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TEST BOOKLET

C

CSAT APTITUDE TEST– (4294) – 2024

Time Allowed: Two Hours

Maximum Marks: 200

INSTRUCTIONS

1. IMMEDIATELY AFTER THE COMMENCEMENT OF THE EXAMINATION, YOU SHOULD CHECK THAT THIS BOOKLET **DOES NOT** HAVE ANY UNPRINTED OR TORN OR MISSING PAGES OR ITEMS ETC. IF SO, GET IT REPLACED BY A COMPLETE TEST BOOKLET.
2. ENCODE CLEARLY THE TEST BOOKLET SERIES **A, B, C** OR **D** AS THE CASE MAY BE IN THE APPROPRIATE PLACE IN THE ANSWER SHEET.
3. You have to enter your Roll Number on the Test Booklet in the Box provided alongside. **DO NOT** write *anything else* on the Test Booklet.
4. This Test Booklet contains **80** items (Questions). Each item is printed in **English**. Each item comprises four responses (answers). You will select the response which you want to mark on the Answer Sheet. In case you feel that there is more than one correct response, mark the response which you consider most appropriate. In any case, choose **ONLY ONE** response for each item.
5. You have to mark all your responses **ONLY** on the separate Answer Sheet provided. See direction in the answers sheet.
6. All items carry equal marks. Attempt all items. Your total marks will depend only on the number of **correct responses** marked by you in the answer sheet. For **every incorrect** response **one-third** of the allotted **Marks** will be deducted.
7. Before you proceed to mark in the Answer sheet the response to various items in the Test booklet, you have to fill in some particulars in the answer sheets as per the instruction sent to you with your Admission Certificate.
8. After you have completed filling in all responses on the answer sheet and the examination has concluded, you should hand over to Invigilator only the answer sheet. You are permitted to take away with you the Test Booklet.
9. Sheets for rough work are appended in the Test Booklet at the end.

DO NOT OPEN THIS BOOKLET UNTIL YOU ARE ASKED TO DO SO

1. A circular road runs around a circular field. The width of the road is 10m and the diameter of the circular field is 200m. Two friends run along the road on the inner circumference and the outer circumference respectively and take the same time to complete one round around the field. Which of the following statement is correct?
- (a) Speeds of both the friends are the same.
 - (b) The person on the outer side of the track runs at a speed 10% more than his friend.
 - (c) The person on the inner side of the track runs at a speed 10% less than his friend.
 - (d) None of the above statements are correct in this context.
2. For Ananya's birthday party, her four relatives brought cakes weighing $6\frac{1}{8}$ kg, $10\frac{1}{2}$ kg, $8\frac{3}{4}$ kg, and $3\frac{15}{16}$ kg, respectively. All the cakes were divided into pieces such that each piece had the same weight. What is the minimum number of pieces that can be obtained?
- (a) 79
 - (b) 67
 - (c) 68
 - (d) None of these
3. Dinesh distributed all the chocolates equally among 8 students and discovered that 5 chocolates remained. If he had distributed the chocolates equally among 12 or 18 children, he would still have had 5 chocolates left. If the number of chocolates distributed by Dinesh was less than 200, then how many chocolates did he initially have?
- (a) 183
 - (b) 86
 - (c) 74
 - (d) 149

Directions for the following 4 (four) items:

Read the following **two** passages and answer the items that follow each passage. Your answers to these items should be based on the passages only.

Passage – 1

Water stress is a pressing concern in India, where agriculture plays a pivotal role in the economy. The Constitution of India, in its Seventh Schedule, allocates responsibilities for water management between the central government and states. This division of powers recognizes the need for a cooperative federal framework in managing water resources. However, water allocation among states often leads to disputes due to variations in water availability and conflicting interests. These disputes frequently necessitate intervention from central authorities to ensure equitable distribution and conflict resolution. Efforts to address water stress involve improving water use efficiency in agriculture through modern irrigation techniques, crop selection, and sustainable farming practices. The Constitution's framework allows for adaptation to changing conditions, emphasizing the importance of sustainable water management as India grapples with the challenges of water stress and agricultural sustainability.

4. Based on the above passage, the following *assumptions* have been made:
- 1. States often do not cooperate mutually in resolving the water disputes without third-party intervention.
 - 2. Resolving inter-state water disputes can enhance agricultural productivity.
- Which of the above *assumptions* is/are **invalid**?
- (a) 1 only
 - (b) 2 only
 - (c) Both 1 and 2
 - (d) Neither 1 nor 2
5. Which of the following statements **best reflects the crux** of the passage?
- (a) Addressing water stress is a prerequisite to ensuring cooperation among states in India.
 - (b) Water dispute resolution should be based on the principles of equitable distribution.
 - (c) Water dispute resolution within the context of the constitution can resolve water stress and ensure agricultural sustainability.
 - (d) Better agricultural productivity calls for cooperation among states on water disputes.

Passage – 2

The way we engage in consumption, travel, and resource utilization can either exacerbate or ameliorate environmental challenges. Encouragingly, individual endeavours can wield a significant influence. Modest yet impactful actions, such as curtailing energy consumption, embracing eco-friendly modes of transportation, and curtailing the use of disposable plastics, collectively serve to diminish our ecological footprint. A sustainable way of life not only confers benefits upon the environment but also fosters enhanced well-being by purveying cleaner air and diminishing exposure to noxious substances. Ultimately, by acknowledging the intricate interplay between environmental dilemmas, lifestyle choices, and personal health, individuals are empowered to become astute consumers and guardians of the environment. This underscores that even the minutiae of our daily choices can collectively instigate a positive transformation and contribute to the health of both the planet and the individual.

6. Which of the following is/are the **most rational and logical inference/ inferences** that can be made from the passage?

1. The environment is well capable of guarding itself against the ills of consumerism.
2. Net individual carbon footprint can only be reduced; it can never be eliminated.

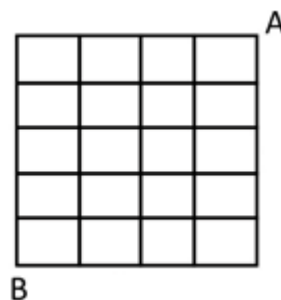
Select the correct answer from the code given below:

- (a) 1 only
- (b) 2 only
- (c) Both 1 and 2
- (d) Neither 1 nor 2

7. Which of the following is **most definitively implied** by the above passage?

- (a) Individual effort is more significant than collective effort in the context of environmental conservation.
- (b) Any form of consumption of natural resources is detrimental for environment.
- (c) It is the lifestyle of humans which affects the health of the planet and individuals themselves.
- (d) Both (a) and (b)

8. In the diagram given below, the lines represent the one-way roads allowing cars to travel only towards the west or south direction.



In how many ways can a car travel from point A to point B?

- (a) 126
- (b) 245
- (c) 128
- (d) 150

9. Ananya can buy a certain number of toys for Rs. 1050. If the price of toy increases by Rs. 15, the number of toys Ananya can buy for the same amount decreases by 9. Find the original price (in Rs.) and the number of toys Ananya could buy at that price.

- (a) 25, 42
- (b) 45, 25
- (c) 35, 30
- (d) None of these

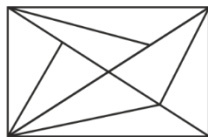
10. If set $P = \{2, 3, 5, 7\}$ and set $Q = \{2, 4, 6, 8\}$, then which of the following is true for the sets P and Q?

- (a) Number of elements in $P \times Q$ is 16.
- (b) Number of elements in $P \times Q$ is 1.
- (c) Number of elements in $P \times Q$ is 8.
- (d) None of these

11. Sanjay wrote 7 letters U, P, Q, R, E, F and M on a board. How many 4 letter words can be formed using these letters, such that at least one letter of the word is a vowel?

(a) 720
(b) 680
(c) 830
(d) 780

12. How many triangles are there in the following figure?



(a) Less than 16
(b) 18
(c) More than 18
(d) In between 16 and 18

13. A cubic room was carpeted at the cost of Rs. 10 per sq. m. The total cost of carpeting was Rs. 1000. The walls of the room have to be painted up to a height of 3m. What shall be the cost of painting if the rate is Rs. 20 per sq. m?

(a) Rs. 800
(b) Rs. 2400
(c) Rs. 6000
(d) Data not sufficient.

14. In a cricket training club, the average height of boys ranges between 100 cm and 120 cm, while the average height of girls falls between 80 cm and 100 cm. With 90 boys and 60 girls in the club, the average height of the entire club (in cm) definitely lies in the range:

(a) 90 cm to 115 cm
(b) 100 cm to 125 cm
(c) 80 cm to 105 cm
(d) 100 cm to 110 cm

Directions for the following 3 (three) items:

Read the following **two** passages and answer the items that follow each passage. Your answers to these items should be based on the passages only.

Passage – 1

Politics in India is a complex and multifaceted journey. Politicians have the power to drive transformative changes and advocate for the needs and aspirations of the people they serve. Intense competition, often driven by factors beyond ideology and governance, is a prevailing issue. Partisan conflicts and the struggle to maintain ethical standards in a polarized environment can overshadow the noble ideals of public service. The influence of money and muscle power in elections, the lack of transparency, and a general disconnect between politicians and the public are among the persistent issues. Successful politicians often combine dedication, effective leadership, and a genuine commitment to the welfare of their constituents to navigate these challenges and contribute positively to the nation's progress.

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

1. Success in a political career is not easy due to ideological and governance related issues.
2. In the domain of public service, the notion of an ethical politician is a myth.

Which of the above *assumptions* is/are valid?

(a) 1 only
(b) 2 only
(c) Both 1 and 2
(d) Neither 1 nor 2

16. Which of the following statements **best reflects the crux** of the passage?

- (a) Election is a tool for the socio-economic transformation of the nation.
- (b) Better administrators in governance make for better politicians.
- (c) It is impossible to become successful in politics without the unethical means of money and muscle power.
- (d) A successful politician navigates the complex issues in politics for the greater good of the people and the nation.

Passage – 2

Patriarchy, a deeply ingrained societal structure, has historically limited individual freedom and equality, particularly for women. It has perpetuated gender-based hierarchies and denied full autonomy to marginalized groups. True freedom encompasses breaking free from such constraints and recognizing that respect for every individual's rights and dignity is paramount. Freedom flourishes when individuals are empowered to make choices without discrimination, and respect is extended universally. By dismantling the rigid structures of patriarchy and fostering an inclusive society that values the autonomy, worth, and freedom of all its members, we can pave the way for a more just and equitable world, where respect and freedom coexist harmoniously.

17. Which of the following statements **best reflects the logical inference** from the passage given above?

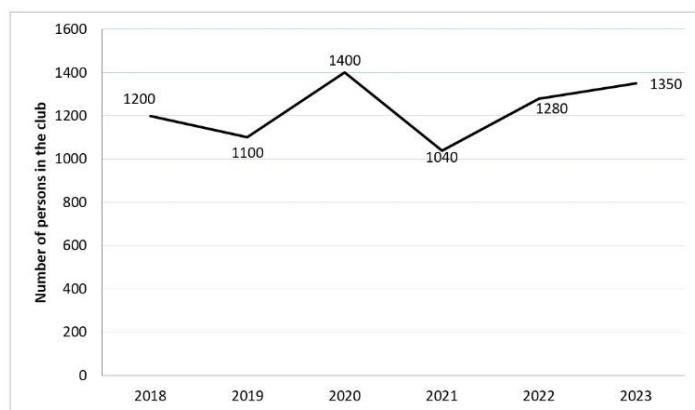
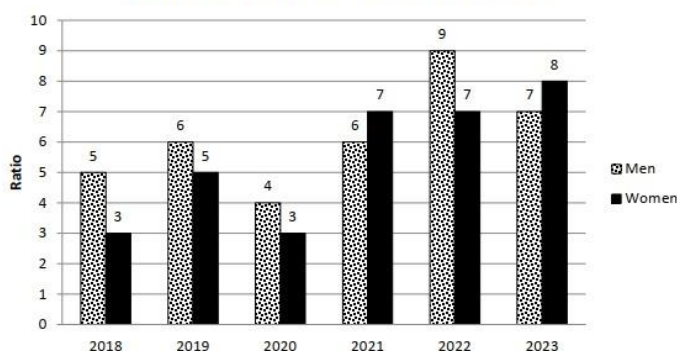
- (a) Patriarchy is in contradiction to the constitutional values almost all countries.
- (b) Dismantling patriarchy and ushering in a state of freedom and equality for women is a utopian ideal.
- (c) The concepts of patriarchy and an inclusive society are antithetical to each other.
- (d) Patriarchy, as a social structure, is a universal phenomenon prevalent in every corner of the world.

Directions for the following 2 (two) items:

Consider the given information and answer the two items that follow.

The graphs given below show the ratio of Men and Women and the number of persons in a club in different years. Study the graphs and answer the two items that follow.

Ratio of men and Women in a club



18. What is the ratio of the number of men in the year 2021 to the number of women in the year 2023?

- (a) 3 : 2
- (b) 6 : 7
- (c) 7 : 8
- (d) None of these

19. Which of the following can be concluded with respect to the given charts?

- (a) Number of females in the year 2020 is greater than that of males in 2023.
- (b) Difference between males and females is 260 in the year 2022.
- (c) Both options (a) and (b)
- (d) None of these

20. Neelam borrowed Rs. 2000 at compound interest, compounded annually for 3 years. The respective rates of interest for the first, second and third years were 10%, 20% and 30% per annum. Had the sum of Rs. 2000 been lent at 20% p.a. simple interest for 3 years, how much more/less interest would have been accrued?

- (a) Interest would have been Rs. 116 more.
- (b) Interest would have been Rs. 116 less.
- (c) Interest would have been Rs. 232 less.
- (d) Interest would have been Rs. 232 more.

21. Hemendra needs to reach a destination 130 km downstream on a river. He can row at 4 km/hr in still water. The river flows at a usual rate of 2 km/hr, but due to tides every two hours, the water speed doubles. Such tides last for 2 hours after which the water speed becomes 2 km/hr again. If Hemendra starts just as a tide subsides (i.e. when the river begins to flow at 2 km/hr), at what time will he reach his destination?
- 18 hours
 - $18\frac{3}{4}$ hours
 - $19\frac{3}{4}$ hours
 - None of these
22. Roshini went to a stationary shop to buy some scales, pencils and crayons. She decided to buy twice as many crayons as pencils, and at least one more pencil than scales. Pencils are thrice as expensive as scales, and scales are sold at half the price of crayons. If each scale costs Rs. 2 and the total amount spent is Rs. 94, then how many items did she purchase in all?
- 23
 - 25
 - 27
 - 29
23. Two friends play a game with two distinct dices. They agree that the person who gets a total of 9 on rolling the two dices first will win the game. What is the probability that a total of 9 appears when two dices are thrown simultaneously?
- $\frac{1}{9}$
 - $\frac{1}{18}$
 - $\frac{1}{4}$
 - $\frac{1}{12}$
24. Consider the following series.
117649, 16807, 2401, 343, 50, 7
One of the terms in the above series is incorrect. Which term in the above series is incorrect?
- 2401
 - 16807
 - 50
 - 7
25. Kamal is the neighbor of Pankaj and lives 400 m towards the East from him. Naman is the neighbor of Kamal and lives 400m towards the north from him. Satya is the neighbor of Naman and lives 400 m to the West from him. If the distance between Satya and Pankaj is also 400 meters, then who lives to the South-East of Satya?
- Cannot be determined
 - Pankaj
 - Naman
 - Kamal
26. Six girls A, B, C, D, E and F play a game of marbles. Each girl has 10 marbles to begin with. F borrows 2 marbles from A and gives away 5 to C, who in turn gives 3 to B. While B gives 6 to D, who passes on 1 to E. Then the marbles possessed by D and E is equal to the number of marbles possessed by
- A, B and C
 - B, C and F
 - A, B and F
 - A, C and F
27. Mr. and Mrs. Pandey have only three children, Ananya, Rudhra and Ishan. Seven years ago, Mr. Pandey's age was twice the sum of the ages of three children put together. Now, the combined age of Mr. and Mrs. Pandey is equal to twice of the sum of the ages of their three children put together. What is the age of Mrs. Pandey?
- 42 Years
 - 38 Years
 - 35 Years
 - None of these

28. In a particular company 20% of the capital depreciates every year. If for a period of 5 years there is no new investment, what fraction of the capital will remain in the company?
- (a) $(1/5)^6$ x original capital
 (b) $(4/5)^6$ x original capital
 (c) $(4/5)^5$ x original capital
 (d) $(1/5)^5$ x original capital
29. In a showroom, there are televisions of five different brands - Samsung, LG, Sony, Panasonic and TCL. The cost of Samsung is Rs. 10000 and that of TCL is Rs. 17500. Samsung is cheaper than Sony but more expensive than LG. TCL is more expensive than Sony but cheaper than Panasonic. Which among the following the most expensive and what can be its cost?
- (a) Panasonic, Rs. 18000
 (b) Sony, Rs. 18000
 (c) Panasonic, Rs. 17000
 (d) Sony, Rs. 20000
30. Six friends P, Q, R, S, T and U are sitting in a circle. P is to the left of Q and to the right of R. S is in front of P. S is to the left of T and to the right of U. If T interchanges its position with P and U interchanges its position with Q, then who would be sitting in front of P?
- (a) U
 (b) Q
 (c) T
 (d) S

Directions for the following 5 (five) items:

Read the following **three** passages and answer the items that follow each passage. Your answers to these items should be based on the passages only.

Passage – 1

Farmers worldwide face a critical challenge in adapting to the impacts of climate change, which poses risks to food security. Their limited capacities to adapt stem from various factors. Firstly, many farmers lack access to modern climate-resilient technologies and practices, often due to financial constraints. Additionally, traditional farming methods passed down through generations can be resistant to change, creating a barrier to adopting climate-smart practices. Inadequate information and awareness regarding climate risks further hinder effective adaptation. The repercussions of farmers' low adaptive capacities are far-reaching, as disruptions in agricultural productivity can jeopardize food security, impacting communities and nations.

31. Which of the following is/are **the most rational and logical inference/ inferences** that can be made from the passage?
1. Climate adaptation is difficult for farmers worldwide.
 2. Farming has become less lucrative due to the ongoing climate change.
- Select the correct answer from the code given below:
- (a) 1 only
 (b) 2 only
 (c) Both 1 and 2
 (d) Neither 1 nor 2
32. Which of the following statements **best reflects the crux** of the passage?
- (a) Adaptation to climate change and ensuring food security are the responsibilities of the farmers.
 (b) Only poor farmers' climate adaptation capacities threaten future food security.
 (c) Food security of the future is dependent on farmers' adaptation to climate change.
 (d) None of the above

Passage – 2

In the context of demographic dividends and women's productivity, the prevalence of anaemia and tuberculosis among women can have far-reaching implications. Anaemia affects a woman's overall health and her ability to be productive in both the household and the workforce. When women are anaemic, they often struggle with fatigue and reduced cognitive function, hampering their productivity and economic contributions. Furthermore, TB is a highly contagious disease that can disproportionately affect women, given their roles in caregiving and the household. The economic toll of TB is substantial, as it leads to missed workdays and productivity losses. Addressing anaemia and TB in women is not just a matter of healthcare but also a strategic investment in harnessing the demographic dividend.

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

1. The impact of anaemia and TB is majorly limited to women and old people alone.
2. Anaemia and TB potentially affect more than thirty per cent of the demography of a nation.

Which of the above *assumptions* is/are valid?

- (a) 1 only
- (b) 2 only
- (c) Both 1 and 2
- (d) Neither 1 nor 2

34. What is the *central idea that can be inferred* from the passage?

- (a) State governments must come up with programmes for addressing anaemia and TB among women.
- (b) Women-led growth can be achieved only after addressing the issue of women health.
- (c) Addressing anaemia and TB among women is crucial not only for the economy, but for society at large as well.
- (d) To reap demographic dividend, adequate attention should be paid to the health and nutrition of women.

Passage – 3

Corruption erodes the very foundations of morality and sows distrust within society. When individuals in positions of power engage in corrupt practices, they betray the trust placed in them by the public. Morality demands honesty, integrity, and a commitment to the greater good, principles often violated by corrupt actions. As a result, public trust in institutions, governments, and even fellow citizens is undermined. Rebuilding this trust is an arduous process, necessitating a collective commitment to combat corruption at all levels. Fostering a culture of transparency, accountability, and ethical behaviour is essential. When morality prevails, public trust is restored, and society can thrive with the confidence that its institutions act in the best interests of all.

35. Which of the following statements *best reflects the crux* of the passage?

- (a) Despite being immoral, corruption is a normalized phenomenon across societies.
- (b) The immeasurable ill-effects of corruption need transparency, accountability, and morality as remedy.
- (c) An ill-informed citizenry is the root cause of a society marred with the evils of corruption.
- (d) Both (a) and (b)

36. Two pipes can fill an empty tank in 40 min and 60 min respectively. There is an outlet pipe C. If all the 3 pipes are opened simultaneously, the empty tank can be filled in 48 min. How much time will it take for pipe C alone to empty the full tank?

- (a) 52 min
- (b) 42 min
- (c) 50 min
- (d) 48 min

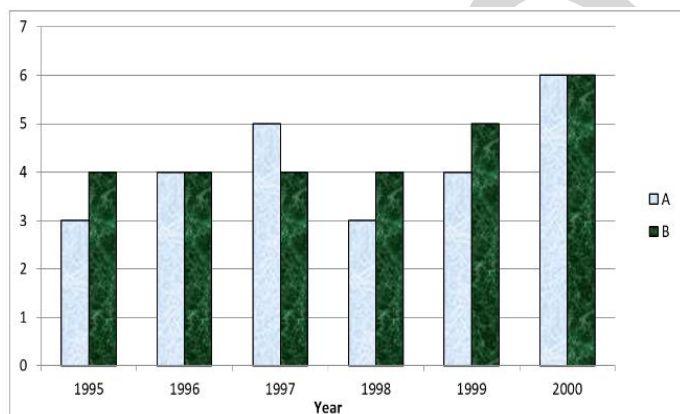
37. In this question, four options are given, out of which one option is different from the rest. Select that option.

(a) QEAUYITL
(b) SUJECIT
(c) VPRYOTE
(d) RILYTBE

38. How many times will the hour and minutes hands of a clock overlap between 4:00 am and 10:00 am?

(a) 5 times
(b) 6 times
(c) 11 times
(d) 23 times

39. The following graph shows the profits (in lakhs of Rupees) of two merchants for some given years.



Which of the following statements is correct regarding the average profit earned by the two merchants in the given years?

- (a) The average profit of merchant A is more.
(b) The average profit of merchant B is more.
(c) The average profit of both the merchants is the same.
(d) No conclusion can be drawn regarding the average profits of the two merchants.

40. What will be the next term in the following series?

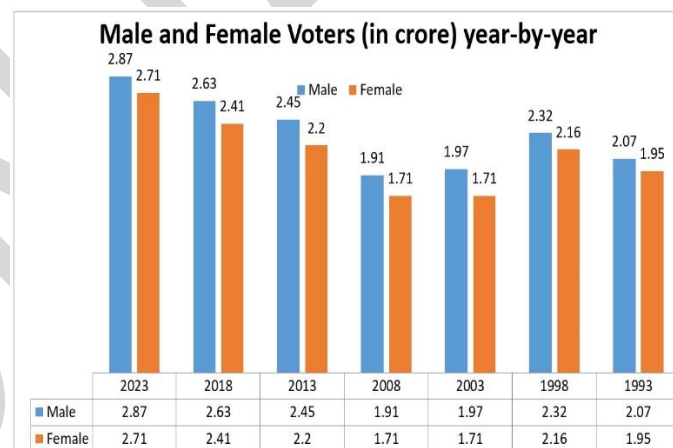
6, 3, 3, 4,?

(a) 4
(b) 5
(c) $16/3$
(d) None of these

Direction for the following 2 (two) items:

Consider the given information and answer the two items that follow.

The following two items are based on the graph given below which shows the number of male and female voters (in crore) in different years. Study the graph and answer the two items that follow.



41. In which of the following years the difference between male and female voters was the highest?

(a) 2013
(b) 2018
(c) 2003
(d) 2023

42. What is the ratio of the sum of the female voters in the years 2003, 2008 and 2023 to the sum of the male voters in the years 2018, 1998 and 1993?

(a) 6 : 7
(b) 4 : 7
(c) 613 : 702
(d) 702 : 613

43. If ELEPHANT = 1 and GOAT = 9, then RAINBOW =?
- (a) 4
(b) 2
(c) 7
(d) 9
44. A trader purchases two computers at prices which are in the ratio 5:3. He made $x\%$ loss on the first computer and $2x\%$ profit on the second one, when he sold them. In the entire transaction, the trader makes a profit of 2.5%. Find the value of x .
- (a) 15
(b) 20
(c) 25
(d) 30
45. Thirteen consecutive numbers are selected from the series 3, 6, 9, 12, If 39 is the mean of first five of those selected numbers, then what is the mean of all the 13 numbers?
- (a) 39
(b) 54
(c) 51
(d) 52
46. At what time between 2 O'clock and 3 O'clock will the minute hand and the hour hand of a clock be in the same straight line but not together?
- (a) 2: 458/11
(b) 2: 478/11
(c) 2: 456/11
(d) 2: 480/11

47. Two statements S1 and S2 are given below followed by a question.
S1: Animesh travels 200 km in a span of 6 hours.
S2: Animesh's speed while travelling from P to Q is 30 km/hr, while his speed during the return journey goes up by 33.33%.
- Question:** Animesh travels from P to Q and back. What is his average speed for the whole journey?
- Which one of the following is correct in respect of the above Statements and the Question?
- (a) S1 alone is sufficient to answer the question.
(b) S2 alone is sufficient to answer the question.
(c) Either S1 alone or S2 alone is sufficient to answer the question.
(d) Both the statements together are not sufficient to answer the question
48. How many natural numbers divide exactly one out of 5400 and 9000, but not both?
- (a) 24
(b) 36
(c) 48
(d) 72

Directions for the following 3 (three) items:

Read the following **three** passages and answer the items that follow each passage. Your answers to these items should be based on the passages only.

Passage – 1

When a food system lacks diversity and quality, it often leads to widespread malnutrition, with both undernutrition and overnutrition prevalent. Inadequate access to nutritious foods, especially in low-income communities, can result in stunted growth, weakened immune systems, and poverty. On the flip side, excessive consumption of unhealthy, processed foods contributes to a surge in diet-related diseases such as obesity, diabetes, and heart conditions. A transformation of food systems is not only a matter of public health but also an economic imperative. Investing in more diverse, nutritious, and sustainable food production, distribution, and consumption can lead to healthier populations, reduced healthcare costs, and increased labour productivity, which collectively contribute to economic growth and resilience.

49. Which one of the following statements *best reflects the most critical inference* that can be drawn from the passage above?
- (a) The food system is an essential pillar of a prosperous and healthy society.
 - (b) Even without prioritising health and nutrition, a society can reap demographic dividend.
 - (c) Globally, food-based nutrition should be placed at the centre of health policies.
 - (d) Indian society faces the double whammy of undernutrition and overnutrition.

Passage – 2

Idealism and pragmatism represent contrasting philosophical approaches that influence how individuals perceive and approach the world. Idealism revolves around the belief in the inherent goodness and potential for positive change in human nature and society. Idealists often prioritize moral and ethical considerations and advocate for the pursuit of higher ideals, even if they may seem unattainable. In contrast, pragmatism is grounded in a realistic, practical, and results-oriented mindset. Pragmatists prioritise practical solutions and the adaptation of means to achieve specific ends. While idealism can inspire and set aspirational goals, pragmatism often provides the practical means to achieve them. The tension between these two perspectives can lead to a dynamic balance that allows for both visionary ideals and realistic problem-solving, providing a framework for navigating complex issues and making informed decisions.

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

1. Pragmatists are better than idealists in handling the failures of life.
2. Considering their nature, idealists and pragmatists may complement each other.
3. Idealism and pragmatism are the only two philosophical approaches currently trending in the world.

Which of the above *assumptions* is/are *invalid*?

- (a) 1 only
- (b) 2 only
- (c) 1 and 3 only
- (d) All 1, 2 and 3

Passage – 3

In a dictatorship, power is centralized in the hands of a single individual or a small group. Civil liberties, freedom of expression, and political opposition are typically suppressed, leading to limited individual freedoms and a lack of accountability. Dictatorships may promise stability, but often come at the cost of human rights and social development. In contrast, democracy is characterized by power resting with the people, where they elect representatives and participate in decision-making. It promotes individual rights, freedoms, and the rule of law, with mechanisms for checks and balances. While democracies can be complex and at times inefficient, they offer transparency, accountability, and the protection of individual liberties.

51. Which of the following is/are *the most rational and logical inference/inferences* that can be made from the passage?

1. Democracies are less stable than dictatorships, which deliver better growth opportunities for the nation in the long run.
2. Dictatorship follows a strict rule of law, unlike democracy wherein rules are easily bent and broken.

Select the correct answer from the code given below.

- (a) 1 only
- (b) 2 only
- (c) Both 1 and 2
- (d) Neither 1 nor 2

52. Five bells, which toll at the intervals of 6, 7, 8, 9 and 10 seconds respectively, began to toll together. How many times will they toll together in 2 hours (ignore their simultaneous tolling at time $t=0$)?

- (a) 2
- (b) 3
- (c) 4
- (d) 5

53. Anuja has some toys with her. She has 8 times as many one-rupee toys as three-rupees toys. She also has some five-rupee toys too. The total amount invested by her in these toys together is Rs.200. If the number of three-rupees toys is more than 10, then which of the following can be concluded?
- Total number of toys is less than 140.
 - Total number of toys is 132.
 - Total number of toys is 142.
 - Total number of toys is more than 150.
54. Arvind can complete a piece of work in 10 days, Ajay in 20 days and Rudra in 40 days. Arvind, Rudra and Ajay start the work together, but Ajay and Rudra work only on the first day, third day, fifth day and so on. Which of the following can be concluded?
- Work will get completed in 9 days.
 - Work will get completed in 7 days.
 - Work will get completed in 8 days.
 - They will complete $7/4^{\text{th}}$ of the work by the 7th day.
55. In what ratio must Hemendra mix two varieties of apples costing Rs. 24 per kg and Rs. 38 per kg, so that by selling the apples at Rs. 40 per kg he would make $11(1/9)\%$ profit?
- 3 : 7
 - 1 : 5
 - 1 : 6
 - None of these
56. A man decides to pave his hall, which is 72 metres long and 90 metres wide, with square tiles. What is the least possible number of such equal sized square tiles which can be fitted in the hall?
- 30
 - 25
 - 15
 - 20

Directions for the following 3 (three) items:

Consider the given information and answer the three items that follow.

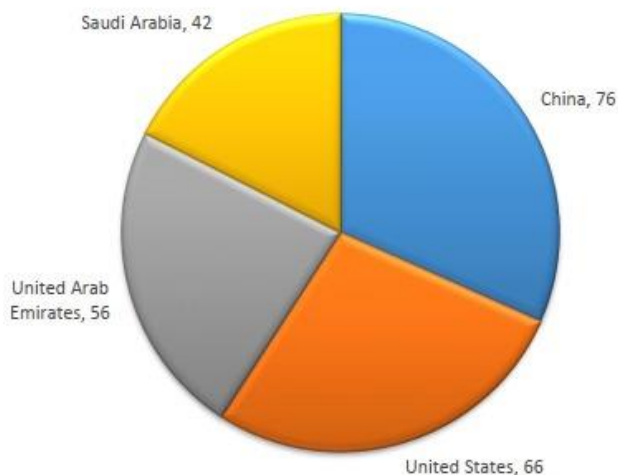
A certain number of people are sitting in a straight line facing the north direction. Five persons sit between M and S. R sits 3rd to the right of S. J sits 2nd to the left of M. P is the only neighbor of J. T sits fourth to the right of P. D sits fifth to the right of T. G sits 3rd to the left of D. One person sits between G and Q. Number of persons sitting to the left of T is three less than the number of persons sitting to the right of D.

57. How many persons are there in the row?
- 10
 - Less than 10
 - More than 15
 - More than 20
58. Who is sitting 3rd to the left of the person who is 6th to the left of R?
- M
 - J
 - D
 - G
59. What is the mutual position of M and Q with respect to each other?
- M is 6th to the right of Q.
 - Q sits 8th to the right of M.
 - Q sits 5th to the right of M.
 - M is 7th to the left of Q.

Directions for the following 2 (two) items:

Refer to the pie chart and table given below and answer the questions that follow.

India's largest trade partners with their total trade (sum of imports and exports) in billions of US dollars for a certain financial year were as follows (shown in the pie chart):



The exports (in billions of US dollars) to the above mentioned countries in the same financial year were as follows (shown in the table):

Country	Exports
China	9
United States	40
United Arab Emirates	30
Saudi Arabia	6

60. If Trade Balance is defined as: Trade Balance = "Exports – Imports" (Exports less Imports), then how many countries are there with which India has positive Trade Balance?
- (a) 1
(b) 2
(c) 3
(d) 4

61. If 'x' is India's total trade with a country (e.g. x=76 for China, x=66 for the United States and so on, all in US billion dollars), then what will be the central angle in the total trade pie chart for that country?
- (a) x°
(b) $(0.5x)^\circ$
(c) $(2x)^\circ$
(d) $(1.5x)^\circ$

Direction for the following 2 (two) items:

Consider the given information and answer the two items that follow.

Eight persons P, Q, R, S, T, U, V and W are living in an eight-storey building, but not necessarily in the same order. The lower most floor is numbered as one and the floor immediately above is numbered as two and so on. U lives on an odd numbered floor, but above the third floor. Only two persons live between T and V. The number of persons living between U and V is one less than the number of persons living between V and T. S lives three floors above P, who lives immediately below T. R lives below Q and above W. As many persons live between R and W as the number of persons living above R.

62. Who among the following stays between R and S?
- (a) W
(b) P
(c) U
(d) V
63. How many persons live between R and P?
- (a) Only two
(b) More than four
(c) Three
(d) Four

Directions for the following 4 (four) items:

Read the following **three** passages and answer the items that follow each passage. Your answers to these items should be based on the passages only.

Passage – 1

Inequality and charity exist in a complex relationship within society. While charity plays a vital role in alleviating the immediate suffering of those in need, it's essentially a temporary solution to systemic issues like income disparities, access to education, and healthcare. Charity, while admirable, can sometimes perpetuate the status quo by not addressing the root causes of inequality. Therefore, while charity serves as a valuable band-aid for societal issues, a more sustainable and impactful approach involves a concerted effort to address systemic disparities and provide opportunities for all, ultimately reducing the need for charity in the long run.

64. Which one of the following is ***the most logical and rational inference*** that can be made from the above passage?
- (a) Societies with inequality should make concerted efforts to end the practice of charity in the long run.
 - (b) Charity is not a sustainable solution for the inequality present in society.
 - (c) Rather than reducing, charity increases the inequality in society.
 - (d) Inequality is a natural phenomenon, which charity cannot solve in the long run.

Passage – 2

Introduced by Sigmund Freud in his psychoanalytic theory, the superego represents the moral and ethical dimension of an individual's psyche. It develops through early childhood experiences, influenced by caregivers, societal norms, and cultural values. The superego consists of two main components: the ego ideal and the conscience. The ego ideal represents an individual's aspirations and values, while the conscience embodies moral prohibitions and standards. These two components often come into conflict, leading to internal struggles. The superego acts as an internalized moral compass, guiding one's behaviour and decisions in line with societal and personal standards. The complexities of the superego are rooted in the delicate balance it strikes between upholding moral principles and avoiding excessive rigidity or self-criticism.

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

- 1. Ego ideal and conscience cannot exist in a non-conflict state within an individual.
- 2. The presence of superego has been scientifically proven.

Which of the above *assumptions* is/are ***invalid***?

- (a) 1 only
 - (b) 2 only
 - (c) Both 1 and 2
 - (d) Neither 1 nor 2
66. According to the author, ***the most rational inference*** is:
- (a) Human beings are social animals that cannot be understood using a complex superego.
 - (b) The superego in psychology is a complex and intricate aspect of human personality.
 - (c) For success, one must be able to handle his balanced and internalized superego.
 - (d) Anti-social people are devoid of superego as they are filled with excessive self-criticism.

Passage – 3

Many companies are grappling with the trade-off between implementing costly emission reduction strategies and suffering the long-term consequences of climate change. On one hand, investing in advanced technologies and sustainable practices can be expensive, impacting short-term profitability. However, the cost of inaction is even steeper. Failure to reduce emissions may lead to severe disruptions, such as supply chain vulnerabilities due to extreme weather events, reputational damage, and potential regulatory penalties. Moreover, the human and economic toll of unchecked climate change includes increased health risks, property damage, and displacement of communities. The rational choice for businesses is to recognize the urgency of mitigating emissions through climate tech, not only as a matter of social and environmental responsibility but also as a means of protecting themselves in the long run.

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

1. A company's long-term survival may be uncertain without investment in advanced technologies and sustainable practices for climate change.
2. The current investments in emission reduction is actually for a more sustainable and resilient future.

Which of the above *assumptions* is/are valid?

- (a) 1 only
(b) 2 only
(c) Both 1 and 2
(d) Neither 1 nor 2

68. Which of the following number(s) is/are **not** prime?

- I. $2^{2001} + 1$
II. $2^{2002} + 1$
III. $2^{2003} + 1$

Select the correct answer using the code given below.

- (a) II only
(b) I and III
(c) II and III
(d) I, II and III

69. A cylindrical drum has base diameter of 7 m and a height of 18 m. It is filled with water to a height of 3 m. If N identical marbles of diameter 1.4 m each are dropped into the drum, then the height of the water in the drum would rise upto 11.4 m. What is the value of N ?

- (a) 325
(b) 225
(c) 275
(d) 295

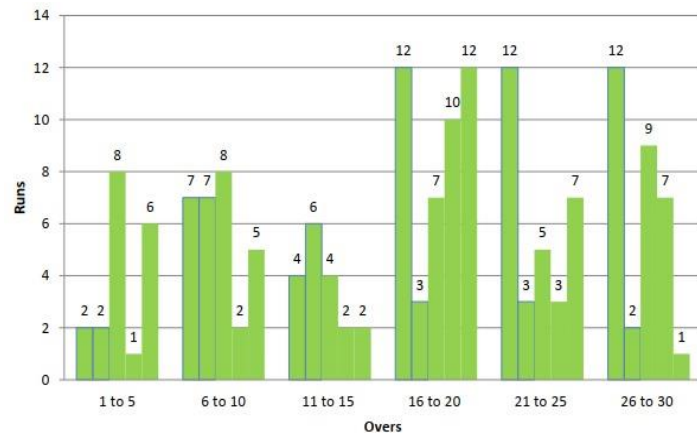
70. In an A.P, the sum of the first four terms is 6 and the sum of first six terms is 4. Find the sum of the first 10 terms.

- (a) 10
(b) 0
(c) -20
(d) -10

Direction for the following 2 (items) items:

Refer to the bar graph given below and answer the questions that follow.

The graph given below shows the runs scored by a team in a cricket match in the first 30 overs.



71. What is the ratio of the runs scored by the team between 16 to 25 overs to the runs scored by the team between 6 to 15 overs?

- (a) 47 : 74
(b) 7 : 4
(c) 4 : 7
(d) 74 : 47

72. Runs scored by players between 11 to 15 overs is approximately what percent more/less than the runs scored by players between 26 to 30 overs?

- (a) 47%
(b) 74%
(c) 42%
(d) 30%

73. Find the HCF of $(2^{284} - 1)$ and $(2^{248} - 1)$.

- (a) 15
(b) 16
(c) 17
(d) 14

Directions for the following 6 (Six) items:

Read the following **five** passages and answer the items that follow each passage. Your answers to these items should be based on the passages only.

Passage – 1

The paradox of empathy reflects the dual nature of this profound human quality. On one hand, empathy serves as a bridge, allowing us to connect with others on a deep emotional level. It fosters understanding, compassion, and a sense of shared humanity. However, there's a flip side to this coin. Empathy can also be emotionally demanding, even burdensome. As we open ourselves to the experiences and suffering of others, we risk shouldering their pain, potentially leading to emotional exhaustion and burnout. It's a reminder that self-care and emotional boundaries are essential, allowing us to navigate the complexities of empathy without being overwhelmed by its weight.

74. Which of the following statements *best reflects the logical inference* from the passage given above?

- (a) Empathy should not be a one-side affair; others should also empathize with us.
- (b) It is difficult to balance empathy and the efforts for others arising out of empathy for them.
- (c) While empathy is a powerful force for bonding and support, it requires a delicate balance.
- (d) Everyone having empathy in real life faces a paradox leading to an unbalanced personal life.

Passage – 2

Shareholders often focus on maximizing profits and share value, while stakeholders such as employees, the environment, and the broader community may prioritize ethical and sustainable practices. On one hand, companies must deliver returns to shareholders, who provide essential capital. On the other, they must consider the broader social and environmental impact of their operations. Achieving this equilibrium is a complex challenge that companies, regulators, and society grapple with, with corporate governance mechanisms serving as a critical tool to navigate this dichotomy effectively.

75. Which of the following statements *best reflects the crux* of the passage?

- (a) The dichotomy between the interests of shareholders and stakeholders can be solved through good corporate governance.
- (b) Companies need to come up with mechanisms for profit maximisation while balancing the interests of shareholders.
- (c) Governments should regulate companies working against the interests of shareholders and stakeholders.
- (d) The absence of ethical and sustainable practices in corporate governance leads to the dichotomy between the interests of shareholders and stakeholders.

Passage – 3

Electric vehicles (EVs) have made significant strides in recent years, but their cost remains a critical consideration. To make EVs more accessible, continued efforts are essential. Advances in battery technology are crucial for reducing manufacturing expenses, while economies of scale can further bring down costs. Additionally, government incentives and subsidies can help offset the upfront price for consumers. Lowering the cost of EVs is a pivotal step toward broader adoption, aligning environmental benefits with more affordability for consumers and contributing to a sustainable transportation future.

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

- 1. Increasing the cost of IC engine cars can help people transition to EVs.
- 2. Governments should not depend only on EVs for a sustainable transportation future.
- 3. The present costs of EVs reflect the scope of research and development in it.

Which of the above *assumptions* is/are *invalid*?

- (a) 1 and 3 only
- (b) 3 only
- (c) 1 and 2 only
- (d) All 1, 2 and 3

Passage – 4

One of the key advantages of organic farming is the production of chemical-free, organic produce that appeals to health-conscious consumers. This has led to a surge in organic food exports, as countries look to tap into the lucrative international market. However, organic farming faces challenges, particularly related to fertilizer risks. Organic methods primarily rely on natural fertilizers like compost and manure, which can introduce pathogens and contaminants into the soil. These risks can impact food safety and the organic brand's credibility, especially for exported products. Additionally, the limited availability and cost of organic fertilizers can make organic farming less economically viable for some farmers.

77. Which of the following is/are ***the most rational and logical inference/inferences*** that can be made from the passage?

1. As compared to domestic consumption, organic products are more in demand for exports.
2. Organic farming is a sustainable and feasible option for all stakeholders.

Select the correct answer from the code given below.

- (a) 1 only
- (b) 2 only
- (c) Neither 1 nor 2
- (d) Both 1 and 2

Passage – 5

Recycling waste has become an essential part of our efforts to reduce environmental impact. The process begins with effective waste segregation, where households and industries separate materials like plastics, paper, and metals. This separation enables more efficient recycling processes. Advanced waste-to-energy technologies have emerged as a significant component of sustainable waste management. These methods convert non-recyclable waste into clean energy, reducing the volume of landfill-bound trash and curbing harmful emissions. Technologies like incineration and anaerobic

digestion can transform organic waste into biogas or heat energy. Furthermore, emerging innovations, like AI-driven sorting robots and advanced recycling equipment, streamline the recycling process, making it more efficient and cost-effective. These technologies help us maximise the reuse of valuable materials while minimising waste.

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

1. Innovations in the recycling industry will lead to job losses.
2. Not all wastes can be segregated and recycled using waste-to-energy technologies.

Which of the above ***assumptions*** is/are ***invalid***?

- (a) 1 only
- (b) 2 only
- (c) Both 1 and 2
- (d) Neither 1 nor 2

79. What is ***the most rational inference*** that can be drawn from the passage?

- (a) The efficiency of waste-to-energy technologies is poor due to the biodegradable component in the generated waste.
- (b) Generating energy from incineration and anaerobic digestion is inexpensive due to the availability of huge quantities of waste.
- (c) Segregation and waste-to-energy technologies are sine-qua-non for effective waste management.
- (d) Utility of segregated waste is overhyped.

80. Last day of a century year cannot be

- (a) Friday
- (b) Saturday
- (c) Sunday
- (d) All of the above can be the last day of a century year.