white, two black, and one red. Three customers arrive at the shop to buy a unit each. Each one has a pre-determined choice of the colour and will not buy a unit of any other colour. All the three customers are equally likely to have chosen any of the three colours. What is the probability that the store will be able to satisfy all the three customers?

- A $\frac{4}{5}$
- B $\frac{7}{9}$
- C $\frac{2}{3}$
- D $\frac{8}{9}$
- E $\frac{1}{3}$

5. At any point of time, let x be the smaller of the two angles made by the hour hand with the minute hand on an analogue clock (in degrees). During the time interval from 2:30 p.m. to 3:00 p.m., what is the minimum possible value of x ?

- A 45
- B 105
- C 90
- D 0
- E 75

6. One third of the buses from City A to City B stop at City C, while the rest go non-stop to City B. One third of the passengers, in the buses stopping at City C, continue to City B, while the rest alight at City C. All the buses have equal capacity and always start full from City A. What proportion of the passengers going to City B from City A travel by a bus stopping at City C?

- A $\frac{1}{7}$
- B $\frac{1}{9}$
- C $\frac{1}{3}$
- D $\frac{7}{9}$
- E $\frac{4}{9}$

7. Rajesh, a courier delivery agent, starts at point A and makes a delivery each at points B, C and D, in that order. He travels in a straight line between any two consecutive points. The following are known: (i) AB and CD intersect at a right angle at E, and (ii) BC, CE and ED are respectively 1.3 km, 0.5 km and 2.5 km long. If AD is parallel to BC, then what is the total distance (in km) that Rajesh covers in travelling from A to D?

- A 10.2
- B 12
- C 11.5
- D 5.5
- E 18

8. Let $f(x) = \frac{x^2+1}{x^2-1}$ if $x \neq 1, -1$, and 1 if $x = 1, -1$. Let $g(x) = \frac{x+1}{x-1}$ if $x \neq 1$, and 3 if $x = 1$. What is the minimum possible values of $\frac{f(x)}{g(x)}$?

- A $\frac{1}{2}$
- B -1
- C $\frac{1}{4}$
- D $\frac{1}{3}$
- E 1

9. Swati can row a boat on still water at a speed of 5 km/hr. However, on a given river, it takes her 1 hour more to row the boat 12 km upstream than downstream. One day, Swati rows the boat on this river from X to Y, which is N km upstream from X. Then she rows back to X immediately. If she takes at least 2 hours to complete this round trip, what is the minimum possible value of N?

- A 3
- B 4.8
- C 2
- D 3.6
- E 2.1

10. Rahul has just made a 3×3 magic square, in which, the sum of the cells along any row, column or diagonal, is the same number N. The entries in the cells are given as expressions in x, y, and Z. Find N?

$3x+4y$	$2x$	$2x+y+z$
$2x^2$	$4y$	y^2+z
$y+z$	$3x+2z$	$Z-1$

- A 12
- B 36
- C 21
- D 40
- E 24

11. On the bank of the pristine Tunga river, a deer and a tiger are joyfully playing with each other. The deer notices that it is 40 steps away from the tiger and starts running towards it. At the same time, the tiger starts running away from the deer. Both run on the same straight line. For every five steps the deer takes, the tiger takes six. However, the deer takes only two steps to cover the distance that the tiger covers in three. In how many steps can the deer catch the tiger?

- A 200
- B To solve this, the length of a deer's step must also be given.
- C 120
- D 360
- E 320

Instructions [12 - 14]

Read the following scenario and answer the three questions that follow.

A company awards incentives to its employees for successful project performances. It rates successful project performance in categories A*, A, B, and C. Employees, in solo projects rated A*, A, B, and C, are awarded incentives ₹6 lakh, ₹5 lakh, ₹3 lakh, and ₹1 lakh respectively. When a project has multiple team members, the following scheme is used to award the incentives:

No. of team-members	Team lead gets	Other members get
1	100%	
2	90%	70%
3	80%	50% each
4	70%	40% each
More than 4	Every member gets $(200/r) \%$, where $n = \text{number of team members}$	

For example, for a project rated A, with three members, the team lead gets ₹4 lakh, and the other team members get ₹2.5 lakh each. A project always has a single team lead.

Six employees: Altaf, Bose, Chakrabarthi, Dipa, Ernie, and Fatima receive a total of ₹45 lakh in incentives by participating in a total of eight different projects that does not involve any other person. Not all six employees are involved in all eight projects.

The following are additionally known about these eight projects:

- One project involves all six employees. Four projects involve three each, and the rest, two each.
- Exactly three projects are rated C, for which a total of ₹4.8 lakh is paid.
- Only one project is rated A*.

12. What BEST is known about the team compositions for the projects rated C?

- A The three teams have two, three and six members respectively.
- B All are either two-member or three-member teams.
- C All are three-member teams.

- D** One is the six-member team, the rest are two-member teams.
- E** All are two-member teams.

13. What BEST is known about the team composition for the project rated A*?

- A** A three-member team
- B** Either a three-member team or the six-member team
- C** A two-member team
- D** Either a two-member team or a three-member team
- E** The six-member team

14. Total amount of money paid for projects rated A (in lakhs of Rupees) is:

- A** 19
- B** 15
- C** 16
- D** 17
- E** 18

Instructions [15 - 17]

Read the following scenario and answer the three questions that follow.

A quick survey at the end of a purchase at buyagain.com asks the following three questions to each shopper:

1. Are you shopping at the website for the first time? (YES or NO)
2. Specify your gender: (MALE or FEMALE)
3. How satisfied are you? (HAPPY, NEUTRAL or UNHAPPY)

240 shoppers answer the survey, among whom 65 are first time shoppers. Furthermore:

- i. The ratio of the numbers of male to female shoppers is 1 : 2 while the ratio of the numbers of unhappy, happy and neutral shoppers is 3 : 4 : 5
- ii. The ratio of the numbers of happy first-time male shoppers, happy returning male shoppers, unhappy female shoppers, neutral male shoppers, neutral female shoppers and happy female shoppers is 1 : 1 : 4 : 4 : 6 : 6
- iii. Among the first-time shoppers, the ratio of the numbers of happy male, neutral male, unhappy female and the remaining female shoppers is 1 : 1 : 1 : 2, while the number of happy first-time female shoppers is equal to the number of unhappy first-time male shoppers

15. What is the number of happy male shoppers?

- A** 10
- B** 15
- C** 5
- D** 20
- E** 40

16. Which among the following is the lowest?

- A** Number of neutral first-time female shoppers
- B** Number of unhappy first-time female shoppers
- C** Number of unhappy first-time male shoppers
- D** Number of neutral first-time male shoppers
- E** Number of happy returning male shoppers

17. Which among the following cannot be determined uniquely?

- A The number of first-time happy male shoppers
- B The number of returning male shoppers
- C All the numbers can be determined uniquely
- D The number of returning unhappy female shoppers
- E The number of first-time neutral male shoppers

18. The six faces of a wooden cube of side 6 cm are labelled A, B, C, D, E and F respectively. Three of these faces A, B, and C are each adjacent to the other two, and are painted red. The other three faces are not painted. Then, the wooden cube is neatly cut into 216 little cubes of equal size. How many of the little cubes have no sides painted?

- A 125
- B 135
- C 91
- D 108
- E 100

19. ABC is a triangle with integer-valued sides $AB = 1$, $BC > 1$, and $CA > 1$. If D is the mid-point of AB, then, which of the following options is the closest to the maximum possible value of the angle ACD (in degrees)?

- A 15
- B 30
- C 45
- D 75
- E 60

20. Find z , if it is known that:

a: $-y^2 + x^2 = 20$

b: $y^3 - 2x^2 - 4z \geq -12$ and

c: x, y and z are all positive integers

- A Any integer greater than 0 and less than 24
- B 24
- C We need one more equation to find z
- D 6
- E 1

21. An encryption system operates as follows:

Step 1. Fix a number k ($k \leq 26$).

Step 2. For each word, swap the first k letters from the front with the last k letters from the end in reverse order. If a word contains less than $2k$ letters, write the entire word in reverse order.

Step 3. Replace each letter by a letter k spaces ahead in the alphabet. If you cross Z in the process to move k steps ahead, start again from A.

Example: $k = 2$: zebra \rightarrow arbez \rightarrow ctdgb.

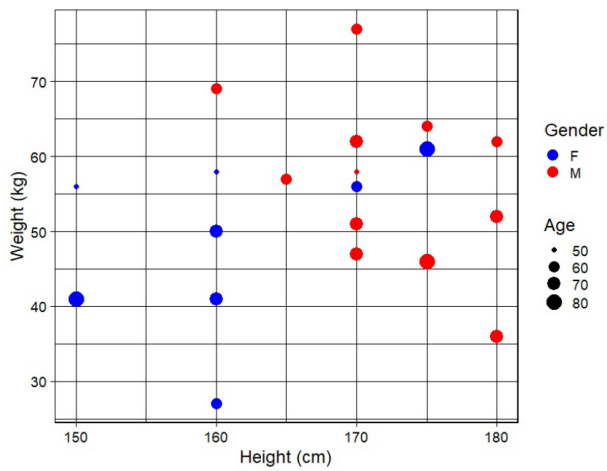
If the word "flight" becomes "znmorl" after encryption, then the value of k :

- A 5
- B 4
- C 7
- D Cannot be determined uniquely from the given information
- E 6

Instructions [22 - 24]

Read the following scenario and answer the three questions that follow.

The following plot describes the height (in cm), weight (in kg), age (in years) and gender (F for female, M for male) of 20 patients visiting a hospital.



A person's body mass index (BMI) is calculated as weight (in kg) divided by squared height (measured in square metres). For example, a person weighing 100 kg and of height 100 cm (1m) will have a BMI of 100. A person with BMI less than or equal to 18.5 is considered as underweight, above 18.5 but less than or equal to 25 as normal weight, above 25 but less than or equal to 30 as overweight, and above 30 as obese.

22. The average age of the female patients who weigh 50 kg or above is approximately

- A 62
- B 65
- C 68
- D 70
- E Cannot be determined from the given data

23. The highest BMI among all patients is approximately

- A 20
- B 33
- C 30
- D 27
- E 23

24. The BMI of the oldest person considered as normal weight is approximately

- A 20
- B 25
- C 22
- D 24
- E 19

25. The topmost point of a perfectly vertical pole is marked A. The pole stands on a flat ground at point D. The points B and C are somewhere between A and D on the pole. From a point E, located on the ground at a certain distance from D, the points A, B and C are at angles of 60, 45 and 30 degrees respectively. What is

AB : BC : CD?

- A $(3 + \sqrt{3}) : (1 + \sqrt{3}) : 1$
- B $(3 - \sqrt{3}) : 1 : (\sqrt{3} - 1)$
- C $1 : 1 : 1$
- D $(3 - \sqrt{3}) : (\sqrt{3} - 1) : 1$
- E $(\sqrt{3} - 1) : 1 : (3 - \sqrt{3})$

26. Two circles P and Q, each of radius 2 cm, pass through each other's centres. They intersect at points A and B. A circle R is drawn with diameter AB. What is the area of overlap (in square cm) between the circles R and P?

- A $\frac{8\pi}{3} - 2\sqrt{3}$
- B $\frac{8\pi}{3}$
- C $\frac{13\pi}{3} - \sqrt{3}$
- D $\frac{17\pi}{6} - 2\sqrt{3}$
- E $\frac{17\pi}{6} - \sqrt{3}$

27. Four friends, Ashish, Brian, Chaitra, and Dorothy, decide to jog for 30 minutes inside a stadium with a circular running track that is 200 metres long. The friends run at different speeds. Ashish completes a lap exactly every 60 seconds. Likewise, Brian, Chaitra and Dorothy complete a lap exactly every 1 minute 30 seconds, 40 seconds and 1 minute 20 seconds respectively. The friends begin together at the start line exactly at 4 p.m. What is the total of the numbers of laps the friends would have completed when they next cross the start line together ?

- A 43
- B 36

C They will never be at the start line together again before 4:30 p.m.

D 47

E 28

- 28.** Zahir and Raman are at the entrance of a dark cave. To enter this cave, they need to open a number lock. Raman sees a note on a rock: "... chest of pure diamonds kept for the smart one ... number has six digits ... second last digit is 2, third last is 4 ... divisible by all prime numbers less than 15 ...". Excited, Zahir and Raman seek your help: which of these can be the first digit of the six-digit number that will help them open the lock?

A 5

B 3

C 9

D 1

E 4

XAT 2021 English

- 29.** Read the following statements and answer the question that follows.

1. Some countries are, at least, trying to curb emissions.
 2. Morocco is building a colossal solar-power plant in the desert.
 3. States in the Middle East and North Africa can do little on their own to mitigate climate change.
 4. Saudi Arabia is not going to stop exporting oil, but it plans to build a solar plant that will be about 200 times the size of the biggest such facility operating today.
 5. Politics often gets in the way of problem solving.
- Arrange the above five statements in a logical sequence.

A 5, 3, 1, 4, 2

B 5, 1, 3, 4, 2

C 3, 1, 5, 2, 4

D 3, 5, 1, 2, 4

E 4, 2, 1, 5, 3

- 30.** Read the following statements and answer the question that follows.

1. Behavioral models in finance most often critique the efficient market hypothesis, which states that if investors behave rationally then prices should reflect all available information about the financial asset in consideration.
2. A number of behavioral models, including feedback models where investors bid up the price, have been used to explain this phenomenon.
3. But asset price bubbles and crashes belie this conclusion.
4. Finance is one of the fields where behavioral models have been used extensively, enough for behavioral finance.

5. This idea of "irrational exuberance" is now widely accepted and used in financial analysis, especially while analyzing asset price bubbles.

Arrange the above five statements in a logical sequence.

- A 4, 3, 1, 5, 2
- B 1, 4, 2, 3, 5
- C 4, 1, 3, 2, 5
- D 1, 3, 2, 5, 4
- E 4, 5, 1, 3, 2

31. Which of the following sentences uses a WRONG tag-question?

- A He has few reasons for saying no to the match, has he?
- B You like to play, don't you?
- C There's little point in doing anything about the match, is there?
- D Moreover, he plays well, isn't it?
- E Nobody has called for you, have they?

32. Read the following statement:

While start-ups have _____ reach, _____ they introduce _____ products, they open-up _____ markets.

Fill in the blanks meaningfully, in the above statement, from the following options.

- A Limited, since, new, innovative
- B Restricted, while, innovative, new
- C Restricted, when, new, innovative
- D Limited, when, innovative, new
- E Limited, if, new, innovative

33. Read the following passage and answer the question that follows.

The painting, which is in poor condition, suggests that a highly advanced artistic culture existed some 44,000 years ago, punctuated by folklore, religious myths and spiritual belief. The scene may be regarded not only as the earliest dated figurative art in the world but also as the oldest evidence for the communication of a narrative in Palaeolithic art.

"This is noteworthy, given that the ability to invent fictional stories may have been the last and most crucial stage in the evolutionary history of human language and the development of modern-like patterns of cognition" researchers said.

Which of the following can be BEST concluded from the passage?

- A The painting puts chronological context to the evolution of modern-like cognitive abilities.
- B Advanced cognitive abilities of Palaeolithic people is substantiated by the painting.

- C Evolution of modern-day languages started with Palaeolithic era, evidenced through the painting.
- D Palaeolithic people possessed advanced artistic culture, evidenced through paintings.
- E The painting timestamps the beginning of the evolution of modern-like cognitive abilities.

Instructions [34 - 35]

Read the following passage and answer the two questions that follow.

We stand before this great world. The truth of our life depends upon our attitude of mind towards it - an attitude which is formed by our habit of dealing with it according to the special circumstance of our surroundings and our temperaments. It guides our attempts to establish relations with the universe either by conquest or by union, either through the cultivation of power or through that of sympathy. And thus, in our realization of the truth of existence, we put our emphasis either upon the principle of dualism or upon the principle of unity.

34. Which of the following statements can be BEST inferred from the passage?

- A Conquest and union are two ways of realising the truth of our life.
- B Principle of dualism is inferior to the principle of unity.
- C Our habits and surroundings determine the truth of our life.
- D War and conquest are a part of the truth of our life.
- E The truth of our life co-evolved with our quest for sympathetic supremacy.

35. According to the passage, our emphasis on dualism or on unity is BEST guided by:

- A How we deal with our surroundings and our temperaments
- B Our desire to achieve versus our focus on contentment
- C Our deals with the universe, based on special circumstances
- D How powerful or sympathetic our surroundings and temperament are
- E Our attitude of mind, formed by our habits

Instructions [36 - 38]

Read the following passage and answer the three questions that follow.

Multitasking has been found to increase the production of the stress hormone cortisol as well as the fight-or-flight hormone adrenaline, which can overstimulate your brain and cause mental fog or scrambled thinking. Multitasking creates a dopamine addiction feedback loop, effectively rewarding the brain for losing focus and for constantly searching for external stimulation. To make matters worse, the prefrontal cortex has a novelty bias, meaning that its attention can be easily hijacked by something new—the proverbial shiny objects we use to entice infants, puppies, and kittens. The irony here for those of us who are trying to focus amid competing activities is clear: The very brain region we need to rely on for staying on task is easily distracted. We answer the phone, look up something on the Internet, check our email, send an SMS, and each of these things tweaks the novelty-seeking, reward-seeking centers of the brain, causing a burst of endogenous opioids (no wonder it feels so good!), all to the detriment of our staying on task. It is the ultimate empty-caloried brain candy. Instead of reaping the big rewards that come from sustained, focused effort, we instead reap empty rewards from completing a thousand little sugarcoated tasks.

In the old days, if the phone rang and we were busy, we either didn't answer or we turned the ringer off. When all phones were wired to a wall, there was no expectation of being able to reach us at all times—one might have gone out for a walk or be between places, and so if someone couldn't reach you (or you didn't feel like being reached), that was considered normal. Now more people have cell phones than have toilets. This has created an implicit expectation that you should be able to reach someone when it is convenient for you, regardless of whether it is convenient for them. This expectation is so ingrained that people in meetings routinely answer their cell phones to say, "I'm sorry, I can't talk now, I'm in a meeting." Just a decade or two ago, those same people would have let a landline on their desk go unanswered during a meeting, so different were the expectations for reachability.

36. According to the passage, why do people in meetings routinely answer their cell phones to say, "I'm sorry, I can't talk now, I'm in a meeting."?

- A** Because, it is convenient for people to send a message.
- B** Because, it conveys that the receiver is a busy person.
- C** Because, people don't mind if somebody takes a brief phone call.
- D** Because, in meetings, cell phones allow people to multitask.
- E** Because, if you carry a cell phone, you have to reply.

37. What does the author BEST intend to convey when he says, "Now more people have cell phones than have toilets?"

- A** Everybody wants to stay connected, using cell phones.
- B** The need to be connected is more pronounced now.
- C** Cell phones have become a bigger necessity.
- D** The usage of toilets is limited, while cell phones are used all the time.
- E** The number of cell phone users has increased over time.

38. Which of the following can be BEST inferred from the passage?

- A** Multitasking helps you complete thousands of tasks, single-tasking makes you do one.
- B** Multitasking helps you move towards different goals, single-tasking helps you achieve the one.
- C** Multitasking gives you happiness, single-tasking gives you satisfaction.
- D** Multitasking gives you a feeling of achieving many things, single-tasking enables actually achieving something.
- E** Multitasking takes you all over, single-tasking helps you achieve some goals.

Instructions [39 - 41]

Read the following passage and answer the three questions that follow.

Considering the multitude of situations in which we humans use numerical information, life without numbers is inconceivable. But what was the benefit of numerical competence for our ancestors, before they became Homo sapiens? Why would animals crunch numbers in the first place? It turns out that processing numbers offers a significant benefit for survival, which is why this behavioural trait is present in many animal populations.

Several studies examining animals in their ecological environments suggest that representing number enhances an animal's ability to exploit food sources, hunt prey, avoid predation, navigate in its habitat, and persist in social interactions. Before numerically competent animals evolved on the planet, single-celled microscopic bacteria – the oldest living organisms on earth – already exploited quantitative information. The way bacteria make a living is through their consumption of nutrients from their environment. Mostly, they grow and divide themselves to multiply. However, in recent years, microbiologists have discovered they also have a social life and are able to sense the presence or absence of other bacteria; in other words, they can sense the number of bacteria. Take, for example, the marine bacterium *Vibrio fischeri*. It has a special property that allows it to produce light through a process called bioluminescence, similar to how fireflies give off light. If these bacteria are in dilute water solutions (where they are alone), they make no light. But when they grow to a certain cell number of bacteria, all of them produce light simultaneously. Therefore, *Vibrio fischeri* can distinguish when they are alone and when they are together.

Somehow they have to communicate cell number, and it turns out they do this using a chemical language. They secrete communication molecules, and the concentration of these molecules in the water increases in proportion to the cell number. And when this molecule hits a certain amount, called a quorum, it tells the other bacteria how many neighbours there are, and all bacteria glow. This behaviour is called "quorum sensing": The bacteria vote with signalling molecules, the vote gets counted, and if a certain threshold (the quorum) is reached, every bacterium responds. This behavior is not just an anomaly of *Vibrio fischeri*; all bacteria use this sort of quorum sensing to communicate their cell number in an indirect way via signalling molecules.

39. Which of the following statements CANNOT be inferred from the passage?

- A Ancestors of *Homo sapiens* exploited resources in groups.
- B Ancestors of *Homo sapiens* sensed numbers.
- C Ancestors of *Homo sapiens* hunted in groups.
- D Ancestors of *Homo sapiens* interacted solely using numbers.
- E Ancestors of *Homo sapiens* used numerical competence.

40. Based on the passage, which of the following statements BEST defines "quorum sensing" in bacteria?

- A Bacteria multiply only till they reach their required numbers.
- B Bacteria chat only when they are in groups.
- C Bacteria communicate only in numerical terms with others.
- D Bacteria do not communicate beyond certain numbers.
- E Bacteria respond when they discern enough numbers around them.

41. Which of the following statements is NOT based on the premises of the passage?

- A No one can whistle a symphony; it takes a whole orchestra to play it.
- B Teams fear a red card as it would present an advantage for the opponents.
- C Politicians rally with numbers to woo their undecided voters.
- D People protest in large numbers because it helps them get their voices heard.
- E To de-escalate a border tension, countries carry out mirror deployment.

42. Read the following passage and answer the question that follows.

We can think of the history of life on earth as a vast, long-term experiment in pure competition. Every living organism is competing with all other living organisms for resources (nutrients, sunlight, water, territory, etc.). Nature, or the natural world, is a laboratory of unfettered competition. It's a dog-eat-dog, no-holds-barred, day-in and day-out struggle.

There are no governmental regulators to protect the weak or favor the strong. All organisms are given a chance, but not necessarily an equal chance. As the climate and the environment change (and change they do), some organisms are favored over others at times, but these advantages are fleeting. What nature gives, nature can take away.

Which of the following can be BEST concluded from the passage?

- A** Competition is critical to ensure the survival of the fittest.
- B** Without unforgiving competition, the planet will be inundated with the weak.
- C** Nature gives a fair opportunity to every organism to survive.
- D** Forgiveness is alien to the natural world.
- E** Brutal competition is the only constant in the natural world.

Instructions [43 - 44]

Read the following excerpt and answer the two questions that follow.

Para 1: We plan to right-size our manufacturing operations to align to the new strategy and take advantage of integration opportunities. We expect to focus phone production mainly in Hanoi, with some production to continue in Beijing and Dongguan. We plan to shift other Microsoft manufacturing and repair operations to Manaus and Reynosa respectively, and start a phased exit from Komaron, Hungary.

Para 2: In short, we will focus on driving Lumia volume in the areas where we are already successful today in order to make the market for Windows Phone. With more speed, we will build on our success in the affordable smart phone space with new products offering more differentiation. We'll focus on acquiring new customers in the markets where Microsoft's services and products are most concentrated. And, we will continue building momentum around applications.

Para 3: We plan that this would result in an estimated reduction of 12500 factory direct and professional employees over the next year. These decisions are difficult for the team, and we plan to support departing team members with severance benefits.

43. Which of the following can be BEST described as the core message of the excerpt?

- A** Microsoft is reducing its cost of operations, marketing and human resources while staying the course on Lumia.
- B** Microsoft is shifting its base of production for Lumia along with the places it is interested in selling them.
- C** Microsoft is reducing its cost of operations and downsizing staff while staying optimistic about the future.
- D** Microsoft is closing poorly performing factories and personnel though it thinks Lumia has a future.
- E** Microsoft is reducing cost of operations and the number of staff involved in operations.

44. In conveying the core message, the Para 2:

- A Digresses from the line of thought
- B Elaborates the core message
- C Assuages panic
- D Reassures a promising future
- E Predicts a rosy picture

Instructions [45 - 46]

Read the following poem and answer the two questions that follow.

Sit, drink your coffee here; your work can wait awhile.
 You're twenty-six, and still have some of life ahead.
 No need for wit; just talk vacuities, and I'll
 Reciprocate in kind, or laugh at you instead.

The world is too opaque, distressing and profound.
 This twenty minutes' rendezvous will make my day:
 To sit here in the sun, with grackles all around,
 Staring with beady eyes, and you two feet away.

45. Which of the following BEST captures the essence of the poem?

- A Let's celebrate our existence, not our work.
- B Let's eat, drink and be merry in the lap of nature.
- C Let's create our own meaning in life, no matter what.
- D Let's be gibberish, not rational about life.
- E Let's enjoy a moment of peace in this busy life.

46. What does the poet BEST convey by mentioning grackles in these lines, "...with grackles all around, /Staring with beady eyes, and you two feet away."?

- A Over witty discussions, grackles are the pleasant birds to look at.
- B Grackles love to stare at us; however, they maintain a two-feet distance.
- C A small bird like grackle can give us lots of happiness.
- D We should not care about grackles, but us.
- E Grackles, like humans, love to bask in the Sun.

Instructions [47 - 49]

Read the following passage and answer the three questions that follow.

Most of recorded human history is one big data gap. Starting with the theory of Man the Hunter, the chroniclers of the past have left little space for women's role in the evolution of humanity, whether cultural or biological. Instead, the lives of men have been taken to represent those of humans overall. When it comes to the lives of the other half of humanity, there is often nothing but silence.

And these silences are everywhere. Our entire culture is riddled with them. Films, news, literature, science, city planning, economics. The stories we tell ourselves about our past, present and future. They are all marked—disfigured—by a female-shaped ‘absent presence’. This is the gender data gap.

The gender data gap isn’t just about silence. These silences, these gaps, have consequences. They impact on women’s lives every day. The impact can be relatively minor. Shivering in offices set to a male temperature norm, for example, or struggling to reach a top shelf set at a male height norm. Irritating, certainly. Unjust, undoubtedly.

But not life-threatening. Not like crashing in a car whose safety measures don’t account for women’s measurements. Not like having your heart attack go undiagnosed because your symptoms are deemed ‘atypical’. For these women, the consequences of living in a world built around male data can be deadly.

One of the most important things to say about the gender data gap is that it is not generally malicious, or even deliberate. Quite the opposite. It is simply the product of a way of thinking that has been around for millennia and is therefore a kind of not thinking. A double not thinking, even: men go without saying, and women don’t get said at all. Because when we say human, on the whole, we mean man.

This is not a new observation. Simone de Beauvoir made it most famously when in 1949 she wrote, ‘humanity is male and man defines woman not in herself, but as relative to him; she is not regarded as an autonomous being. [...] He is the Subject, he is the Absolute—she is the Other.’ What is new is the context in which women continue to be ‘the Other’. And that context is a world increasingly reliant on and in thrall to data. Big Data. Which in turn is panned for Big Truths by Big Algorithms, using Big Computers. But when your big data is corrupted by big silences, the truths you get are half-truths, at best. And often, for women, they aren’t true at all. As computer scientists themselves say: ‘Garbage in, garbage out.’

47. Based on the passage, which of the following statements BEST explains “absent presence”?

- A The presence is felt due to the specificity of the absence.
- B The absence makes the case for the need for presence.
- C By its sheer absence, it is present.
- D Because of the absence, one can recognise its presence.
- E The absence is female-shaped, making it present.

48. Based on the passage, which of the following options BEST describes “double not thinking”?

- A Men, over millennia, always confused human with being only male.
- B Men not thinking and women not being allowed to think is due to double not thinking.
- C Over millennia, men and women have been conditioned to treat women as unequal.
- D Whenever humans are mentioned, it is men; further, women are not mentioned.
- E Men’s rejection of women as humans and women’s acceptance of it is the double not thinking.

49. Which of the following statements can be BEST concluded from the passage?

- A Women have never been treated as distinct identities which causes the gender data gap.
- B The need of the hour is to revisit the past, and reduce the gender data gap at the earliest.
- C The gender data gap is amplified by data-based decision making.

D Over millennia, men ignored women, which resulted in the gender data gap and deadly consequences.

E Emphasis on data-based decision making, can be devastating to women, given the gender data gap.

Instructions [50 - 51]

Read the following passage and answer the two questions that follow.

And that has to do with the question of uncertainty and doubt. A scientist is never certain. We all know that. We know that all our statements are approximate statements with different degrees of certainty; that when a statement is made, the question is not whether it is true or false but rather how likely it is to be true or false. We must discuss each question within the uncertainties that are allowed. And as evidence grows it increases the probability perhaps that some idea is right or decreases it. But it never makes absolutely certain one way or the other. Now, we have found that this is of paramount importance in order to progress. We absolutely must leave room for doubt or there is no progress and there is no learning. There is no learning without having to pose a question. And a question requires doubt. People search for certainty. But there is no certainty. People are terrified- how can you live and not know? It is not odd at all. You only think you know as a matter of fact. And most of your actions are based on incomplete knowledge and you really don't know what it is all about or what the purpose of the world is or know a great deal of other things. It is possible to live and not know.

50. What does the author BEST mean when he says, "We must discuss each question within the uncertainties that are allowed?"

- A** The uncertainties are limited by the nature of the answers sought.
- B** The uncertainties should be relevant to the question.
- C** We must be prepared to accept errors in the answers we seek.
- D** There is a finite set of uncertainties for any question.
- E** The question decides the amount of uncertainties that are allowed.

51. Which of the following BEST describes the essence of the passage?

- A** Reasonable scepticism is the characteristic of a scientific mind.
- B** Reasonable discomfort with certainty is the path for progress.
- C** Progress involves questioning accepted truths.
- D** Science can never give a conclusive answer to a question.
- E** Doubting the established world order is the purpose of science.

52. Read the following sentences and answer the question that follows.

1. We are going to a restaurant but we haven't decided which one.
2. We went to the toilet behind the tree.
3. It was the November after we went to Indonesia.
4. My friend is travelling to UK.
5. She drinks medicine by a litre.
6. Would you rather go out or watch a TV.

Which of the above sentences have INCORRECT usages of articles?

- A** 3, 4, 5

- B 1, 2, 3
- C 4, 5, 6
- D 2, 3, 4
- E 6, 1, 2

53. Read the following sentences and answer the question that follows.

1. In my opinion, Tom Jones is a picaresque novel.
2. According to me, Tom Jones is a bildungsroman.
3. The books were distributed between Jessica, Neha and Swati.
4. The books were distributed among Jessica and Neha.
5. Life teaches us important lessons.
6. The life moves forward, teaches backward.

Which of the above sentences are grammatically CORRECT?

- A 2, 3, 6
- B 1, 4, 5
- C 2, 4, 6
- D 1, 4, 6
- E 1, 3, 5

54. Read the following passage and answer the question that follows.

Twitter is not on the masthead of a newspaper. But Twitter has become its ultimate editor. As the ethics and mores of that platform have become those of the paper, the paper itself has increasingly become a kind of performance space. Stories are chosen and told in a way to satisfy the narrowest of audiences, rather than to allow a curious public to read about the world and then draw their own conclusions.

Based on the passage, the writer's disappointment can be BEST summarised as:

- A Newspapers fear to speak outside the narrow confines of social media.
- B Newspapers get influenced by the followers on social-media platforms.
- C Newspapers cave into the narratives shared on social-media platforms.
- D Newspapers create their own narratives to control the audience.
- E Newspapers are ready to compromise with their ethics.

XAT 2021 General knowledge

55. The table below lists countries and capital cities

Countries	Capital Cities
P. Jamaica	1. Port of Spain
Q. Cuba	2. Havana
R. Guyana	3. Kingston
S. Trinidad and Tobago	4. Georgetown

Which of the following options has the correct match of the countries with their respective capital cities?

- A** P-1, Q-2, R-3, S-4
- B** P-3, Q-2, R-4, S-1
- C** P-3, Q-2, R-1, S-4
- D** P-4, Q-2, R-1, S-3
- E** P-4, Q-2, R-3, S-1

56. From which organisation was Timnit Gebru terminated recently?

- A** Microsoft
- B** Facebook
- C** Google
- D** Samsung
- E** Apple

57. Which Wildlife Sanctuary/National Park is identified and prepared to translocate Asiatic Lions from Gir National Park, Gujarat?

- A** Satpura National Park
- B** Kuno National Park
- C** Achanakmar Wildlife Sanctuary
- D** Pench National Park
- E** Kheoni Wildlife Sanctuary

58. Which of the following is a Danish dependency?

- A** Andorra
- B** Greenland
- C** Gibraltar
- D** Monaco
- E** San Marino

59. 15-year old Gitanjali Rao was recently in the news. Which of the following best describes her?

- A** She is a scientist and an inventor who won the Time's Kid of the Year in 2020.
- B** She is an environment activist, who won the Time's person of the year in 2019.

- C She is an actress who recently signed for the upcoming Harry Potter movie.
- D She is the youngest Indian to have awarded the title of Chess Grandmaster in 2020.
- E She is a novelist and the youngest one to have been shortlisted for the Pulitzer prize.

60. Match the following wild animal species with the national parks/wildlife sanctuaries where they naturally occur in India:

P. Sangai (<i>Rucervus eldii eldii</i>)	1. Sri Lankamalleswara Wildlife Sanctuary
Q. Tiger (<i>Panthera tigris tigris</i>)	2. Gir National Park
R. Jerdon Courser (<i>Rhinoptilus bitorquatus</i>)	3. Karera Wildlife Sanctuary
S. Great Indian Bustard (<i>Ardeotis nigriceps</i>)	4. Keibul Lamjao National Park
T. Asiatic Lion (<i>Panthera leo persia</i>)	5. Kanha National Park

- A P-5, Q-3, R-4, S-1, T-2
- B P-3, Q-5, R-2, S-1, T-2
- C P-4, Q-5, R-2, S-3, T-1
- D P-4, Q-5, R-1, S-3, T-2
- E P-1, Q-5, R-3, S-4, T-2

61. Which Indian business group built the British Royal Navy ship, HMS Minden, on which the lyrics of the national anthem of the United States of America was supposedly written?

- A Wadia
- B Godrej
- C Bajaj
- D Birla
- E Tata

62. Which of the following will be a debut event in the Summer Olympics of 2024?

- A Kabaddi
- B Cricket
- C Breakdancing
- D Greco-Roman wrestling
- E Ballet

63. In India, where did Mahatma Gandhi stage his first major Satyagraha in 1917?

- A Sabarmati
- B Champaran
- C Wankaner

D Bikaner

E Dandi

64. Who is the chief minister of Jharkhand as of 31st December 2020?

A Saryu Rai

B Shibu Soren

C Hemant Soren

D Draupadi Murmu

E Raghubar Das

65. Which of the following mountain ranges houses the famous pilgrimage Amarkantak?

A Dundwa

B Kudremukh

C Satpura

D Balaghat

E Aravali

66. Who authored the famous book Economy of Permanence?

A Vinayak Narahari "Vinoba" Bhave

B "Lokamanya" Bal Gangadhar Tilak

C Murlidhar Devidas "Baba" Amte

D Joseph Chelladurai Cornelius "JC" Kumarappa

E "Diwan Bahadur" Rettamalai Srinivasan

67. Dries Mertens, recently became the highest goal-scorer for the football club Napoli by surpassing the tally of 115 goals across all competitions. Whose goal scoring record did he surpass?

A Pele

B Messi

C Diego Maradona

D Cristiano Ronaldo

E Roberto Baggio

68. Who was the first Indian to win the Global Teacher Prize?

- A** Ajay Desai
- B** Ramnath Desai
- C** Chamundeswari Nath
- D** Ranjitsinh Disale
- E** Vijayalaxmi Pandey

69. The first woman to lead a listed Indian Information Technology (IT) company is:

- A** Kiran Mazumdar Shaw
- B** Gita Gopinath
- C** Roshni Nadar Malhotra
- D** Chanda Kochhar
- E** Arundhati Bhattacharya

70. Which of the following is not an OECD (Organization for Economic Cooperation and Development) member?

- A** Chile
- B** Taiwan
- C** Turkey
- D** Israel
- E** Japan

71. Vijay Prashad's discussion event at the online Tata Literature Live!, 2020, was cancelled. Who was to feature in the discussion with Vijay Prashad?

- A** Ramchandra Guha
- B** Douglas Stuart
- C** Noam Chomsky
- D** Arnab Goswami
- E** Khaled Hosseini

72. What is Hayabusa2?

- A** It is a cartoon series to take on the popular Naruto series.
- B** It is a Japanese adaptation of Star Wars.

- C** It is the name given to the new mutated form of Coronavirus.
- D** It is the name of a new smartphone based on Linux.
- E** It is an asteroid-sample-return mission by JAXA.

73. Which is the first GI tagged product in India?

- A** Mysore Silk
- B** Madhubani Painting
- C** Kashmiri Apple
- D** Darjeeling Tea
- E** Odisha Rasagulla

74. Who was recently appointed as the CEO of Cafe Coffee Day?

- A** Malavika Hegde
- B** Kamini Utappa
- C** Venu Madhav Krishna
- D** V. G. Siddhartha
- E** Gopal Gouda

75. Who was the first woman chief minister in Independent India?

- A** Nandini Satpathy
- B** Anwara Taimur
- C** Sarojini Naidu
- D** Sucheta Kripalani
- E** Shashikala Kakodkar

76. Tedros Adhanom has been in the news for the last one year for being:

- A** The Director General of the World Health Organization
- B** The winner of the Nobel Peace Prize in 2020
- C** The Time's Person of the Year 2019
- D** The Director General of the International Labour Organization
- E** The 46th President of the United States of America

77. What is the Nagorno-Karabakh conflict?

- A** A territorial conflict primarily between Turkey and Greece
- B** A territorial conflict primarily between Armenia and Azerbaijan
- C** A territorial conflict primarily between Turkey and Iran
- D** A territorial conflict primarily between Russia and Uzbekistan
- E** A territorial conflict primarily between Russia and Ukraine

78. Which of the following is not an online learning application?

- A** Coursera
- B** Duolingo
- C** Udemy
- D** Patreon
- E** Khan Academy

79. Arecibo telescope, known for its stellar contributions in the field of astronomy, collapsed recently. Where was it located?

- A** Jamaica
- B** Bahamas
- C** Puerto Rico
- D** Guam
- E** Papua New Guinea

XAT 2021 Decision Making

Instructions [80 - 82]

Read the following scenario and answer the three questions that follow.

Ashraf has been working at a cybersecurity company called NuTech Pvt. Ltd. for seven years. Having missed a promotion in the previous appraisal cycle, Ashraf is anxious about it in the upcoming cycle. Ashraf is aware that the HR head is meeting the top management to discuss promotions sometime soon. (At NuTech, the HR head recommends names for promotions to the top management based on inputs from the functional teams.)

On a Friday afternoon, Ashraf receives an email from Sridevi, the HR head. It reads, "Hi, I need an urgent favour from you; please respond if you are free." It was the first time that Sridevi ever contacted him. Surprised, Ashraf immediately replies back saying, "Sure! How can I help you, Sridevi? Regards, Ashraf." In a couple of minutes, he receives a reply: "Ashraf, I am in the middle of an important meeting, but have to urgently send gift vouchers

worth ₹50,000 to one of our important clients. If you could, please purchase and send the gift vouchers to the email address given below, at the earliest.” Ashraf , without any delay, sends gift vouchers worth ₹50,000 to the given email address.

80. Ashraf feels happy after this brief email interaction with Sridevi.

Which of the following statements, if true, will BEST make Ashraf strongly hopeful about his imminent promotion?

- A** Sridevi is known for her elite social circle and extravagant life style.
- B** Ashraf has heard from his industry friends that HR heads accept favours for recommending employees' promotions.
- C** It is for the first time ever that Sridevi directly approached Ashraf to contact a client.
- D** Ashraf's immediate junior, Shamsher, who worked closely with Sridevi, was promoted last year.
- E** Sridevi chose Ashraf over others for help, while in the midst of a meeting with the top management.

81. Ashraf does not hear anything from Sridevi in the next few days. Anxious, he meets up with Sridevi and enquires if the gift vouchers were appreciated by the client. This surprises Sridevi who closely scrutinises Ashraf's emails and discovers that they originated from sridevi@nutich.com, instead of sridevi@nutech.com, her official email ID.

Taken aback, Ashraf requests Sridevi's help in getting compensated by the company for his ₹50,000 loss. Sridevi asks Ashraf to justify his compensation demand. Ashraf gives the following reasons:

1. I erred; however, my financial rectitude is on record.
2. I acted in the greater interest of the company.
3. The spam mail reached my inbox due to the failure of the company's email filter.
4. A NuTech employee, who was robbed of ₹20,000 of company's cash, was not punished.
5. In the past, some of my acquaintances had been similarly duped.

Which of the abovementioned reasons, in a combination, will BEST help Sridevi take up the issue with the top management?

- A** 2, 3, 4
- B** 1, 2, 3
- C** 2, 3, 5
- D** 1, 2, 4
- E** 3, 4, 5

82. Sridevi begins to doubt Ashraf's competencies, given the way he handled the phishing emails. Thus, she convenes a meeting with the senior leadership to discuss Ashraf's role in the company.

In the meeting, she shares the following observations:

1. Ashraf is poor at verbal communication, which is critical at subsequent levels.
2. Ashraf should have been perceptive, even though the company's email filter failed him.
3. Ashraf joined the email filter team one month prior to his receiving the phishing emails.
4. Ashraf rushed to act on Sridevi's request despite his busy schedule.
5. Ashraf appears to be highly anxious to get promoted.

Which of the above observations, in a combination, if true, shall BEST go against Ashraf's chances of getting promoted?

- A 1, 2, 5
- B 2, 3, 4
- C 1, 2, 3
- D 1, 3, 5
- E 2, 3, 5

Instructions [83 - 85]

Read the following scenario and answer the three questions that follow.

The occasion was a hyper publicised switch-on ceremony of solar power facilities on an island, with many villages, in the Bay of Bengal. PK was the brand ambassador of a Multinational Company (MNC) that was banking heavily on this CSR initiative to strengthen its presence in India. For the millions of fans, enamoured by the aging super star's Robinhood like onscreen exploits, the pre-event speech of PK was their first glimpse into his off-screen persona. After an emotional speech that extolled the virtues of electricity as a driver of wellbeing & need for inclusive growth, PK with a flourish of his hand hit the button to remotely switch on the solar power facilities. Tens of media cameras stationed in all the island villages, started beaming live feed across the world. Quickly, the event turned from one of joy to something of shock and horror, as all the thatched households on the island caught fire. A few villagers were seriously injured in the fire. Watching the coverage, PK slapped the MNC representative standing next to him, on live camera, and collapsed on a couch with his head in his hands.

83. Soon after, the MNC filed a case against PK for criminal assault and tarnishing its brand image.

Which of the following is the MOST appropriate reason for the MNC to file a case against PK?

- A It is a message to the MNC's stakeholders that it will not tolerate such inappropriate behaviour.
- B The MNC is forced to respond, given the public slapping of its representative.
- C The MNC intends to arrest its dropping sales, post the incident, through affirmative action.
- D The highly brand conscious MNC is using PK to divert public attention.
- E The MNC's mission statement includes "employee first, customer second."

84. Post the slapping incident, there was a strong social media backlash against PK. His PR team suggested the following social media releases that he could use not only to defend himself but also to garner positive reactions.

Which of the following social media releases will BEST help PK achieve the purpose?

- A The MNC deserved more than just a slap for its irresponsible actions.
- B He reacted as the sight of the villages ablaze was unbearable.
- C His onscreen Robinhood image influences his off-screen behaviour.
- D The plight of the islanders deserved an immediate delivery of justice.

E He strongly believes in an eye for an eye.

- 85.** A few months passed and the slapping incident still garnered a good number of views on social media. PK's publicist was aware that PK harboured a desire to join politics. She wanted PK to make the most of the publicity around the incident before it faded away from public memory in the next few months.

Which of the following options will BEST help PK take just advantage of the situation?

- A He should visit the island and publicly promise to rebuild the island villages, and publicise it in the social media.
- B He should launch the "Slap the Greedy" campaign, and urge his fans to slap greedy officials.
- C He should announce that he is entering politics with a slogan "One Tight Slap."
- D He should meet the MNC representative he slapped and apologise to him in a public meeting.
- E In his upcoming movie, in the opening scene, he should slap and shame a treacherous corporate official who swindles poor villagers.

Instructions [86 - 88]

Read the following scenario and answer the three questions that follow.

Churna is a peaceful village, surrounded by thickly forested high hills that isolate it from the rest of the world. Agriculture is the main occupation of the Churna villagers. Moreover, the forests provide seasonal fruits, tubers, medicinal herbs, and other forest produce in abundance. For all material needs not produced locally, the Churna villagers depend on Tendua, a faraway town.

Once a month, the Churna women would arduously trek with the surplus produce to Tendua. In the Tendua market, they convey the virtues of their produce through a beautiful song and dance routine. Reputed for their hard-bargaining skills, they always manage to extract a premium barter from the traders, more than fulfilling all their other material needs.

- 86.** Damdu, an ambitious trader of Tendua, wants to have exclusive access to all the surplus produce from Churna.

Which of the following offers to the Churna village will BEST help Damdu achieve her objective?

- A Damdu should offer to set up a shop in Churna, which will barter all the material requirements of the village.
- B Damdu should offer to provide colourful sarees that the women of Churna fancy.
- C Damdu should offer to transport the villagers' monthly material purchases from Tendua to Churna for free.
- D Damdu should offer to educate the Churna villagers about cash transactions.
- E Damdu should offer novel products, unseen by the Churna villagers.

- 87.** The head woman of Churna grants exclusive access to the surplus produce to Damdu. However, Damdu's euphoria dies down when she finds fewer takers for Churna's produce in Tendua. This trend continues for the next few months.

Which of the following could be the MOST possible reason for Damdu finding fewer takers for Churna's produce at Tendua?

- A** Damdu cannot sing and dance simultaneously.
- B** Hard bargaining experience offered by Churna's women is missed by the traders of Tendua.
- C** The traders in the Tendua market miss the aesthetics of the beautiful song and dance by Churna women.
- D** Churna's produce is one of the many items in Damdu's inventory.
- E** The Churna women offered the authenticity that Damdu could not match.

88. A few months after granting exclusive access to Damdu, the village council of Churna meets to discuss the progress. After much debate and heated discussions, the village council decides to terminate the contract with Damdu. The village council feels that if the contract continues, then:

1. Over time, Churna's produce will lose its association with Churna.
2. Churna's people will be ignorant of new developments in the market.
3. Churna's dance and song will lose their identity.
4. Churna's people will lose social interaction with the outer world.
5. Churna's people will lose their hard bargaining skills.

Which of the above concerns, when arranged in descending order of significance, will BEST support the decision to terminate the contract with Damdu?

- A** 1, 2, 4, 5, 3
- B** 2, 3, 4, 5, 1
- C** 1, 3, 2, 5, 4
- D** 1, 2, 5, 3, 4
- E** 5, 3, 4, 2, 1

Instructions [89 - 91]

Read the following scenario and answer the three questions that follow.

Rohini is one of the most popular faculty members in the finance department, known for her in-class engagement with students. Every year, she offers an elective Financial Risk and Derivatives Management in the fourth term which gets subscribed by about hundred students. This year, owing to Covid-19, she is forced to teach the course online, that too, in the fifth term. The fifth term is notorious for its non-negotiable teaching slots. To enable her teaching, Rohini uses her favourite laptop, Maplebook Lite, sold by Maple.

Rohini converts her family bedroom into a "working room" because of the strong wifi signals. The room is mostly used by Rohini for taking her classes; however, Rinku, her husband, also uses it for running his meetings. Rohini has two children, aged 5 and 8, who use the living room as their playground. During meetings and classes, the working room is shut to save it from unwanted disturbance and noises from the living room.

It is 3:10 p.m. and Rohini's penultimate session of the course is going to end in twenty minutes. As usual, Rinku enters the room with a cup of Darjeeling tea. Just before entering, he asks his kids to stop playing for some time. He quietly places the teacup on Rohini's study table and exits the room, leaving the door ajar. As soon as he leaves, a tennis ball comes thundering inside, crashing into her Maplebook monitor. The monitor breaks and Rohini's class ends abruptly, much before the scheduled time.

89. What should be BEST held responsible for the accident?

- A** Rinku Singh not waiting for the class to get over before serving tea
- B** Rohini not locking the door from inside during class hours

- C The kids not checking the door before resuming play
- D Covid-19 imprisoning Rohini and her children in a closeted space
- E Rinku Singh leaving the door ajar

90. Rohini has her concluding session scheduled the very next day.

Which of the following is the BEST course of action for Rohini regarding the final session?

- A She should defer the session until she finds a suitable slot.
- B She should inform the students that the course is deemed concluded with 19 sessions.
- C She should cancel the session and ask students to mail video presentations on the topic she intended to teach.
- D She should request Swarna, her colleague, to take her session the next day.
- E She should take her last session on her mobile phone and request students to tolerate the inferior experience.

91. With the sixth term round the corner, Rohini goes to the Maple service centre only to find that the replacement for her crashed monitor may take several weeks. However, Dhanraj, the service centre head, offers to replace the damaged monitor with a monitor from a used laptop. He assures Rohini that the used monitor is as good as a new one.

Which of the following options, if true, will give Rohini the BEST reason to accept the offer?

- A Dhanraj is a friend of Rohini's colleague Swarna.
- B Rohini is a long-time customer of the Maple store which runs the service centre.
- C Dhanraj offers a three-month personal assurance on the used monitor.
- D Her husband's meetings will be few and far between in the next few weeks.
- E Rohini has to start her sixth term course in a month.

Instructions [92 - 94]

Read the following scenario and answer the three questions that follow.

Saradeep was the proprietor of Saradeep & Sons Pvt. Ltd., an auto parts manufacturing company. He had three children--Taapsi, Kesar and Sandeep. His wife passed away when Sandeep, the youngest kid of the family, was only eight years old. Taapsi, being the eldest sibling, was more of a mother to Kesar and Sandeep.

Taapsi and Kesar joined Saradeep's business right after college because Saradeep trusted them immensely. He once told Kesar, "I want key positions to be held by the people I trust."

Saradeep wanted Sandeep also to join his business like Kesar and Taapsi. Saradeep felt that Sandeep had a strong business sense, probably the best among his three children. Hence, Saradeep wanted Sandeep to take his higher education in business studies. However, Sandeep had other aspirations; he wanted to become a lawyer. Of late, he was offered admission to the prestigious National Law School, Bengaluru. As soon as he received the admission offer, he rushed to share this news with his family members.

92. Sandeep shared the news of the admission offer first with Kesar, who exhibited mixed feelings. He was happy for Sandeep's admission to the National Law School; nevertheless, he was concerned about their father's reaction. Moreover, Saradeep had an anxiety attack a few months back and was working from their family mansion in Shimla. Kesar advised Sandeep to delay sharing his selection news with their father.

Which of the following, if true, will BEST enable Sandeep share the news with Saradeep without delay?

- A Since childhood, Sandeep, before going to bed, usually shared all happenings of the day with Saradeep.
- B Kesar had always been paranoid about his family ever since the untimely demise of his mother.
- C Saradeep did not talk to Sandeep for weeks, because he did not get the news of Sandeep's bike accident immediately from him.
- D Even after the anxiety attack, Saradeep walked four kilometres daily.
- E Saradeep regarded Law as a respectable profession.

93. Saradeep requested Kesar to decide on the head of a new manufacturing plant. The plant and its culture had to be moulded in the same way as their other plants. Kesar wanted to identify a candidate, acceptable to Saradeep.

Which of the following candidates is the BEST choice for the position?

- A Taapsi, who headed another plant which was two hours away from the new plant, could be requested to take the additional charge.
- B Dhanush, the most technically qualified employee, who joined the organisation three years back, straight from college.
- C Sandeep who had about ten months left to join the National Law School.
- D Suhasini, an MBA graduate and Kesar's wife, who had been a homemaker for fifteen years.
- E Surendra, the deputy head of their largest plant, who had been with them for thirty years, and would retire in seven years.

94. Kesar was also concerned about Taapsi's reaction to Sandeep joining the National Law School. She wanted to be a fashion designer; however, Saradeep dissuaded her from doing anything other than production engineering. She was very upset with her father's decision back then; nevertheless, over time, she became a staunch supporter of her father's values and beliefs. Currently, she headed one of the plants, which also happened to be the best run company plant. Kesar felt that she would not take Sandeep's decision well; she might try to prevent Sandeep from pursuing higher studies in Law.

Which of the following, if true, will BEST assuage Kesar's fear regarding Taapsi?

- A Taapsi, in a marked departure from family tradition, was fully supported by her family when she decided to marry her batchmate, soon after college.
- B Taapsi, in a fashion school convocation speech, said that she still harboured a dream of quitting the family business for becoming a fashion designer.
- C Taapsi mentored an online start-up, dedicated to women's fashion, in her free time.
- D When Sandeep was eight, he supported Taapsi's desire to pursue fashion designing.
- E Taapsi gifted Sandeep a sports bike on his 19th birthday even when Saradeep was completely against it.

Instructions [95 - 97]

Read the following scenario and answer the three questions that follow.

Himaja was among the top ten students of her Business Management batch. She got placed in a reputed strategy consulting firm during campus placements. She was delighted to work under Nirmal, her superior, who was known for grooming many stars in the organisation. Nevertheless, he was also regarded as a hard taskmaster. Though she was a fresh recruit, she longed to be in a client-facing role.

95. During an informal office gathering, Himaja mustered up courage to ask Nirmal for a client-facing role.

Which of the following reasons, if true, will BEST justify Nirmal saying “no” to Himaja?

- A** Clients do not appreciate strategic discussions with fresh recruits.
- B** Himaja’s teammates are not happy with her communication skills.
- C** Himaja needs to improve her presentation skills.
- D** Clients do not take young women seriously during discussions.
- E** Himaja leaves early and client meetings go late into the night.

96. Due to her constant pleading, Nirmal assigned Himaja a client-facing role in his project. Nirmal instructed her that he would do all the talking during meetings, and she would diligently listen and take notes. However, in the first meeting, Himaja made a comment which contradicted Nirmal. In the next, she interrupted the client while he was making a point. This offended the client, resulting in Nirmal apologising to the client to save the project.

Which of the following is the MOST appropriate action that Nirmal should take against Himaja’s behaviour?

- A** Caution Himaja that she would lose client-facing roles if she does not appreciate the rationale behind his instructions.
- B** Recommend Himaja for a five-day listening-skills workshop.
- C** Await the half-yearly performance review, due in two months, and submit a strong report against Himaja.
- D** Ask Himaja's project teammates to have a chat with her on how to behave in client meetings.
- E** Have a chat with Himaja later in the evening, explain the delicate situation she had put him in during the meetings, and request her not to repeat it.

97. Another month passed, and Himaja was working under Shreya in a different team. Shreya was impressed by Himaja’s enthusiasm and sincerity. She asked Himaja to accompany her to a meeting with a new client. During the meeting, Himaja made a statement that offended the client. Shreya tried to diffuse the situation by asking Himaja to apologise. Though Himaja apologised, she defended her statement. This infuriated the client further, who categorically told that the statement of Himaja was against his organisation’s core values. He specifically told Shreya that unless concrete steps were taken against Himaja, he would not get into any business with the firm.

Which of the following is the MOST appropriate action that Shreya should take in the interest of all parties?

- A** Should move Himaja to a non-client facing role in the current project, and explore client facing roles in other projects.
- B** Should assure the client that Himaja will be transferred, but send Himaja for a two-week vacation to rejuvenate instead.
- C** Should castigate Himaja using strong words in front of the client, and later in the evening, share how much Shreya loved Himaja’s comment.

- D Should advise Himaja to look for a role outside the consulting industry since her competencies are not appreciated by clients.
- E Should defend Himaja, knowing fully that most probably Shreya will lose the client.

Instructions [98 - 100]

Read the following scenario and answer the three questions that follow.

Amish is the marketing head of an e-commerce firm named FillInCart (FICT). Recently, FICT signed a contract with a top celebrity to endorse their firm. A few months later, the celebrity was signed as the ambassador to promote tourism in a small country, Wadiya, ruled by a dictator. The dictator, in his zeal to bring peace to the region, brutally suppressed an armed uprising in Wadiya. He is currently facing sanctions, imposed by a few countries. When the news of the celebrity's association with Wadiya becomes public, calls for boycott of FICT start trending on social media.

98. Amish is concerned with the trending boycott calls and its probable impact on FICT's brand image.

Given the social media backlash, which of the following courses of action will help Amish BEST defend FICT's continued association with the celebrity?

- A Publicise on social media that FICT has nothing to do with the celebrity's association with other brands.
- B Declare on social media that FICT chose the celebrity for his philanthropic works.
- C Withdraw all advertisements, involving the celebrity, from all the media platforms till the social media moves to another issue.
- D Ignore social media backlash, assuming that in a few days a new issue will start trending.
- E Publicise on social media that the celebrity's endorsement of Wadiya Tourism will help improve the livelihoods of Wadiya's poor.

99. FICT's closest competitor, ShopAtUs (SAU), wants to grab this opportunity. They have come up with a slogan, "Never at the cost of human rights!" which has started trending in the social media. Amish is unsure if he should respond to the social media campaign of the competitor.

Which of the following options, if true, will BEST assure Amish that SAU's slogan is not affecting FICT's business negatively?

- A FICT's average monthly sales volume has increased by 5% since the SAU slogan launch, driven by the sales to repeat customers.
- B FICT's average monthly sales revenue has decreased by 3% overall when compared with the same month previous year.
- C Number of visitors to FICT's home page has increased by 15% since the SAU slogan launch.
- D More people are looking for Cash on Delivery for the high-end products since the SAU slogan launch, which is against company's policies.
- E FICT's average monthly sales revenue has increased by 1% overall since last month.

100. TRACT, a major travel and hospitality conglomerate, operates globally with a significant presence in Wadiya. Ever since the celebrity has signed the contract with Wadiya Tourism, the number of international tourists in Wadiya has increased manyfold. Companies like TRACT have a great hope towards the future

of tourism in Wadiya. Consequently, TRACT is looking forward to increase its investments in Wadiya. However, TRACT is concerned about the social media backlash against the celebrity. TRACT fears that the celebrity may terminate his contract with Wadiya Tourism.

Which of the following data, available in the public domain, will BEST assure TRACT that the celebrity will continue his association with the tourism sector of Wadiya?

- A** A week back, the celebrity released videos of the interiors of Wadiya where the poor need help.
- B** Last fortnight, the celebrity declared in the social media that upliftment of the poor is his biggest goal in the coming decade.
- C** Recently, the celebrity pledged 5% of his annual income towards global poverty alleviation.
- D** A week back, the celebrity signed on as the goodwill ambassador of the kingdom of Dubiya, where, recently, the king ferociously crushed insurgency.
- E** Last week, the celebrity announced that any backlash against him is a support for terrorism.

Answers

XAT 2021 Quant

1.E	2.C	3.B	4.C	5.C	6.A	7.C	8.D
9.B	10.B	11.A	12.E	13.A	14.E	15.D	16.A
17.C	18.A	19.A	20.E	21.E	22.A	23.D	24.A
25.D	26.E	27.D	28.E				

XAT 2021 English

29.D	30.C	31.D	32.D	33.A	34.C	35.E	36.E
37.E	38.D	39.D	40.E	41.A	42.E	43.C	44.D
45.E	46.D	47.C	48.D	49.E	50.C	51.B	52.C
53.E	54.C						

XAT 2021 General knowledge

55.B	56.C	57.B	58.B	59.A	60.D	61.A	62.C
63.B	64.C	65.C	66.D	67.C	68.D	69.C	70.B
71.C	72.E	73.D	74.A	75.D	76.A	77.B	78.D
79.C							

XAT 2021 Decision Making

80.E	81.B	82.C	83.A	84.B	85.A	86.A	87.E
88.D	89.E	90.E	91.B	92.C	93.E	94.E	95.A
96.A	97.A	98.E	99.A	100.D			

Explanations

XAT 2021 Quant

1. **E**

$$\log_4 mn = \log_2(m + n)$$

$$\sqrt{mn} = (m + n)$$

Squaring on both sides

$$m^2 + n^2 + mn = 0$$

Since m, n are positive real numbers, no value of m and n satisfy the above equations.

2. **C**

Let the number of eggs bought = $9x+2$

number of eggs left after throwing away 2 = $9x$

number of eggs kept in fridge = $5x$

number of eggs brought to his mothers' house = $4x$

number of eggs left after cooking 2 which are kept in fridge = $4x-2$

Given, $4x-2 \leq 5$

$$\Rightarrow x \leq \frac{7}{4}$$

Hence the max value of x is 1

Max number of eggs bought = 11

3. **B**

Let the total amount be $3x$

Case 1:

Smaller amount = x , rate of interest = 10

Larger amount = $2x$, rate of interest = 5

$$\text{Total amount received at the end of two years (smaller amount)} = x \left(1 + \frac{10}{100}\right)^2 = 1.21x. \text{ CI} = 0.21x$$

$$\text{Total amount received at the end of two years (larger amount)} = 2x \left(1 + \frac{5}{100}\right)^2 = 2.205x \quad \text{CI} = 0.205x$$

$$\text{Given, } 0.21x + 0.205x = 830$$

$$\Rightarrow x = 2000$$

$$2x = 4000$$

Case 2:

Smaller amount = x , rate of interest = 20

Larger amount = $2x$, rate of interest = 10

$$\text{Total amount received at the end of two years (smaller amount)} = x \left(1 + \frac{20}{100}\right)^2 = 1.44x. \text{ CI} = 0.44x$$

$$\text{Total amount received at the end of two years (larger amount)} = 2x \left(1 + \frac{10}{100}\right)^2 = 2.42x \quad \text{CI} = 0.42x$$

$$\text{Given, } 0.44x + 0.42x = 830$$

=> $x = 965.11$ which is not valid since it should be greater than 1000

4. **C**

Number of white phones = 2

Number of black phones = 2

Number of red phones = 1

customer 1 will have 3 choices

customer 2 will have 3 choices

customer 3 will have 3 choices

Hence total choices = $3 \times 3 \times 3 = 27$

The cases not possible = BBB, RRR, WWW, RRB, RBR, BRR, RRW, RWR, WRR

Possible cases = 18

Probability = $18/27 = 2/3$

5. **C**

The difference between the hour and minute hand of a clock is given by $|30H - 5.5m|$. Here H is the current hour and m represents the number of completed minutes in the current hour.

In the given time frame of 2: 30 to 3: 00 pm.

At 2 : 30 pm the angle = $|30 \cdot 2 - 5.5 \cdot 30| = 105 \text{ degrees}$

At 3: 00 pm the angle = $|30 \cdot 3 - 5.5 \cdot 0| = 90 \text{ degrees}$

The function of $|30 \cdot H - 5.5 \cdot m| =$ constantly increases as the value of m increases from 31, 32.....
59.

Because of the modulus function, the net value of the function remains positive

Between 2: 30 to 2: 59 the angle is constantly increasing. The minimum value is 2: 30 which is equal to 105 degrees which is greater than the 90 degrees when the time is 3: 00.

Hence 90 degrees is the minimum angle.

6. **A**

Let us assume there are 9 buses.

3 of them stop at C and 6 go non-stop

Given, One-third of the passengers, in the buses stopping at City C, continue to City B, while the rest alight at City C

=> Since all buses have equal capacity. we can say 2 will elite at C and 1 will proceed to B.

Hence required proportion = $1/7$

7. **C**

Given, CE=0.5, BC = 1.3 and ED=2.5

Triangle CEB is a right-angled triangle => EB = 1.2

Triangles ECB is similar to triangle EDA

EB/EC = AE/ED => AE = 6

Hence total distance travelled = AB + BC + CD = 7.2 + 1.3 + 3.5 = 11.5km

8. D

$$\frac{f(x)}{g(x)} = \frac{(x^2+1)}{x^2-1} \cdot \frac{(x-1)}{x+1} = \frac{(x^2+1)}{(x+1)^2}$$

This function is definitely greater than 0

$$\text{let } y = \frac{(x^2+1)}{(x+1)^2}$$

$$\Rightarrow x^2(y-1) + 2yx + (y-1) = 0 \text{ which is quadratic in } x$$

Discriminant should be greater than 0

$$4y^2 - 4(y-1)^2 \geq 0$$

$$\Rightarrow y \geq 1/2$$

$$\text{When } x=1, f(x)/g(x) = 1/3$$

Hence either the value should be greater than 1/2 or should be equal to 1/3

9. B

Let the speed of the stream be x

$$\frac{12}{5-x} = \frac{12}{5+x} + 1$$

The value of x satisfying the above equation is 1

Now,

$$\frac{N}{5+1} + \frac{N}{5-1} \geq 2$$

$$\frac{2N+3N}{12} \geq 2$$

$$\Rightarrow N \geq 4.8$$

10. B

Sum of 3rd row = sum of 2nd column

$$\Rightarrow 2x+4y = y+2z-1$$

$$\Rightarrow 2x+3y-2z = -1 \text{ ----- (A)}$$

Sum of diagonals are also equal

$$\Rightarrow 3x+4y+z-1 = y+z+2x+y+z$$

$$\Rightarrow x+2y-z = 1 \text{ ----- (B)}$$

Solving A and B we get y = 3

$$\text{Putting it in A, we get } x-z = -5 \text{ ----- (C)}$$

Sum of 1st row = sum of 2nd column

$$5x+5y+z = 3x+4y+2z$$

$$\Rightarrow 2x+y-z = 0$$

$$\text{Since } y=3, 2x-z = -3 \text{ ----- (D)}$$

Solving C and D we get x=2 and z=7

Hence $N = 36$

11. A

Let speed of deer = 5 steps/second and speed of tiger = 6 steps/sec

Let deer cover 1 m in a step \Rightarrow tiger covers $\frac{2}{3}$ m in a step

Hence speed of deer = 5m/s and speed of tiger = $6 \times \frac{2}{3}$ m/s = 4m/s

Hence time taken by a deer to catch tiger = 40 seconds

Distance travelled by deer in 40 seconds = $5 \times 40 = 200$ steps

Explanation [12 - 14]:

Total percentage incentive when number of team members = 1 = 100%

Total percentage incentive when the number of team members = 2 = 160%

Total percentage incentive when the number of team members = 3 = 180%

Total percentage incentive when the number of team members = 4 = 190%

Total percentage incentive when the number of team members > 4 = 200%

From 1, Number of people in 8 different projects = 6, 3, 3, 3, 3, 2, 2, 2 respectively

From 2, Given, exactly three projects are rated C and 4.8 lakh is paid in total

A minimum of 3 lakhs has to be paid for rating C $\Rightarrow 3 \times 1.6 = 4.8$ lakhs \Rightarrow All 2 member teams have been rated C

From 3, one project has been rated A*. Let that project be handled by the team of 3 members \Rightarrow Incentives = 180% of 6 = 10.8 lakh

Now remaining 6, 3, 3, 3 should be either rated A or B and the total incentives should be equal to $45 - 10.8 - 4.8 = 29.4$ lakhs

Let us assume 6 has been rated B \Rightarrow Incentives = 200% of 3 = 6 lakhs

The remaining 23.4 lakhs should come from 180%. $\frac{23.4}{1.8} = 13$ lakhs

Hence the remaining 3, 3, 3 can be rated as A, A, B

Hence final ratings are and total payouts are

6 - B - 6 lakhs

3 - A - 9 lakhs

3 - A - 9 lakhs

3 - B - 5.4 lakhs

3 - A* - 10.8 lakhs

2 - C - 1.6 lakhs

2 - C - 1.6 lakhs

2 - C - 1.6 lakhs

12. E

>

13. A

>

14. E

Total percentage incentive when number of team members = 1 = 100%

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Total percentage incentive when the number of team members =3=180%

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Total percentage incentive when the number of team members >4 = 200%

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Hence final ratings are and total payouts are

6 - B - 6lakhs

3- A - 9 lakhs

3-A - 9 lakhs

3-B - 5.4 lakhs

3-A* - 10.8lakhs

2-C - 1.6 lakhs

2-C - 1.6 lakhs

2-C - 1.6 lakhs

Explanation [15 - 17]:

From the given data the following table can be created:

	Males(80)		Females(160)		Total
	First timers	Returnees	First timers	Returnees	
Unhappy	1.5x	0.5x	x	3x	60
Happy	x	x	1.5x	4.5x	80
Neutral	x	3x	0.5x	5.5x	100
Total	3.5x	4.5x	3x	13x	240

Hence the value of $x=10$

	Males(80)		Females(160)		Total
	First timers	Returnees	First timers	Returnees	
Unhappy	15	5	10	30	60
Happy	10	10	15	45	80
Neutral	10	30	5	55	100
Total	35	45	30	130	240

15. D

16. **A**

From the given options, number of neutral first time female shoppers are the least

17. **C**

All the values can be uniquely determined

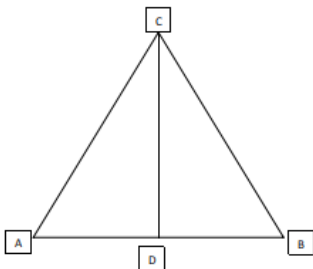
18. **A**

Since A, B and C are adjacent faces. If we remove them, the resultant solid will also be a cube with side 5.

Hence total number of cubes unpainted = $5^3 = 125$

19. **A**

We will try to maximize the value of the angle ACD:



For a fixed triangle ABC, the angle ACD can be maximized when we take the median CD to be perpendicular to AB and the value of AC is as small as possible, so that the sine of angle ACD, and hence, the angle ACD itself is maximized, as the value of AD is fixed at half of AB at 0.5.

Now, the least possible value of AC is 2. The triangle will be of sides (1,2,2).

Value of $\sin(\text{ACD}) = \frac{0.5}{2} = 0.25$

$\angle ACD = \sin^{-1}(0.25) = 14.78 \approx 15$.

20. **E**

Since $x^2 - y^2 = 20$ and x,y,z are positive integers,

$(x+y)(x-y) = 20$, Hence x-y, x+y are factors of 20.

Since x, y are positive integers, x+y is always positive, and for the product of $(x+y)(x-y)$ to be positive x-y must be positive.

x, y are positive integers and x-y is positive x must be greater than y.

The possible cases are : $(x+y = 10, x-y = 2)$, $(x+y = 5, x-y = 4)$.

The second case fails because we get $x = 9/2, y = 1/2$ but x, y are integral values

For case one $x = 6, y = 4$.

$$y^3 - 2x^2 - 4z \geq -12$$

Substituting the values of x and y, we have :

$$64 - 72 - 4z \geq -12$$

$$-8 - 4z \geq -12$$

$$z \leq 1$$

Since x, y, z are positive integers, the only possible value for z is 1.

21. **E**

Flight become znmorl

Let's assume $k > 3$

So flight will become thgilf -> znmrol. Hence the value of k will be 6

22. **A**

There are 5 ladies whose weights are 50 or above

There ages are 50, 50, 70, 60 and 80

Average = $310/5 = 62$

23. **D**

For the highest BMI, weight should be as high as possible and height as little as possible.

Hence it is possible with the person with a weight of 69 kg and a height of 1.6m

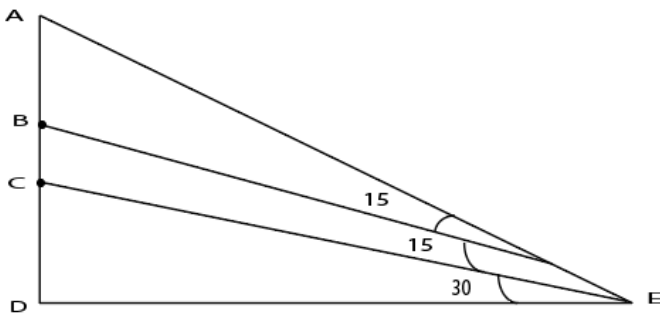
His BMI will be $\frac{69}{(1.6)^2} = 27$

24. **A**

The BMI of 1st oldest person = $\frac{40}{(1.5)^2} = 17.77$

The BMI of next oldest person = $\frac{61}{(1.75)^2} = 19.9$

25. **D**



Let $ED = \sqrt{3}x$

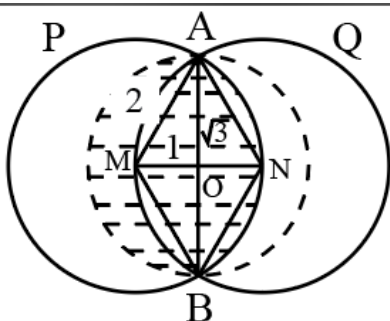
In triangle CDE, $\tan 30 = \frac{CD}{\sqrt{3}x} \Rightarrow CD = x$

In triangle BDE, $\tan 45 = \frac{BD}{\sqrt{3}x} \Rightarrow BD = \sqrt{3}x \Rightarrow BC = \sqrt{3}x - x$

In triangle ADE, $\tan 60 = \frac{AD}{\sqrt{3}x} \Rightarrow AD = 3x \Rightarrow AB = 3x - \sqrt{3}x$

$AB : BC : CD = (3 - \sqrt{3}) : (\sqrt{3} - 1) : 1$

26. **E**



We know that radius of circle P is 2 cm

Length of MO = 1 cm

$$\text{radius of circle R} = AO = \sqrt{2^2 - 1^2} = \sqrt{3}$$

Area of overlap between the circle R and P (shaded region) = semi circle area of R + area of segment ANBOA

Area of segment ANBOA = area of sector ANBM - area of triangle AMB

$$\begin{aligned} &= \frac{120}{360} \pi (2)^2 - \frac{1}{2} (1) (2\sqrt{3}) \\ &= \frac{4\pi}{3} - \sqrt{3} \end{aligned}$$

$$\begin{aligned} \text{Area of overlap between circle R and P} &= \frac{\pi (\sqrt{3})^2}{2} + \frac{4\pi}{3} - \sqrt{3} \\ &= \frac{17\pi}{6} - \sqrt{3} \end{aligned}$$

Answer is option E.

27. **D**

All the four friends will meet at the starting point after $\text{LCM}(60, 90, 40, 80) = 720$ seconds.

Number of laps by A in 720 seconds = 12

Number of laps by B in 720 seconds = 8

Number of laps by C in 720 seconds = 18

Number of laps by D in 720 seconds = 9

Together they complete = 47 laps

28. **E**

Let the 6 digit number be _ _ _ 42_

It is divisible by 2, 3, 5, 7, 11, 13

Since the number is divisible by both 2 and 5 the last digit of the number must be 0.

The number is also divisible by 3, 7, 11, and 13.

Hence the number must also be divisible by $7 \times 11 \times 13$.

$$= 7 \times 11 \times 13 = 1001.$$

A number which is a multiple of 1001 is of the form $abcabc$.

This is because $abc \times (1001) = abc \times (1000 + 1) = abc000 + abc = abcabc$.

Hence the number is 420420.

The first digit is 4.

XAT 2021 English

29. **D**

The given excerpt is about what different countries in the Middle East and North Africa are doing about Climate Change.

Sentence 3 introduces the topic by saying that the mentioned countries can do little about climate change.

Sentence 5 mentions the reason for the above problem.

Statement 1 says that some countries are at least trying.

Sentences 2 and 4 build on the above idea by mentioning the projects in Morocco and Saudi Arabia.

Thus, the correct sequence is 3-5-1-2-4.

The answer is option D.

30. **C**

4 is the opening statement as it introduces the idea of using behavioural models in finance. Hence, options B and D are eliminated.

1-3-2 forms a logical sequence as 1 introduces the "efficient market hypothesis", 3 contradicts 1 by giving the example of "asset price bubbles". Statement 2 talks further about the phenomenon.

Statement 5 builds up on 2 by talking about the "irrational exuberance" referring to the "investors bidding up" in 1.

Thus, the required sequence is 4-1-3-2-5.

31. **D**

Correct sentence: Moreover, he plays well, doesn't he?

The answer is option D.

32. **D**

Startups do not restricted reach. Restricted is not the appropriate word in the given context. Options B and C are eliminated. Startups open up to new markets when they launch a product. Therefore, the answer is option D.

33. **A**

"This is noteworthy, given that the ability to invent fictional stories may have been the last and most crucial stage in the evolutionary history of human language and the development of modern-like patterns of cognition"

Thus, the paintings will help us put a timeframe to the evolution of modern-like patterns of cognition. Thus, the correct option is A.

34. **C**

The given paragraph talks about how our habits, our surroundings and our temperaments determine the truth of our life. Among the given options, option C is the appropriate one.

35. **E**

As given in the passage, 'It guides our attempts to establish relations with the universe either by conquest or by union', it refers to our attitude of mind formed by our habits.

The answer is option E.

36. **E**

The number of people carrying cell phones has increased. This has created an implicit expectation that the person should answer the call. Option E best describes the above point.

The answer is option E.

37. **E**

"Now more people have cell phones than have toilets", this sentence is intended to convey that the number of cell phone users has increased over time.

The answer is option E.

38. **D**

From the last line in the first paragraph we can infer that multitasking gives you a feeling of achieving many things, single-tasking enables actually achieving something. Among the given options, option D is the appropriate one.

The answer is option D.

39. **D**

It is given that the ancestors of Homo sapiens interacted using numbers but we cannot infer that the ancestors of Homo sapiens interacted solely using numbers. In the second paragraph it is mentioned that they also used chemical language to communicate cell number.

The answer is option D.

40. E

In the last paragraph it is given that the bacteria vote with signalling molecules, the vote gets counted, and if a certain threshold (the quorum) is reached, every bacterium responds. This is called quorum sensing. All bacteria use this sort of quorum sensing to communicate their cell number in an indirect way via signalling molecules. Among the given options, option E defines appropriately.

The answer is option E.

41. A

The premise of the passage is based on numbers. Option A is not on the same premise.

The answer is option A.

42. E

Although the passage talks about Brutal competition, 'survival of fittest' is not inside the scope of the passage. Thus, Option A is not the correct option. Options B and D are irrelevant and hence can be easily eliminated.

"All organisms are given a chance, but not necessarily an equal chance."

From the above line of the paragraph, option C can be refuted.

Now, since option E is an apt conclusion from the passage, the correct option is E.

43. C

Option A: This is a distorted version of the main point of the passage. Thus, this is not the correct option.

Option B: This option is incomplete and has no mention of the laying off part.

Option C: This option aptly captures the essence of the passage and hence is the correct choice.

Option D: This is a distorted inference and hence is not a correct option.

Option E: This option misses the future aspirations of the company and hence is not the correct option.

Thus, the correct option is C.

44. D

The main motive of paragraph 2 is to reassure the employees of a better and promising future, and since only D captured this thought,

The correct option is D.

45. E

The poem is about pausing work and important conversations for a moment and enjoying another person's company.

Since only option E aptly catches the essence of the poem,

The correct option is E.

46. D

In the last lines of the poem, the author asks her/his partner to sit with her/him without caring about anything else around them.

Grackles are also mentioned to exemplify the context of the situation.

Since only option D conveys a similar meaning,

The correct option is D.

47. C

"Instead, the lives of men have been taken to represent those of humans overall. When it comes to the lives of the other half of humanity, there is often nothing but silence.

And these silences are everywhere[...] They are all marked—disfigured—by a female-shaped 'absent presence'. This is the gender data gap."

It can be understood from the above lines that 'absent presence' is used to showcase the value of women as a part of humanity. Although present, they are not recognized as its part.

Options A, B, and D are distorted inferences drawn from the above lines.

Since only option C captured this thought,

the correct option is C.

48. D

*"One of the most important things to say about the gender data gap is that it is not generally malicious, or even deliberate[...] **A double not thinking**, even: men go without saying, and women don't get said at all. Because when we say human, on the whole, we mean man."*

From the above lines this can be inferred that whenever there is a discussion regarding humanity, men were hitherto the face, while women didn't even get considered. This is a typical case of "double not thinking".

Since only D captured this thought most aptly,

The correct option is D.

49. E

Option A: This is refuted in paragraph 4 of the passage.

Option B: This is nowhere stated or implied in the passage.

Option C: The gender data gap is not amplified by data-based decision-making; rather, it can lead to incomplete deductions and half-truths. Thus, this is not the correct option.

Option D: The deadly consequences part is refuted in paragraph 4 of the passage.

Option E: Since this can be inferred from the last paragraph of the passage,

The correct option is E.

50. C

"We must discuss each question within the uncertainties that are allowed. And as evidence grows it increases the probability perhaps that some idea is right or decreases it. But it never makes absolutely certain one way or the other"

From the above lines, the author wants us to be open to accepting errors while answering the questions. With every piece of evidence, the probability of the veracity of the answer will either increase or decrease.

Thus, the correct answer is C.

51. B

The main argument of the author is made in the line, "*We absolutely must leave room for doubt, or there is no progress, and there is no learning*". The author dissuades the idea of certainty by describing it as an impediment to learning and progress.

Option A: Although this can be inferred from the passage, this is not the passage's main idea. This is not the correct answer.

Option B: This option rightly captures the essence of the main argument of the passage. Thus, this is the correct option.

Option C: The passage revolved around leaving some space for uncertainties while learning. Since the main discussion of the passage is not about questioning the accepted truths, this is not the correct option.

Option D: This can be rejected on the same grounds as C.

Option E: This can be rejected on the same grounds as C.

Thus, the correct option is B.

52. **C**

Correct sentences:

My friend is travelling to the UK.

She drinks medicine by the litre.

Would you rather go out or watch TV.

4, 5 and 6 are incorrect statements.

The answer is option C.

53. **E**

Correct statements:

In my opinion, Tom Jones is a bildungsroman.

The books were distributed between Jessica and Neha.

Life moves forward and teaches backwards.

Statements 2, 4 and 6 incorrect. Therefore, statements 1, 3 and 5 are correct.

The answer is option E.

54. **C**

Options A, B, D, and E are not mentioned or indicated in the paragraph and thus, can be eliminated.

The passage talks about how the newspapers are choosing stories to satisfy the narrowest of audiences instead of putting all the stories from the world for the public to judge.

Thus, option C is the answer.

80. **E**

Amidst an important meeting, Sridevi, of all the employees, chose Ashraf for help with a client; Ashraf has a very strong reason to be hopeful for his upcoming promotion.

Thus, option E is the correct option.

81. **B**

The starting tone of the reasons should be apologetic. Thus, Ashraf should start with reason 1.

After establishing his mistake, 'a greater good' reason will definitely help his case. Thus, reason 2 should follow 1.

Now, since there was a fault from the company's end also, he should make a case for the same. Thus, the best combination of the justification will be 1, 2, 3.

Citing shortcomings of the company in a similar previous scenario will not help his case. Also, not taking any lessons from past similar precedents will weaken his case.

Thus, the correct answer is B.

82. **C**

Lacking communication skills is a serious deterrent to advancement in one's career. Thus, observation 1 will be a substantial argument against Ashraf's promotion. The same is true for perception skills. So, option 2 will be a good follow-up. The latter observation can be further exacerbated by Ashraf's role in the email filter team, as it will build a case against his competence. Thus, observations 1, 2, 3 will put forth a very serious case against Ashraf's advancement aspirations.

Observations 4 and 5 put forth a case in Ashraf's favour as it shows his proactiveness and aspirations. Thus, 4 and 5 can be discarded.

Thus, the correct option will be C.

83. A

Option A: This is a very appropriate reason to file a case against PK as it shows the affirmation of their image and their intolerant attitude towards such behaviours.

Option B: This helpless attitude will not trade well with the stakeholders.

Option C: Filing a lawsuit against PK won't help their case with their dropping sales.

Option D: This action has the potential to further exacerbate their public image regarding the incident.

Option E: This option will also be discarded for a similar reason as option 4.

Thus, the correct option is A.

84. B

The only possible reason that will trade well with the public on social media will be PK's instinctive reaction to the wrong-doings of the villagers.

Since only option B reflects the same,

The correct answer is B.

85. A

Options B, C, and E will publicize unethical behaviour in public and hence will not help much with his case.

Option D will have a counterintuitive effect on his image.

Option A will be the most appropriate way to publicize him as it will not only revive the memory of the incident but also will give a boost to his Robinhood image.

Thus, the correct option is A.

86. A

The best course of action for Damdu would be option A that is to set up a shop in Churna which will barter all the material requirements of the village. In this way the women of Churna would not sell their products in the Tendua market instead they sell them to Damdu as it would avoid transportation cost if they get all the materials for their requirement.

87. E

In the passage it is given that the Churna women conveyed the virtue of their products through dance and song. So this means that the dance and song of the Churna women provided authenticity to the traders. So we can eliminate option B and D. Now even if Damdu could not dance and sing but could convey the authenticity for the Churna products he was selling then he would have found traders for Churna products in Tendua. So this eliminates option A and C. The best possible answer here is option E.

88. D

The most important reason for terminating the contract of Damdu would be the people of Churna feel that their produce might lose association with Churna and develop association with Damdu. The next important reason would be that people will not be able to understand and see how the new markets develop, that is they would be confined to Churna only. The remaining three statements state the things Churna people will lose of which the most important would be their bargaining skills followed by their identity and then the social interaction with the outer world. So the correct order is 1, 2, 5, 3, 4.

89. E

If Rinku had closed the door not left the door ajar after serving the tea then the accident would not have happened. Therefore the most obvious reason for the accident is Rinku leaving the door ajar.

90. E

Rohini should definitely take the session the next day and not leave it so options B and C are eliminated. Deferring the session is not viable as the fifth term is notorious and has non-negotiable teaching slots so she find have too much difficulty in another slot and also the students might have trouble regarding it, so eliminate option A. Requesting a colleague for taking the last session might not be good for the students as they may not relate to the new teacher, so eliminate option D. Option E is best option as Rohini herself must take the class even if there is a bit of problem.

91. B

Dhanraj may be a friend of Swarna and still scam Rohini so option A is eliminated. Option D is irrelevant so eliminate it. If Rohini's sixth term starts in a month then she can wait for the replacement of her crashed monitor, so option E is eliminated. Now among option B and C, option B provides a more reliable reason for Rohini to accept the offer because if she is a long term customer of the Maple Store which runs the service centre then she can trust Dhanraj and also the store would not want to lose a long term customer so suggestion provided by them can be regarded as genuine.

92. C

Option A can be eliminated as Saradeep recently had an anxiety attack so even if Sandeep shared all happenings of the day with Saradeep he might not do so due to health concerns. Kesar being paranoid about family is no reason for Sandeep to not tell Saradeep about his offer so option B is eliminated. Option D is eliminated because walking four kilometres does not indicate if Saradeep has anxiety issues or not. Saradeep might regard Law as respectable profession but may still want Sandeep to go for business studies so option E is also eliminated. If Option C is true then Sandeep must tell Saradeep otherwise there is change that Saradeep might stop talking to Sandeep again and that will be not good for both of them also there might again be anxiety problem with Saradeep.

93. E

Taapsi will not be a suitable choice as she is already heading another plant and also the travelling will take too much time. Dhanush has been with the organisation for three years only so Saradeep will not be comfortable in making him the plant head. Sandeep will join law school in 10 months so he is also not a good choice as after that he would have to leave the plant. Suhasini is Kesar's wife so Saradeep will definitely trust her but since she has been a homemaker for fifteen years so she is not a good choice to head the plant. Surendra is the best choice as has been the deputy head of their largest plant so he will know the workings of the plant thoroughly and besides that he has been with the organisation for 30 years which means that Saradeep will definitely trust him.

94. E

The question says Taapsi might prevent sandeep from taking higher studies and it is possible she might also feel jealous of sandeep so any option where a bond between Sandeep and Taapsi is reflected should be selected and option E is the best among all. It also states that Taapsi went against Saradeep's wish to gift Sandeep a bike which means that if Taapsi really wanted to go for fashion designing she would have gone for it even if that was against her father's wish.

95. A

If the clients do not appreciate strategic discussions with fresh recruits then Himaja cannot be in a client facing role and moreover she wont think that Nirmal has under estimated her or treated her badly.

96. A

Since Himaja is a fresh recruit so she is in a learning phase and even though she has made a few mistakes but still Nirmal should not be rude or harsh to her. So option B, C and D can be eliminated. Now between option A and E, option A is a better choice as Nirmal should is just warning her so that she be careful in the future meeting while Option E says that Nirmal is blaming Himaja for the situation she has put him in.

97. A

Shreya should not lie to the client so option B can be eliminated. Option E can be eliminated as their organisation will lose the client. Option D can be eliminated as that would be unfair to Himaja. Option D can be eliminated as insulting Himaja in front of the client will be demoralising for Himaja. therefore the best course of action would be option A.

98. **E**

Amish wants to reduce the backlash on social media and defend the company's continued association with the celebrity.

Option A will not help reduce the backlash as it would appear as a tactic to avoid blame and also help defend the continued association with the celebrity.

Option B tells about their reason for choosing the celebrity and not about the current situation the celebrity is in. Thus, it will not help improve the situation.

Options C and D go against the desired outcome as Amish wants to reduce the backlash and defend the celebrity's association with the company.

Option E is the best choice as it puts the celebrity's decision to work for Wadiya and also justifies the company's continued association with the celebrity

Hence, the answer is option E.

99. **A**

We have to choose an option which will assure Amish that SAU's campaign is not affecting FICT's business. It is possible if an option shows that FICT's customers are not leaving them for SAU.

Options B and C will have the opposite effect than desired and can be dismissed.

Option D is irrelevant to the topic of discussion.

Option E states that FICT's sales has increased but does not talk anything about SAU's sales or their customers, which is what we are trying to find.

Option A states that SAU's sales have increased but that they are driven by repeat customers and not new customers. This means that SAU was not able to acquire new customers from FICT. Thus, this will assure Amish.

Hence, the answer is option A.

100. **D**

TRACT's main concern is that the celebrity might terminate his contract with Wadiya because of the social media backlash. So, the option which will show TRACT that the celebrity is not affected by the backlash will put them at ease.

Options A, B and C do not help TRACT as it does not mention that the help to the poor is being done in Wadiya. The celebrity could do that in any country.

Option E might increase the backlash against the celebrity and which might change his mind about the contract.

Option D states that the celebrity has signed another contract with a state which has a similar leader as Wadiya. This shows that the celebrity has no problems with being associated with countries like Wadiya and is not concerned about the backlash. This also shows that the celebrity will most likely stay associated with Wadiya which is the result that TRACT wants.

Hence, the answer is option D.