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TEST BOOKLET

C

CSAT APTITUDE TEST– (4284) – 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. If the average of $5k$ and $3l$ is equal to 50% of $6l$, what is the value of k/l ?
 (a) $3/5$
 (b) $5/9$
 (c) $9/5$
 (d) $5/3$

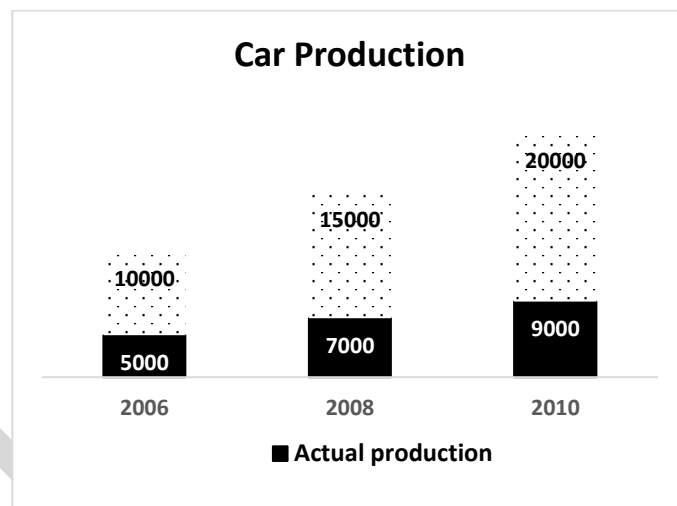
2. For the fall semester, five tests were taken - three quizzes, a mid-term exam, and a final exam. Each quiz had the same maximum marks. To determine the final grade and score, the mid-term exam was worth four times as much as a quiz, and the final exam was worth six times as much as a quiz. If Manish scored 94, 78 and 92 in the quizzes, 92 in the mid-term exam and 94 in the final exam, then what was his average score in the semester?
 (a) 95
 (b) 92
 (c) 82
 (d) 85

3. A, B, C, D, E, F, G and H are integers such that $A < B < C < D < E < F < G < H$. If B is the average of A, C and F, and D is the average of C, E, G and H, then what is the average of B and D?
 (a) $(4A + 4C + 4F + 2C + 2E + 3G + 3H)/24$
 (b) $(2A + 2C + 2F + 3C + 3E + 3G + 3H)/24$
 (c) $(4A + 4C + 4F + 3C + 3E + 3G + 3H)/24$
 (d) $(4A + 4C + 4F + 3C + 3E + 3G + 3H)/12$

Directions for the following 2 (two) items:

Study the following graph carefully and answer the questions that follow.

Graph given below shows the number of actual and expected production of cars in the given years.



4. The cost of production of one car was Rs.10,000 in 2006, and Rs.15,000 in 2010. What was the percent increase in gross production cost from 2006 to 2010?
 (a) 190%
 (b) 250%
 (c) 280%
 (d) 170%

5. The capacity of the company is to produce 15 thousand cars per year. If the trend of linear growth continued for the production, in which year would the actual production equal the capacity?
 (a) 2020
 (b) 2018
 (c) 2016
 (d) 2012

Directions for the following 2 (two) 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

Climate change could mean big trouble for farmers in India, as it threatens to upset the monsoon season. Changing weather patterns might even lead to famine, due to dangerous impacts on agriculture. The wet summer monsoon season is vital for India and other South-Asian countries because it brings most of the annual rainfall that is critical for agriculture. Large areas of western and central India receive more than 90 per cent of their total annual rainfall during the summer monsoon season. Indian farmers rely on the timing and predictability of the monsoon season to grow crops. For thousands of years, farming has been carefully timed to coincide planting with the onset of monsoon rains to maximize crop production. Because India's economy is heavily based on agriculture, the importance of accurately predicting the timing and severity of monsoons is extremely important.

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

1. Considering the changing monsoon patterns, western and central India should explore alternate ways of irrigation.
2. Any conflict between the onset of monsoon and plantation could significantly reduce crop yield.

Which of the above assumptions is/are valid?

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

Passage – 2

To young people living in democracies, authoritarianism may seem like a long-forgotten part of their country's history. For as long as *they* can remember, their fellow citizens have had the right to voice their opinion and to organize freely, political parties have competed in meaningful elections, and the legislature and courts have checked their governments' actions. But these experiences are far from universal. Many countries are not democracies, and most countries that are democratic are younger than a lifetime. This means that for most people, life under authoritarianism is either their current experience, or they remember a time when it was.

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

- (a) For young people, democracy is a better political model than dictatorship.
- (b) At the core, democracy is only a mask to practice an authoritarian model of governance.
- (c) With mechanisms like the freedom to voice opinion and executive accountability, no country should be under an authoritarian regime in today's world.
- (d) Most people in the world, by experience, know the difference between democracy and dictatorship.

8. Three wild animals X, Y and Z are roaming in a forest in such a way that when X takes 5 steps, Y takes 6 steps and Z takes 7 steps. But the 4 steps of X are equal to the 5 steps of Y and 6 steps of Z. What is the respective ratio of their speeds?

- (a) 173:170:168
- (b) 75:72:70
- (c) 11:20:30
- (d) 168:175:180

9. Consider the following information and the Statements and Question that follow:
Three numbers are given in increasing order. The arithmetic mean of the first two is 7 less than the arithmetic mean of all the three. The sum of the first two numbers is equal to the arithmetic mean of the last two.
Statement-1: The second number is given.
Statement-2: The arithmetic mean of the first and third numbers is given.
Question: What is the first number?
Which one of the following is correct in respect of the above Question and the Statements?
(a) Statement 1 alone is sufficient to answer the question.
(b) Statement 2 alone is sufficient to answer the question.
(c) Either Statement 1 alone or Statement 2 alone is sufficient to answer the question.
(d) Both the Statements are needed together to answer the question.
10. A man can row 22 km/hr in still water. It takes him thrice as long to row up than to row down. Find the rate of flow of the stream.
(a) 8 km/hr
(b) 9 km/hr
(c) 10 km/hr
(d) 11 km/hr
11. P and Q started simultaneously towards each other from X and Y respectively. The distance between X and Y is 680 km, and the ratio of the speeds of P and Q is 7:10. How much more distance would Q cover as compared to P by the time they meet?
(a) 110 km
(b) 105 km
(c) 130 km
(d) 120 km
12. The ratio of the ages of a man and his wife is 6:5. After 6 years, this ratio will be 7:6. If at the time of the marriage this ratio was 4:3, then how many years ago did they marry?
(a) 13 years
(b) 12 years
(c) 10 years
(d) 8 years
13. Two alloys contain gold and copper in the ratios of 5:3 and 3:4. If the two alloys are mixed in the proportion 8:11 respectively by weight, then the ratio of gold and copper in the newly formed alloy is:
(a) 65:68
(b) 68:65
(c) 19:27
(d) 27:19
14. In a job interview process, the ratio of selected to rejected candidates was 3:11. If 90 less candidates had applied and 34 less were selected, then the ratio of selected to rejected candidates would have been 1:4. How many candidates applied for the job interview originally?
(a) 960
(b) 880
(c) 1120
(d) 660
15. The average of the marks obtained by 296 candidates was 77. If the average of passed candidates was 89 and that of failed candidates was 57, then find the number of those candidates that passed the examination.
(a) 185
(b) 165
(c) 190
(d) 200

16. The average of the ages of P and Q is 31 years. If R were to replace P, the average would become 38 years and if R were to replace Q, the average would become 42 years. The age of R is how much more than that of P?
- (a) 15 years
(b) 16 years
(c) 14 years
(d) 18 years
17. The average of any 9 consecutive odd natural numbers is 'm'. What would be the new average if 4 more such numbers, just next to the previous 9 numbers, are also considered?
- (a) $3m - 10$
(b) $2m - 6$
(c) $m + 4$
(d) $m + 2$
18. A batsman scored 2014 runs in a certain number of innings. In the next ten innings, he was out of form and hence could only manage to make 132 runs. As a result, his average got reduced by 32 runs. How many innings did he play in total?
- (a) 19
(b) 24
(c) 29
(d) 36

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

Gender equality remains unfinished business in every country of the world. Women and girls have less access to education and healthcare, too often lack economic autonomy and are under-represented in decision-making at all levels. The progress that has been made towards gender equality over the past quarter of a century, though slow and incremental, does however show that change is possible.

19. Which one of the following statements **best reflects the crux** of the passage?
- (a) The situation of women around the world could improve further.
- (b) The patriarchal mindset around the world needs to change for improving gender equality.
- (c) A country's progress is meaningless without the contribution of the female gender.
- (d) Every country needs to bring adequate laws and policies to improve the situation of women and help them become financially independent.

Passage – 2

A talk by gender-critical feminist academic Dr Kathleen Stock at the Oxford Union on Tuesday met with vociferous opposition, as trans-rights activists disrupted the session and protested against her invitation. Stock, author of books such as *Material Girls: Why Reality Matters for Feminism* (2021), has long been at the receiving end of criticism for her view that biological sex is more socially significant than gender identity, even though it does not exclude sympathy for the trans-rights movement. At the talk, Stock, 51, who quit her position at the University of Sussex in 2021 owing to sustained protests and accusations of transphobia against her, reiterated her views that while she wanted trans people to be protected from “violence and discrimination”, she did not think it was “fair on females” to share spaces with trans women where violence is a possibility. “We are supposed to care about women. It is a risk of a man saying he is a woman and going into a space and taking advantage of that,” she said. TERF or “trans-exclusionary radical feminist” refers to feminists whose advocacy for women’s rights do not include the rights of transgender people, especially trans women. Even though the term gained currency in the early 2000s, it was born during the early 1970s feminist movement in the US, where a faction of feminists focused on the championing of the “female essence” or what historian Alice Echols called a “female standard of sexuality”.

20. Which of the following statements best reflects the **crucial message** conveyed by the passage?
- (a) The social significance of biological sex exceeds that of gender identification.
 - (b) When transwomen are present in public locations, females are at risk of violence.
 - (c) TERF activists agitate for the rights of transgender people.
 - (d) A category of feminist scholars exclude trans people when it comes to women rights.

21. Which of the statements given below **can be inferred** from the above passage?

- 1. Under pressure for her views, Stock resigned from the university.
- 2. The term TERF or “trans-exclusionary radical feminist” originated in the 21st century.

Select the correct answer using the code given below.

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

22. Consider the following information and the Statements and Question that follow:

Arithmetic mean of five different numbers is 65.

Statement-1: None of the five numbers is greater than 100.

Statement-2: Three of these five numbers are 36, 44 and 56.

Question: How many of these five numbers are greater than 65?

Which one of the following is correct in respect of the above Question and Statements?

- (a) Statement 1 alone is sufficient to answer the question.
- (b) Statement 2 alone is sufficient to answer the question.
- (c) Either Statement 1 alone or Statement 2 alone is sufficient to answer the question.
- (d) Both the Statements are needed together to answer the question.

- 23.** Two statements S1 and S2 are given below followed by a question.

S1: Train A usually goes 720 km in 10 hours.

S2: When it's raining, it typically takes train A thrice the usual time.

Question: Train A slows down when it rains. How long does it take train A to reach a town which is 576 km away, knowing that it rained the entire time?

Which one of the following is correct in respect of the above Statements and 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 are needed together to answer the question.

- 24.** The average score of students in sections A, B and C of class X is 92, 84 and 70 respectively. The average score of students in sections A and B together is 90. The average score of students in sections B and C together is 78. What is the approximate average score for all the students of class X?

- (a) 92.6
- (b) 86.8
- (c) 80.6
- (d) 84.8

- 25.** Distance travelled by a boat along the stream is two times of the distance travelled by it against the stream. Whereas, the time taken to cover the given distance along the stream is 40% less than the time taken to cover the given distance against the stream. If a boat covers a distance of 35 km in 1 hour 45 minutes along the stream, then find the rate of stream current.

- (a) 7 km/hr
- (b) 14 km/hr
- (c) 13 km/hr
- (d) 11 km/hr

- 26.** A student was given two different kinds of mixtures. In the first mixture, the ratio of alcohol and water is 7:5, and in the second mixture it is 3:4. Using these two mixtures, he makes a third mixture of 169 litres, in which the ratio of alcohol and water is 7:6. What quantity of first mixture is required to make 169 litres of the resultant third kind of mixture?

- (a) 120 litres
- (b) 90 litres
- (c) 69 litres
- (d) 136 litres

- 27.** The average of five numbers is 12. If one of the numbers (say x) is multiplied by 2, and another number (say y) is multiplied by 3, the new average becomes 18. What is the average of these two numbers x and y?

- (a) 15
- (b) 12
- (c) 18
- (d) Can't be determined

28. In a 100 m race, Usha gives Dutee a start of 5.5 m and still beats her by 2 s (seconds). If Usha runs at 4 m/s, what is the speed of Dutee?
- (a) 2.5 m/s
 - (b) 3 m/s
 - (c) 3.5 m/s
 - (d) 4 m/s

Directions for the following 2 (two) items:

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

Passage

Oil giants Shell, ExxonMobil and Chevron have lobbyists registered at the ongoing Bonn Climate Change Conference, organisations advocating against corporate lobbying have found. Their presence could unduly influence the outcome of the United Nations Framework Convention on Climate Change (UNFCCC) meeting of the Subsidiary Bodies (SB58) aimed at discussing climate finance, adaptation, operationalising the loss and damage fund and the global stocktake. The data was collated by Corporate Europe Observatory, a non-profit research and advocacy group working to expose corporate lobbying, and Corporate Accountability Research, a non-profit group that analyses business ethics. After the Paris Agreement, the international treaty on climate change adopted in 2015, lobbyists from oil companies have always been in attendance at the UN climate talks. The top five oil and gas majors in the European Union (EU) and the United States, namely Shell, BP, ExxonMobil, Chevron and Total Energies, had 403 lobbyists registered from the 21st Conference of the Parties of the UNFCCC (COP21) to COP27. Of the 403 registered delegates, Shell alone had 177 delegates registered since the Paris Agreement (2016-2023). The aforementioned organisations believe that lobbyists are there at Bonn to push the agenda of fossil fuel expansion forward to continue to rake in profits.

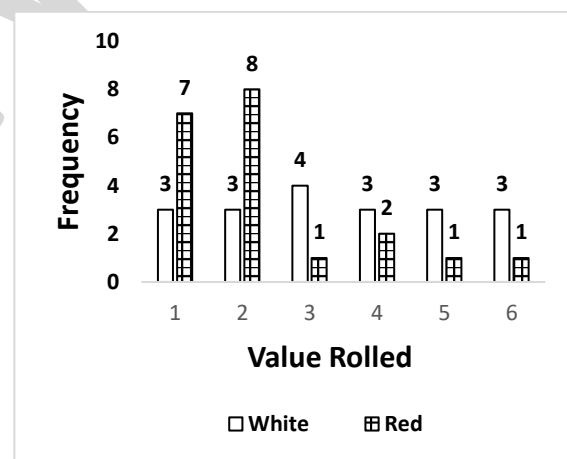
29. Which of the following statements best reflects the *most logical and rational message* conveyed by the author?
- (a) Global policymaking can be influenced by large corporations.
 - (b) Lobbyists are more influential than policy makers.
 - (c) Corporate lobbying causes the greatest harm to developing nations.
 - (d) Top five oil firms are responsible for the highest carbon emissions.
30. With reference to the above passage, which of the statements given below are correct?
- 1. The danger from global warming is the most acute for the least developed countries.
 - 2. The only goal of lobbyists is to make profit at the cost of the poor.
- Select the correct answer using the codes given below.
- (a) 1 only
 - (b) 2 only
 - (c) Both 1 and 2
 - (d) Neither 1 nor 2
31. The number of female employees in an organization P is 20% more than the number of male employees in the same company. The number of female employees in Q is 62.5% of the number of male employees in the same company. If the total number of employees in P is 15000 more than the total number of employees in Q, then what is the ratio of the total number of employees in P to the total number of employees in Q?
- (a) 5:3
 - (b) 7:4
 - (c) 3:5
 - (d) Can't be determined

32. Raman is riding upstream on a boat, from point P to Q, at a constant speed. The distance from P to Q is 80 km. Two minutes after Raman leaves from point P, a speedboat starts from point P to go to point Q. It crosses Raman's boat after 5 minutes. The speed of the speedboat in still water is 40 km/hour. Raman takes four hours to reach point Q from point P. If the speed of the speedboat is constant from P to Q, then what is Raman's speed in still water?
- (a) 32 km/hr
(b) 28 km/hr
(c) 12 km/hr
(d) 22 km/hr
33. Two tanks of 120 litres and 135 litres are filled with mixture of milk and water; the proportions in the two tanks being 7:5 and 4:5 respectively. If the contents of the two tanks are mixed, and 15 litres of water is added to it, then what will be the proportion of milk and water in the resulting mixture?
- (a) 17:16
(b) 13:15
(c) 18:13
(d) 13:14
34. The stream of the Bay of Bengal is running at a speed of 4 km/h. A cargo ship goes 6 km upstream and back again to the starting point in 2 hours. Find the speed of the cargo ship in still water.
- (a) 9 km/h
(b) 1 km/h
(c) 7 km/h
(d) 8 km/h

35. Amar walks around a circular field at the rate of two rounds per hour while Deepak walks around it at the rate of five rounds per hour. They start in the same direction from the same point at 6:00 PM. They shall first cross each other at:
- (a) 6:30 PM
(b) 6:12 PM
(c) 6:20 PM
(d) 6:09 PM

36. Study the following graph carefully and answer the question that follows.

Graph given below shows the results seen on rolling 2 dice - one white and one red.



What is the average value rolled by the white die? (Note: Die is the singular of dice.)

- (a) 2.50
(b) 3.85
(c) 3.47
(d) 4.50

37. A man covers 60 km distance via route 1 on his scooty at a certain speed. When he covers the same distance via route 2, his speed increases by 10 km/hr, and he takes 3 hours less time.

Consider the following Statements.

Statement 1: When he covers the same distance via route 3, his speed decreases by 5 km/hr as compared to route 1, and he takes double the time as compared to the time taken to cover the same distance via route 2.

Statement 2: Ratio of the speeds via route 1 and route 2 is 1:3.

Which of the above statements is/are correct?

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

38. An express train can travel 40% faster than a local train. Both start from point A at the same time and reach point B, 84 kms away from A, at the same time. On the way, however, the express train lost about 30 minutes due to some technical glitch. The speed of the express train is:

- (a) 48 km/hr
- (b) 67.2 km/hr
- (c) 77.2 km/hr
- (d) 57.2 km/hr

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

On May 26, 2023, three countries — Cameroon, Chad and Niger — kicked off Africa’s largest polio vaccination campaign since 2020, according to World Health Organization (WHO). Through this exercise, the three West and Central African countries intend to immunise 21 million children under the age of five. The vaccination drive started in response to 19 detections of type-2 Polioviruses; two cases in Niger, 10 in Chad, four in the Central African Republic and three in Cameroon. The multi-country initiative is supported by WHO through the Global Polio Eradication Initiative (GPEI). It comprises synchronised vaccinations and joint plans in border communities to stop polio transmission. “This is a crucial undertaking to close vaccination gaps in the wake of the COVID-19 pandemic and will provide millions of children with vital protection from the risk of irreversible polio paralysis,”. All polio cases in West and Central Africa are due to circulating vaccine-derived poliovirus — the final strain of polio remaining on the African continent; these outbreaks are rare. Lake Chad basin, where the campaign is underway, is among the areas with the highest percentage of unvaccinated or under-vaccinated children in the world, WHO noted. Polio is a highly infectious viral disease that primarily affects children under five years and causes permanent paralysis or death. There is no cure, but safe and effective vaccines can protect children. Eradicating polio requires immunising every child until transmission stops.

39. Which of the following statements best reflects the *crucial message* conveyed by the author of the passage?

- (a) Polio must be eradicated by immunising all children up until transmission ceases.
- (b) Polio is currently in its last stage, before being completely eradicated.
- (c) Eradication of polio is a top priority of governments across the world.
- (d) A pandemic can cause a temporary break in vaccination programs.

40. Which of the following statements is/are correct?

- 1. Largest ever polio eradication campaign started in Africa.
- 2. Polio affects only kids under 5 years of age.
- 3. Polio is an incurable disease.

Select the correct answer using the codes given below.

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

Passage – 2

The UNEP Emissions Gap Report 2022 posits clearly that as growing climate change impacts are experienced across the globe, the message that greenhouse gas emissions must fall is unambiguous. The link between global net zero carbon emissions and addressing climate change is evident and it is also certain that the link itself must be even-handed, objective and ambitious. To achieve global net zero goals and garner the public support required for this, it is imperative in the long-term to view emissions within the larger context of global consumption and production patterns. Consumption and production patterns vary greatly based on the cultural, social, and economic factors. But both consumption and production ethics also vary due to beliefs, values and traditions. Some of these differences are marked by a complex interplay of factors. In the formerly established trade flows and global economic chains, it is charged that dominant economic powers exploit smaller, less developed economies — often by extracting raw materials at low prices and exporting finished products back at higher prices. This may lead to the undermining of local economies and often leads to social and environmental degradation. To avoid this, local producers need to have access to fair markets and fair prices so that they can invest in alternative, environmentally friendly production methods. Across developed markets, the average individual consumer is often more aware of the impacts of their choice on the environment.

41. Which of the following statements can be *inferred* from the above passage?

1. Examining worldwide consumption and production is necessary to attain net zero carbon emission goals.
2. Production and consumption are influenced by culture.
3. Access to fair markets can diminish the economic exploitation of poorer countries by rich countries.

Select the correct answer using the codes given below.

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

42. Two people P and Q start running on a circular track of length 400 m in opposite directions with initial speeds of 4 m/sec and 16 m/sec respectively. Whenever they meet, P's speed gets doubled and Q's speed gets halved. After what time from the start will they meet for the third time?

- (a) 48 sec
- (b) 60 sec
- (c) 65 sec
- (d) 70 sec

43. The average of 17 numbers is 19. If each number is multiplied by 5, then what will be the new average?

- (a) 80
- (b) 95
- (c) 24
- (d) 70

44. The average weight of a group of 11 players is 160 pounds. If the heaviest player is removed from the group, the average weight of the remaining 10 players becomes 158 pounds. What is the weight of the heaviest player?

- (a) 190 pounds
- (b) 200 pounds
- (c) 180 pounds
- (d) 210 pounds

45. Consider the following information and the Statements and Question that follow:

The average of a set of 7 positive numbers is 40.

Statement 1: The sum of the smallest and largest numbers in the set is 150.

Statement 2: The range of the set is 80.

Question: Is the median of the set greater than 60?

Which one of the following is correct in respect of the above Question and Statements?

- (a) Statement-1 alone is sufficient to answer the Question.
- (b) Statement-2 alone is sufficient to answer the Question.
- (c) Both Statement-1 and Statement-2 together are sufficient to answer the Question.
- (d) Both Statement-1 and Statement-2 together are not sufficient to answer the Question.

46. In a race of 3.6 km distance, A wins by 400 m over B. B can give a head start of 900 m to C in such a race. How much head start can A provide to C so that they complete the race together?

- (a) 600 m
- (b) 800 m
- (c) 1000 m
- (d) 1200 m

47. A boat can move at a speed of 7 km/hr in still water. The speed of the stream of river is 1 km/hr. A boat takes 84 minutes to go from point P to point Q and return to the same point. What is the total distance covered by the boat?
- 10.8 km
 - 9.6 km
 - 12.8 km
 - 18.8 km
48. Aakash drove his car at a speed 40 km/h. After 30 minutes, Anil started chasing him at a speed of 60 km/h (through the same route). Find how much distance Anil will have to cover to chase down Aakash.
- 45 km
 - 50 km
 - 40 km
 - 60 km
49. The ratio of the number of boys to girls in a swimming class is 5:8, and the ratio of the number of boys to girls in a dance class is 2:3. The ratio of the total number of students in swimming class to dance class is 13 : 8, and the difference between the number of students in swimming class and dance class is 25. What is the ratio of the number of girls in swimming class to the number of girls in dance class?
- 5 : 3
 - 2 : 1
 - 3 : 5
 - 1 : 3
50. Ratio of the monthly income of A to that of B is 4:5, and the ratio of the monthly income of B to that of C is 9:7. The difference between B's monthly income and his savings is Rs.18000, and savings of B are 60% more than his expenditure. What is the approximate average of the incomes of A, B and C?
- Rs. 42,313
 - Rs. 38,213
 - Rs. 40,213
 - Rs. 42,613

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

Violence against healthcare workers in Mali more than doubled in 2022 as compared to 2021, a new report has pointed out. The document identified 46 incidents of violence against healthcare workers or obstruction of healthcare in the country in 2022 — an increase from 20 in 2021. Ignoring Red Lines: Violence Against Health Care in Conflict 2022 report was published by Safeguarding Health in Conflict Coalition (SHCC), a group of international non-profits working towards protecting health workers, services and infrastructure. It documented 1,989 attacks and threats against healthcare facilities and personnel across 32 countries and territories which are reeling under armed conflict and political instability throughout 2022. Among 32 countries and territories, 15 countries — Burkina Faso, Cameroon, Central African Republic, Democratic Republic of Congo, Ethiopia, Kenya, Libya, Mali, Morocco, Mozambique, Niger, Nigeria, Somalia, South Sudan, and Sudan — were from Africa. Over half of the total attacks were reported in just two countries, Ukraine and Myanmar, the report stated. “Over the last year, we identified a 45 percent increase in reported incidents of violence against or obstruction of health care in conflict zones as compared to 2021,” said Christina Wille, director of Insecurity Insight. Wille led the data collection and analysis for the report. Reported violence against or obstruction of health care decreased in the Central African Republic, Ethiopia and Syria in 2022 compared to 2021. However, cases in some countries in West and Central Africa, including Burkina Faso, Cameroon and Mali, have been increasing, the report noted.

51. Which of the following statements *can be inferred* from the above passage?

1. Attacks on healthcare professionals have increased in all of Africa.
2. Healthcare workers have been attacked in at least three continents.

Select the correct answer using the codes given below.

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

52. Consider the following statements.

1. The largest number of attacks against healthcare personnel occurred in Myanmar.
2. Attacks against healthcare personnel increased by less than 50% in 2022 as compared to 2021.

Which of the statements given above is/are true?

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

Passage – 2

The persistence of gender inequality is most starkly brought home in the phenomenon of "missing women." The term was coined by Amartya Sen in a now-classic article in the New York Review of Books to capture the fact that the proportion of women is lower than what would be expected if girls and women throughout the developing world were born and died at the same rate, relative to boys and men, as they do in sub-Saharan Africa. Today, it is estimated that 6 million women are missing every year. Of these, 23 per cent are never born, 10 per cent are missing in early childhood, 21 per cent are in the reproductive years, and 38 per cent are above the age of 60. Stark as the excess mortality is, it still does not capture the fact that throughout their lives, even before birth, women in developing countries are treated differently than their brothers, lagging behind men in many domains. For each missing woman, many more women fail to get an education, a job, or a political responsibility that they would have obtained if they had been men.

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

- (a) Developing nations should improve their criminal justice systems to reduce the high rate of missing women.
- (b) To improve the status of women, it is critical to transform society into a matriarchal one.
- (c) Basic human rights are violated when men are valued more than women in developing nations.
- (d) Women's status in developing nations cannot improve without making necessary changes in laws, politics and education.

Passage – 3

Encryption and cryptographic techniques for preserving the security of online communication have become increasingly contested in India. Rapid digitalization in the past decade has led to the proliferation of domestic and foreign online communication services that use encryption and pose challenges to national security bodies and law enforcement agencies (LEAs). To help overcome these challenges, the Indian government issued controversial new rules in February 2021 that require messaging communication providers to supply information regarding the originators of messages. Many providers argue that this requirement significantly weakens the end-to-end (E2E) encryption they deploy.

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

1. Government of India, too, should enhance its technological capabilities for surveillance to ensure the security of online communications.
2. It is important to end the controversy regarding new rules for boosting the business environment.

Which of the above assumptions is/are valid?

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

55. The fuel cost for operating a bus service is Rs. (Speed)² per hour. Other charges put together are Rs. 100 per hour. Which of the following statements must be true regarding a journey of 500 kilometres?

- (a) The cost of entire journey is Rs. 3000.
- (b) At the speed of 40 km per hour, the cost of journey shall be minimum.
- (c) The time of journey shall be at least 18 hours.
- (d) The cost of journey may be Rs. 10000.

56. A shopkeeper mixes two varieties of tea - one costing Rs. 260 per kg and the other costing Rs. 400 per kg, to produce a blended variety of tea worth Rs. 320/kg. What should have been the quantity of second variety of tea used by him, if he used 132 kg of the first variety?

- (a) 188 kg
- (b) 64 kg
- (c) 78 kg
- (d) 99 kg

57. If Sachin walks at 2 km/h, he will miss the bus by 25 minutes. If he walks at 4 km/h, he will reach 10 minutes before the departure of the bus. How far Sachin walks to reach the bus stand?

- (a) 1.5 km
- (b) 2 km
- (c) 0.5 km
- (d) None of these

58. A fast moving superfast train crosses another express train in 30 seconds. The speed of faster train is 120 km/hr, and the speed of slower train is 84 km/hr. Length of the faster train is 180 m. Find the length of the slower train, if they are moving in opposite directions.
- (a) 100 m
(b) 120 m
(c) 90 m
(d) 110 m
59. A bullet train of length 210 m crosses a platform of length 190 m in 8 seconds. What is the speed of the train?
- (a) 180 km/hr
(b) 160 km/hr
(c) 150 km/hr
(d) 200 km/hr
60. In a class, the number of boys and girls are in the ratio of 4:3. If 10 more boys and 15 more girls join the class, the ratio of the number of boys and girls becomes 10:9. How many more boys are there in the class as compared to the number of girls?
- (a) 10
(b) 30
(c) 40
(d) Cannot be determined
61. Mr. Sharma gives 40% of his salary to his father, 40% of the remaining salary he invests in insurance scheme and share market in the ratio 4:11, and the remaining he keeps in his bank account. The difference between the amounts he keeps in the bank account and that he invests in the share market is Rs. 46000. How much is Mr. Sharma's salary?
- (a) Rs. 3,60,000
(b) Rs. 2,00,000
(c) Rs. 2,50,000
(d) Rs. 3,00,000

62. Two alloys A and B contain silver and copper in the ratio 5:3 and 9:7 respectively. In what ratio should the two alloys be mixed to get a new alloy having silver and copper in the ratio 3:2?
- (a) 1:2
(b) 2:3
(c) 3:2
(d) 2:1

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

The role of culture in moral development is an important topic that raises fundamental questions about what is universal and what is culturally specific regarding morality and moral development. Many research traditions have examined this question, with social-cognitive and structural-developmental positions theorizing that morality has a universal requirement to it, drawing from moral philosophy. The expectation is that if morality exists, it has to do with those values that are generalizable across groups and cultures. Alternatively, relativistic cultural positions have been put forth mostly by socialization theories that focus on how cultures transmit values rather than what values are applied across groups and individuals.

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

- (a) Considering the universal nature of morality, culture does not play any significant role in moral development.
- (b) Socialization is the most important tool in the development of universal moral values.
- (c) Despite the universal nature of morality, it may get impacted by socialization via the local cultures of a society.
- (d) Universal moral values are fundamentally stronger than the moral values developed through socialization.

Passage – 2

Agriculture has the potential to drive economic development, contribute to food security and generate income for millions of rural farmers. Recent years have seen growth in digital innovations that can address the various agricultural and food industry challenges. Startups led by the private sector are tackling issues ranging from access to markets to the provision of financial services. However, despite innovations and viable business models, challenges persist. This is due, in part, to constraints in sharing knowledge and lessons learned among countries and regions of the Global South. As a result, agricultural solutions have failed to achieve the wider impact that could modernize and transform the continent's agricultural and food industry sectors.

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

1. Along with the private sector, governments should invest in promoting startups in the field of agriculture.
2. Sharing of knowledge and lessons should be across the globe and not only limited to the regions of the global south.

Which of the above assumptions is/are valid?

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

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

- (a) The only restriction in modernizing and transforming the agriculture sector is the lack of knowledge sharing and learning from countries of the global south.
- (b) Startups in the field of agriculture can solve the core persisting issues of agriculture.
- (c) Countries across the world should invest in agricultural technology for ensuring food security and economic development.
- (d) Harnessing the potential of agriculture depends on the sharing of knowledge and lessons learned from regions of the global south.

- 66.** Two statements S1 and S2 are given below followed by a question.

S1: The average of X and Y is 60.

S2: The average of the integers between X and Y, not including either, is 60.

Question: What is the average of the consecutive integers from X to Y, including both?

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.

- 67.** Two statements S1 and S2 are given below followed by a question.

S1: The ratio of incomes of Mr. X in the years 2022 and 2023 is 3 : 4.

S2: The ratio of his expenditures in the years 2022 and 2023 is 5 : 6.

Question: What is the ratio of Mr. X's savings in the year 2022 to that in the year 2023?

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) Both the statements together are sufficient to answer the question.
- (d) Both the statements together are not sufficient to answer the question.

- 68.** The distance between two stations X and Y is 1000 km. A train starts at 11 AM from X and moves towards Y at an average speed of 50 km/h. Another train starts from Y at 10 AM and moves towards X at an average speed of 100 km/h. At what time the two trains will meet?

- (a) 3 PM
- (b) 4 PM
- (c) 5 PM
- (d) None of these

- 69.** The average of 20 numbers is zero. How many of these numbers may be greater than zero at max?

- (a) 19
- (b) 18
- (c) 20
- (d) 10

- 70.** Consider the following information and the Statements and Question that follow:

In a hockey team, the average age of 11 players is 32 years.

Statement-1: The captain is 16 years older than the youngest player.

Statement-2: The average age of 10 players other than the captain is 31.5 years.

Statement-3: Leaving aside the captain and the youngest player, the average ages of the three groups of three players each are 35 years, 33 years and 30 years respectively.

Question: What is the age of the captain?

Which one of the following is correct in respect of the above Question and Statements.

- (a) Any two of the given three statements are sufficient to answer the question.
- (b) Either Statement 1 and 3 together or Statement 2 alone is sufficient to answer the question.
- (c) Either Statement 1 alone or Statement 2 alone is sufficient to answer the question.
- (d) Statement 2 and 3 together are sufficient to answer the question.

71. Consider the following information and the Statements and Question that follow:

A boat takes a total time of 12 hours to travel downstream from X to Y and upstream back from Y to X.

Statement-1: The speed of the river current is 2 km/hr.

Statement-2: The distance between X and Y is 70 km.

Question: What is the speed of the boat in still water?

Which one of the following is correct in respect of the above Question and Statements.

- (a) Statement 1 alone is sufficient to answer the question.
- (b) Statement 2 alone is sufficient to answer the question.
- (c) Either Statement 1 alone or Statement 2 alone is sufficient to answer the question.
- (d) Both the Statements are needed together to answer the question.

72. A train travelled from Delhi to Bangalore covering a distance of 2500 km. The train stops for 5 minutes after every 125 km. If for each 125 km, it maintains an average speed of 100 km/h, then the time taken by the train to reach its destination is:

- (a) 26 h 35 min
- (b) 26 h 40 min
- (c) 26 h 30 min
- (d) 25 h 30 min

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

As India reaches a tipping point of transitioning from a mostly rural to an urban society, the focus must be on ensuring the best opportunities for economic growth for all sections of the society. It is a matter of concern that despite huge investments, our cities still face many efficiency-and sustainability-related challenges. None of our cities features among the top 50 cities in many global rankings. The need of the hour is incisive, insightful planning – in the absence of which neither investments nor actions would be able to yield long-term solutions. Unplanned urbanization could result in serious downsides. Cities are like living organisms. For them to flourish, their economic and social infrastructure must be in a sound state. There are enormous possibilities to achieve this through the adoption of spatial planning tools. We must rethink, reimagine, and re-establish the very purpose and approach towards the planning of cities and towns in India.

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

- 1. Presence or absence of cities in global rankings depends on their efficiency and sustainability.
- 2. Poor investments in creating sustainable cities hamper India's transition to an urban society.

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

74. Which one of the following statements *best reflects the critical message* conveyed by the passage given above?
- (a) Insightful planning of well-organized and sustainable cities is the key to an inclusive urban Indian society.
 - (b) Considering the increasing load on Indian cities, we need to replan each city across the country.
 - (c) India should aim to get its best cities in the top 50 global rankings.
 - (d) Unplanned urbanization will lead to poverty, loss of GDP, and poor use of human and economic capital.

Passage – 2

Food security exists when all people have physical and economic access to sufficient, safe, and nutritious food. Unfortunately, food security does not exist for a significant proportion of the world population. Around 900 million people are undernourished, meaning that they are undersupplied with calories. Many more suffer from specific nutritional deficiencies, often related to insufficient intake of micronutrients. Eradicating hunger is central to the Sustainable Development Goals. But how to achieve this goal is debated controversially. Genetically modified (GM) crops are sometimes mentioned in this connection. Some see the development and use of GM crops as key to reducing hunger while others consider this technology as a further risk to food security. Solid empirical evidence to support either of these views is thin.

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

- 1. Unclear mechanism of SDGs for eradicating hunger is the cause of continued cases of global hunger.
- 2. Merely consuming sufficient calories will not solve the challenges related to food security.

Select the correct answer using the code given below.

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

76. Which one of the following statements *best reflects the message of the author* of the passage?

- (a) Information sharing on available food resources across nations can help address the challenge of food security.
- (b) Before ensuring mass production of food using GM crops, the debate around its safe use should be settled.
- (c) With regards to food security, genetically modified crops can guarantee the quantity of food, but they have been known to cause serious health related issues.
- (d) Rather than depending on GM crops, promoting organic farming can fulfil all the needs of food security.

77. A class consists of 10 students. The teacher expects the class to have an average score of at least 80. The average score of 9 students was calculated to be 78. What marks do the last student need to score for the overall average of the class to match the teacher's standard?

- (a) 88
- (b) 82
- (c) 98
- (d) 100

78. The average of $(b + 1)$ and 1 is equal to the average of $(b + 4)$, 4 and 2. What is the value of b ?
- (a) 20
(b) 10
(c) 16
(d) 14
79. 120 employees work in an office. 70 of the employees are graduates and 80 are fresh out of college employees. What is the ratio between the minimum to maximum number of graduates who are fresh out of college?
- (a) 1:2
(b) 2:3
(c) 3:7
(d) 5:7
80. If x is the average of r and 11, y is the average of $3r$ and 19, and z is the average of $5r$ and 20, what is the average of x , y , and z in terms of r ?
- (a) $1.5r + 8$
(b) $3r$
(c) $1.5r$
(d) $4.5r + 25$

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