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TEST BOOKLET

C

CSAT APTITUDE TEST– (4300) – 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. Which of the following is correct about the unit digit of $(587967)^{958635} \times (5863)^{986}$?
- (a) Odd number
 - (b) Even number
 - (c) Irrational number
 - (d) Zero

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

Whistle-blowers have a key role in protecting the public, companies and institutions from undetected corruption, mismanagement and other misconduct, and their damaging consequences. They enable early detection of wrongdoing, allowing organisations to act before a situation causes harm to the public, triggers liability or leads to serious financial losses. An increasing number of countries now acknowledge the important role of whistle-blowers and have adopted laws to protect them, by requiring organisations to implement internal whistleblowing systems – also known as “speak up” or internal reporting mechanisms.

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

- 1. Whistle-blowers may be hesitant in raising their voice, and may also face retaliation.
- 2. Whistle-blowers occupy key positions in an organisation.

Which of the above assumptions is/are valid?

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

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

- (a) Whistle-blowers primarily aim to benefit the concerned organisation only.
- (b) Laws protecting whistle-blowers have limited efficacy.
- (c) Whistle-blowers ultimately benefit multiple stakeholders.
- (d) The public sector does not require internal reporting mechanisms for whistle-blowers.

Passage – 2

Deglobalization is being accelerated through a combination of old-fashioned protectionism, new-fangled “friend-shoring” (limiting trade to countries with shared values), and geo-strategically motivated bans and sanctions. To see why this trend will frustrate global responses to climate change, consider the three categories of climate action: mitigation (emissions reduction), adaptation, and migration to better conditions. The sequence here is important because the challenges implied by each category will become more difficult if less is done in the category preceding it. If we do too little mitigation, we will need more adaptation, and if we do too little adaptation, we will see more climate refugees fleeing their increasingly uninhabitable homelands.

4. Which one of the following statements **best reflects the critical message** of the passage?

- (a) The trend of deglobalization is a negative development so far as addressing climate change is concerned.
- (b) Climate change mitigation should take precedence over adaptation and migration.
- (c) Shared values are a hindrance to climate change mitigation.
- (d) Climate refugees are the most immediate consequence of deglobalization.

5. The product of two real numbers is a rational number. If one of them is a rational number, the other number must be
- (a) A rational number
 - (b) An irrational number
 - (c) A natural number
 - (d) None of these
6. A toy vendor has three types of toys: A, B, and C, with quantities of 144, 198, and 252 respectively. These toys are to be packed in a certain number of boxes, each containing the same number of toys, such that any given box contains the toys of the same variety. What is the minimum number of boxes needed for packing the toys?
- (a) 33
 - (b) 34
 - (c) 18
 - (d) 36
7. In a class of 52 students, 15 failed in the final exams and were not promoted to the next class. The students who were promoted, were assigned roll numbers in accordance with the marks they had obtained in the last class (The student who scored the maximum marks was assigned roll number 1). Ramesh got a roll number 22. What will be his roll number if the roll numbers were to be reversed, i.e. the student who got the least marks was given roll number 1.
- (a) 18
 - (b) 17
 - (c) 16
 - (d) 15
8. If goods are purchased for Rs. 120 and one-third of them sold at a loss of 5%, then at what profit percentage should the rest be sold to obtain an overall profit percentage of 5%?
- (a) 15%
 - (b) 8%
 - (c) 10%
 - (d) None of these
9. Manisha saw a unique building in shape of a hexagon. There is a construction work going on to put a tower in the middle of it. That is, the tower is located at the center of the hexagonal building on a horizontal plane. The angle of elevation from any of the vertex of the hexagon to the tip of tower is 60° . If the length of the tower is 45 meters, then find the length of each side of the hexagon?
- (a) $25\sqrt{3}$ m
 - (b) $15\sqrt{3}$ m
 - (c) $24\sqrt{15}$ m
 - (d) $12\sqrt{5}$ m
10. Find the next two terms in the given series:
B, W, F, S, H, Q, L, M, ?, ?
- (a) N, K
 - (b) P, K
 - (c) K, N
 - (d) K, P

11. In an election 20% voters did not cast their votes, while 40% of the votes casted became invalid and remaining votes are valid. The first candidate got 28% of the registered votes (i.e. of the initial total votes) and the remaining votes went to the second candidate. If second candidate lost by 48000 votes, then how many votes in the election were valid?
- (a) 2,88,000
 - (b) 187,000
 - (c) 2,80,000
 - (d) None of these

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

Food security of a nation is ensured if all its citizens have enough nutritious food available, all persons can buy food of acceptable quality and there is no barrier to access to food. Although a large section of people suffer from food and nutrition insecurity in India, the worst affected groups are landless or land-poor households in rural areas, people employed in ill-paid occupations and casual labourers engaged in seasonal activities in the urban areas.

12. Which of the following is the **most logical inference** that can be made from the above passage?
- (a) Middle class people do not face the challenge of food insecurity at all.
 - (b) Self-reliance in food grain production, alone, ensures food security.
 - (c) Lack of asset ownership has a degree of correlation with food insecurity in India.
 - (d) People engaged in white-collared work do not face food and nutrition insecurity in urban areas.

Passage – 2

Mental health is critically important for everyone, everywhere, and goes beyond the mere absence of a mental health condition. It is integral to well-being, enabling people to realise their full potential, show resilience amidst adversity, be productive across the various settings of daily life, form meaningful relationships and contribute to their communities. Physical, psychological, social, cultural, spiritual and other interrelated factors contribute to mental health, and there are inseparable links between mental and physical health.

13. With reference to the above passage, which of the following **inferences** can be drawn?

- 1. Promotion and protection of mental health can foster social capital.
- 2. Physical health encompasses and encapsulates mental health.

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
14. Which one of the following is **implied** by the passage?
- (a) Given its critical importance, mental health check-ups should be made mandatory universally.
 - (b) A sound mental health helps an individual better respond to a crisis.
 - (c) The degree of religious devotion is directly proportional to the soundness of mental health of an individual.
 - (d) Mental health has worsened due to social media.

Passage – 3

Although wildfires are a natural occurrence within some forest ecosystems, fire seasons are becoming more extreme and widespread, even in tropical rainforests where fires are atypical and particularly damaging. Hotter, drier weather caused by climate change and poor land management create conditions favourable for more frequent, larger and higher-intensity wildfires. In higher-latitude forests, fires help maintain a healthy forest ecosystem by releasing important nutrients into the soil and aiding in seed dispersal. In tropical forests, local and indigenous communities have used controlled fires for centuries to clear land for agriculture. Climate change and forest degradation and fragmentation have led to more fire-prone conditions globally. With hotter and drier conditions, fires - either ignited by humans or by lightning - are more likely to burn over larger areas and at hotter temperatures. Forests degraded by logging and disease, and fragmented by deforestation are also more susceptible to fire.

15. With reference to the above passage, which of the following ***inferences*** can be drawn?

1. Wildfires in tropical rainforests are primarily caused by lightning.
2. The natural ageing process of forests leads to forest fires.

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

16. If Rs. 1503 is to be divided among Ram, Mohan, and Rahul, such that Ram gets Rs. 76 less than Mohan and Mohan gets Rs. 34 less than Rahul, then what amount will Ram get?
(a) Rs. 527
(b) Rs. 439
(c) Rs. 459
(d) Rs. 327
17. Manoj and Nitin start simultaneously from P towards Q. When Manoj has covered 27 km, Nitin doubles his speed and 6 hours later he overtakes Manoj. What was Nitin's original speed if the speed of Manoj is 4.5 km/hr?
(a) 2 km/hr
(b) 3 km/hr
(c) 6 km/hr
(d) 4 km/hr
18. Komal connected a pipe in a tank which can fill the tank in 12 hours. She opened the pipe at 6:00 am and detected a leak at 10:00 am which can empty the tank in 24 hours. If she immediately stopped the leak, the tank would get filled by:
(a) 7:00 p.m.
(b) 8:00 p.m.
(c) 6:00 p.m.
(d) None of these
19. Pramod, Kumar and Sanjay run along a circular track of 3600 meters at respective speeds of 18 km/hr, 27 km/hr and 36 km/hr. If they start at the same point and at the same time in the same direction, when will they meet again at the starting point?
(a) They will meet 36 minutes after they started.
(b) They will meet 24 minutes after they started.
(c) They will meet 42 minutes after they started.
(d) None of these

20. Suresh and Ramesh start from a point and move in opposite directions for 2 km each. Then Suresh takes a right turn and Ramesh turns to the left at some angle and both walk at different speeds. In one hour Suresh has walked 3 km, Ramesh also reaches the same point in one hour. At what speed was Ramesh walking for the last hour?
- (a) 7 km/hr
(b) 5 km/hr.
(c) 2 km/hr
(d) Cannot be determined.
21. Each side of a cubic solid is 34.3 cm. It was painted with green colour and then cut into small cubes of sides 4.9 cm. Find the difference between the number of only one side coloured cubes and the number of non-coloured cubes?
- (a) 50
(b) 25
(c) 30
(d) 45
22. Pushkar has two sons Vijay and Ashish. Ashish is married to the eldest daughter of Roy, while Vijay is unmarried. Roy married her younger daughter Veena to the eldest son of Ajay. Sameer and Arun are grandsons of Latika, who is the mother-in-law of Roy's eldest daughter. Amit and Shashi are grandsons of Ajay. Rashmi is the granddaughter of Veena. What is the relation between the eldest daughter of Roy and Shashi if Amit doesn't have a child?
- (a) Maternal aunt
(b) Cousin
(c) Grandmother
(d) Mother-in-law
23. A class contains N students, having roll numbers 1,2,3....N. On a particular day only 50 students turn up for the class. The average of the roll numbers of the students present on that day is 38. A teacher punishes two students and sends them out of the class. The average of the roll numbers of the students who are left in the class drops to 37.5. Choose the correct statement from the options given below.
- (a) The roll numbers of students who have been sent out may be 41 and 49.
(b) The roll numbers of students who have been sent out may be 40 and 50.
(c) The roll numbers of students who have been sent out may be 40 and 60.
(d) Nothing can be predicted regarding the roll numbers of the students sent out of the class.
24. Lalit is taller than Manju but shorter than Mitalee. Vinay is taller than Rajat. Manju is taller than Vinay. Who is the shortest?
- (a) Rajat
(b) Manju
(c) Mitalee
(d) Vinay
- 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

India was quick to recognize that the complexity and interconnectedness of climate action demands cooperation between government and business. And that this was even more necessary in the world's fastest-growing major economy, where the pursuit of rapid GDP growth needed to be environmentally conscious and sustainable to lift living standards and meet the aspirations for a better life of hundreds of millions of people. After nearly four decades of liberalisation and a more recent "minimum government, maximum governance" approach to economic growth, collaboration between India's government and private sector on climate is uncharted territory. It is by no means easy – but it is gathering momentum.

25. Consider the following statements:

1. India's rapid GDP growth has not been environmentally conscious and sustainable in touch and tone.
2. Sustainability of GDP growth should become a priority only after a country becomes developed.

Which of the statements given above is/are correct?

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

Passage – 2

The financial burden of healthcare can often lead to impoverishment, compounded by indirect costs like loss of income and decreased productivity. These economic challenges are not isolated but create ripple effects through the economy, affecting societal welfare and development. For those suffering from cancer, the financial cost is even higher. Cancer also has an associated stigma that can lead to isolation and discrimination, severely impacting the mental health and well-being of patients. This stigma, rooted in cultural beliefs and lack of awareness, exacerbates the challenges faced by patients, hindering timely and effective treatment. The psychological toll of cancer extends to caregivers and families, disrupting family dynamics and often leading to a diminished quality of life. Such an emotional burden of the disease is often overlooked but is equally debilitating. The demographic shifts towards an ageing population and changes in lifestyles are contributing to an increase in the prevalence of cancer, presenting additional challenges for India's healthcare system.

26. According to the passage above, which of the following are meant by the term 'emotional burden'?

1. Demographic shift towards an ageing population.
2. The stigma and discrimination faced by cancer patients.
3. The challenges faced by caregivers of cancer patients.

Select the correct answer using the code given below.

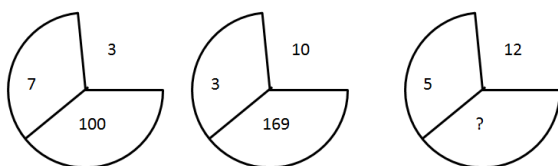
- (a) 1 and 2 only
- (b) 2 and 3 only
- (c) 1 and 3 only
- (d) All 1, 2 and 3

27. With reference to the passage, which one of the following *inferences* can be drawn?
- (a) Cancer can have wider economic and social ramifications in the country.
- (b) Managing the emotional burden of cancer prevalence should not be a priority for the healthcare system.
- (c) Unless the demographic shift towards ageing reverses, the prevalence of cancer cannot be reduced.
- (d) The prevalence of cancer is increasing due to improvements in detection technology.

28. In this question, one of the four alternatives provided specifies the interchange of signs in the equation which when made will make the equation correct. Find the correct alternative.

$$12 + 15 \div 18 \times 19 - 2 = 27$$

- (a) \times and \div
- (b) $+$ and \times
- (c) $-$ and $+$
- (d) \times and $-$
29. Consider the figures given below:



Which of the following numbers would replace the '?' in the last figure given above?

- (a) 289
- (b) 269
- (c) 256
- (d) None of the above

30. In a certain code language 'PROBABILITY' is written as 'ABORPBYTILI'. How would 'GERMINATION' be written in that code?

- (a) NATGERMINOI
- (b) GAETRIMINON
- (c) AGERNNOTIIM
- (d) IMREGNNOITA

31. The probability that Animesh will get job in DRDO is $\frac{2}{3}$ and the probability that he will not get job in ISRO is $\frac{5}{9}$. If the probability of getting at least one job is $\frac{4}{5}$, what is the probability that he will get both jobs?

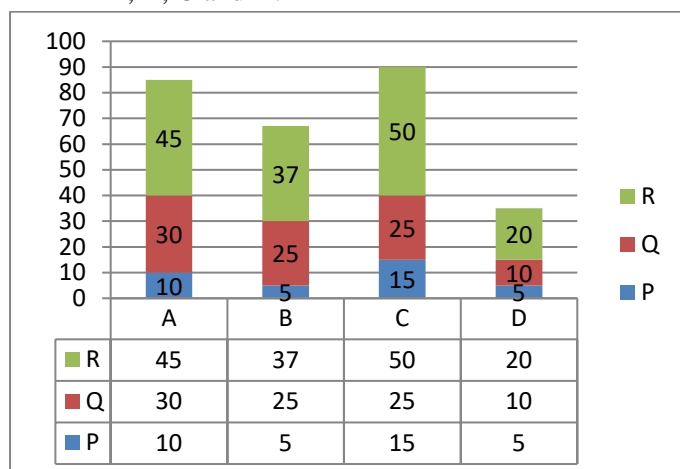
- (a) $\frac{8}{45}$
- (b) $\frac{31}{45}$
- (c) $\frac{14}{45}$
- (d) None of these

32. In the following matrix, find the missing number.

95	12	60
100	13	?
105	14	70

- (a) 65
- (b) 80
- (c) 55
- (d) 75

33. The following graph indicates the number people (in lakhs) buying milk of different companies viz P, Q and R in different cities viz. A, B, C and D.



The number of people buying milk P, from city C and D is what percent of the number of people buying milk Q in city B?

- 62.8%
- 50%
- 115%
- 80%

Directions for the following 4 (four) items:

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

Passage – 1

Economic development has long been a focus of economic strategies, but it is only in the last few decades that sustainability has risen to the centre of economic discourse and acquired substantial significance. According to modified neoclassical growth theories, to provide economic stability for future generations, it is critical to accomplish sustainability. Over time, environmental sustainability has become increasingly important. It instils a sense of resource scarcity and the importance of limiting environmental damage. It is often assumed that when people's fundamental requirements are met, they develop a desire to preserve the ecosystem. Even though gaining this knowledge has profoundly impacted the sustainable discourse, one part of it, namely social sustainability, still lacks a cohesive, unambiguous, and usable definition.

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

- Fulfilling the basic necessities of people naturally inspires among them a desire to protect the environment.
- Growth-only traditional economic development has detrimental effects on the environment and sustainability.

Which of the assumptions given above is/are valid?

- 1 only
- 2 only
- Both 1 and 2
- Neither 1 nor 2

Passage – 2

In the 1970s, U.S. capitalists discovered that it was no longer necessary to raise wages: they had less need for workers and more people looking for jobs. And every capitalist in the U.S. realized what many had learned at M.B.A. school could be put into effect, namely, the great lesson that if you don't have to raise the wages of your workers, don't do it. You make more money. We've had thirty-plus years in which the real wage, on average, hasn't improved in the United States. Americans do more hours of paid labour per year than any other working class in any advanced industrial country. To keep alive the American dream American workers have been working more. Men started taking second jobs. The women left the home and entered the workforce.

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

- Reduced bargaining power of workers contributed to wage stagnation in the US.
- Working class Americans are less happy than their counterparts in other developed countries.

Select the correct answer using the codes given below.

- 1 only
- 2 only
- Both 1 and 2
- Neither 1 nor 2

Passage – 3

We need to take the spirit of critical pedagogy with absolute seriousness. This is possible only when children are encouraged to realise and trust their potential, and teachers, far from just “completing” the official syllabus, engage in a meaningful dialogue with young students. This is like walking together, seeing beyond the burden of bookish knowledge, overcoming the dead weight of ready-made “facts, definitions and theories”, asking new questions, and thinking creatively. An important reason behind rote learning is that students are hardly encouraged or trained to see beyond textbooks, study the literature outside the syllabus, relate the classroom to the larger world, and think differently and creatively. The prevalent pattern of school examinations demands nothing more than the capacity to memorise.

36. Which of the following statements reflects the **best logical inference** from the passage given above?
- (a) The spirit of critical pedagogy is hampering the growth of students in the current education system.
 - (b) Students should be made to learn facts, definitions, and theories in order to gain knowledge and secure better jobs.
 - (c) There is a need to bring reforms in the prevalent education system.
 - (d) The students should not question things taught by the teacher and should follow instructions with obedience.

Passage – 4

Unemployment is not India’s problem. Our problem is underemployment, so productivity is low. So, the job that can be done by one person often gets done by two people or maybe three people. And that is where the real challenge of jobs is- creating well-paid productivity jobs. India is a labour-abundant and capital-scarce country. What we have done is put much of the capital in very selective sectors which are in any case very capital-intensive. We have a situation where much of the capital is working with very few workers. And we have a host of workers in agriculture in micro and small enterprises where the capital is hardly present.

37. Which one of the following statements **best reflects the crux** of the passage?
- (a) Jobless growth is the main issue facing the Indian Economy.
 - (b) There is a need to invest more in capital-intensive industries in order to create employment opportunities for all.
 - (c) Though there are many well-paid productive jobs, there is a shortage of labour in the market.
 - (d) There exists a capital-labour mismatch in the country.

Directions for the following 3 (three) items:

Read the given information carefully and answer the 3 (three) items that follow:

A pack of 52 cards is shuffled well and placed on a table. One spare card- an Ace of hearts, is kept next to the pack. A child is asked to draw one card from the pack.

38. What is the probability that the card is of the same suit as that of the spare card kept on the table?
- (a) $\frac{1}{4}$
 - (b) $\frac{1}{13}$
 - (c) $\frac{1}{26}$
 - (d) None of the above

39. What is the probability that the card drawn is exactly the same as the spare card kept on the table?
- (a) 1
(b) $\frac{1}{4}$
(c) $\frac{1}{13}$
(d) $\frac{1}{52}$

40. What is the probability that the card is **not** of the same color as that of the spare card?
- (a) $\frac{1}{26}$
(b) $\frac{1}{2}$
(c) $\frac{1}{13}$
(d) $\frac{1}{4}$

Directions for the following 2 (two) items:

Read the given information correctly and answer the 2 (two) items that follow:

From a group consisting of five females and six males, a committee of five persons is to be selected.

41. In how many ways can a committee be formed so that there are one female and four males in the committee?
- (a) 15
(b) 75
(c) 20
(d) 30
42. In how many ways can a committee be formed so that there are more females than male members in the committee?
- (a) 181
(b) 180
(c) 150
(d) None of the above

43. Sachin can buy a certain number of books for Rs. 1050. If the price of the books increases by Rs. 15, the number of books he can buy for the same amount decreases by 9. Find the original price of the books.
- (a) Rs. 31
(b) Rs. 33
(c) Rs. 35
(d) Rs. 38

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

AI can democratise access to training and enable individuals from diverse backgrounds to develop their skills and excel in their respective fields. For instance, in industries with a high volume of customer complaints, training customer service representatives to handle various scenarios can be a challenging task, especially when training needs to be conducted at scale. Traditional methods like role-playing exercises can be expensive, time-consuming, and difficult to replicate realistically. By generating simulated complaint scenarios, AI systems could help with large-scale individualised training.

44. Based on the passage above, which of the following impacts is AI-driven training likely to have on customer service in industries with a high volume of complaints?
1. It is likely to reduce the need for human customer service representatives.
 2. It is likely to lead to a decline in customer satisfaction due to automated responses.
- 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

Passage – 2

Considering how likely we all are to be blown to pieces by it within the next five years, the atomic bomb has not roused so much discussion as might have been expected. The newspapers have published numerous diagrams, not very helpful to the average man, of protons and neutrons doing their stuff, and there have been many reiterations of the useless statement that the bomb “ought to be put under international control.” But curiously little has been said, at any rate in print, about the question that is of most urgent interest to all of us, namely: “How difficult are these things to manufacture?”

45. What is the author's view on the level of discussion about the atomic bomb?
- (a) The discussion has been extensive and holistic.
 - (b) The discussion about atom bombs is useless.
 - (c) The discussion has been inadequate.
 - (d) The discussion has been non-technical.

Passage – 3

India is one of the fastest-growing large economies in the world. While the country's energy consumption per capita is only one-third of the global average, India's energy demand is expected to grow rapidly as the economy expands. This calls for a phasing down of fossil-based energy sources in line with India's goal of achieving net zero by 2070. The industrial sector is the main driver for future growth of energy demand and emissions, and green hydrogen can play a critical role in initially decarbonizing the hard-to-abate industrial sectors, such as fertiliser and refinery industries, and later heavy industries, including iron and steel. India has achieved impressive progress in renewable energy installed capacity and a decline in costs. Scaling up the production of renewable energy will accelerate the transition to low-carbon electricity and support the emergence and expansion of the green hydrogen sector.

46. Consider the following statements:

1. India's target of achieving net zero by 2070 is not likely to be met.
2. Green hydrogen can be deployed in stages to effectively help India transition to a low-carbon future.

Which of the statements given above is/are correct?

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

47. In a class, Ghanshayam is ranked 16th from the top and 49th from the last. How many students are there in Ghanshayam's class?

- (a) 64
- (b) 65
- (c) 66
- (d) None of the above

48. The average weight of the students in three sections P, Q and R of a class are 50 kg, 60 kg and 40 kg respectively. If the number of students in these three sections is 40, 70 and 90 respectively, then find the average weight of the entire class.

- (a) 51 kg
- (b) 49 kg
- (c) 50 kg
- (d) Data insufficient

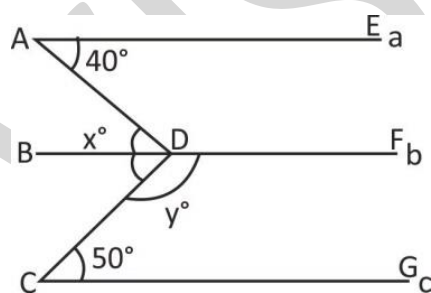
49. If $7x + 4y = 64$ and x, y are positive integers, then the values of x is

(a) Multiple of 7
(b) Multiple of 4
(c) Multiple of both 7 and 4
(d) Any integer

50. How many positive integers less than 100,000 and divisible by 125 can be formed using the digits 0, 1, 2, 5 and 8, if repetition is allowed?

(a) 300
(b) 129
(c) 99
(d) 90

51. Find the measures of x° and y° in the figure below, given that lines a, b and c are parallel to each other.



(a) $90^\circ, 130^\circ$
(b) $45^\circ, 120^\circ$
(c) $80^\circ, 40^\circ$
(d) $90^\circ, 120^\circ$

52. The sum of the first eight terms of a geometric series is 10001 times the sum of its first four terms. Find the common ratio of the series.

(a) 10
(b) -10
(c) Either (a) or (b)
(d) Neither (a) nor (b)

53. If the ratio of the magnitudes of the volume of a sphere to its surface area is 1:1, then what is the volume of the sphere (in cubic unit)?

(a) 36π
(b) 27π
(c) 18π
(d) 42π

54. From Delhi railway station a train leaves every two and half hours. An announcement at that railway station said that the previous train from New Delhi had left 40 minutes ago and the next train will leave at 17:00 hours. At what time was this announcement made?

(a) 16:30 hours
(b) 15:10 hours
(c) 15:50 hours
(d) 17:00 hours

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

The role of intelligence in national security has grown significantly in recent years thanks to the rise of international terrorism, the growth of cross-border criminal networks, renewed economic competition, the increasing need to protect intellectual property, the return of great power rivalry, and the impact of new technologies that are reshaping the domestic and global dynamics of an interconnected international society. Along with the new importance of intelligence in national security has come the idea of “intelligence diplomacy”. At its simplest, “intelligence diplomacy” is about sharing information with allied governments and their security agencies. The US, for example, has a tight circle of intelligence gathering and sharing with its Anglo-Saxon allies — Australia, Canada, New Zealand, and the United Kingdom. Similar to the “Five Eyes” arrangement are intelligence-sharing networks among the NATO allies and the EU partners. As it looks beyond its traditional alliances to deal with emerging challenges, which are global and demanding, the US is pursuing a wider range of partnerships; intelligence cooperation has become an important element of this strategy. For India too, “intelligence diplomacy” has become critical amidst the expanding scale and scope of its security challenges. The regular exchanges between the Indian agencies and their counterparts from like-minded countries on the margins of the Raisina Dialogue underline Delhi’s shift from the isolationism of the later Cold War decades to building productive intelligence partnerships today. Delhi’s intelligence diplomacy aligns with India’s current strategy of building regional and global coalitions. It is also an important part of modernizing India’s spying agencies — the Intelligence Bureau and its many offspring — which date back to the late 19th century.

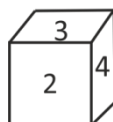
55. Which one of the following statements *best reflects the crucial message* conveyed by the author of the passage?

- (a) The rise of international terrorism, cross-border criminal networks, economic competition, and new technologies have led to increased importance of intelligence in national security, prompting the adoption of intelligence diplomacy.
- (b) Intelligence diplomacy primarily involves the US sharing information with its traditional Anglo-Saxon allies and NATO/EU partners to address emerging global challenges.
- (c) In the backdrop of cross-border terrorism, developing countries should work on expanding their intelligence diplomacy with more like-minded nations in their neighbourhood.
- (d) The global and regional security challenges call for the adoption of intelligence diplomacy by every country.

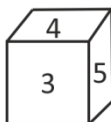
Passage – 2

Around a year ago, generative AI took the world by storm, as extraordinarily powerful large language models (LLMs) enabled unprecedented performance at a wider range of tasks than ever before feasible. Though best known for generating convincing text and images, LLMs like OpenAI’s GPT-4 and Google’s Gemini are likely to have greater social impacts as the executive centre for complex systems that integrate additional tools for both learning about the world and acting on it. These generative agents will power companions that introduce new categories of social relationships, and change old ones. They may well radically change the attention economy. And they will revolutionize personal computing, enabling everyone to control digital technologies with language alone. Much of the attention being paid to generative AI systems has focused on how they replicate the pathologies of already widely deployed AI systems, arguing that they centralize power and wealth, ignore copyright protections, depend on exploitative labour practices, and use excessive resources. Other critics highlight how they foreshadow vastly more powerful future systems that might threaten humanity’s survival. The first group says there is nothing new here; the other looks through the present to a perhaps distant horizon.

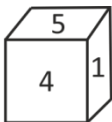
56. Which one of the following statements *best reflects the most logical, rational, and practical message* conveyed by the author of the passage?
- (a) Generative AI has the potential to transform not only the economy, but the society as well, for better or worse.
- (b) Considering the craze around generative AI, imagining a future society and workplace without it is not possible.
- (c) By making their work more efficient, generative AI is proving to be a boon for people working in language-based industries.
- (d) Generative AI will threaten the jobs of people working in language-based industries in future.
57. The area of the floor of a conical tent is 616 ft^2 . If its height is $2\sqrt{15} \text{ ft}$, then find the area of the canvas required for the tent.
- (a) 718 ft^2
- (b) 812 ft^2
- (c) 678 ft^2
- (d) 704 ft^2
58. A teacher conducted a test in his class. Among the students who passed the test, Minakshi was ranked 16^{th} from the top and 29^{th} from the last. Six boys did not participate in the test and five students failed the test. How many students were there in the class?
- (a) 40
- (b) 44
- (c) 50
- (d) 55

59. Mirror image time of a clock is 3:40. It is how much less than the real time?
- (a) 4 hrs. 40 minutes
- (b) 3 hrs. 20 minutes
- (c) 5 hrs. 20 minutes
- (d) 3 hrs. 40 minutes
60. A number is chosen randomly from the set of all natural numbers till 100. What is the probability that the chosen number is *not* a prime number?
- (a) $6/25$
- (b) $1/4$
- (c) $3/4$
- (d) $13/50$
61. A dice is thrown four times and the figure given below shows the four images of the dice as seen in each of these cases. Study the following figure and find out the number opposite to 6.
- 

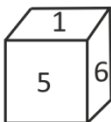
(1)



(2)



(3)



(4)
- (a) 5
- (b) 1
- (c) 4
- (d) 2

Directions for the following 4 (four) items:

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

Passage – 1

More time stranded on land means a greater risk of starvation for polar bears, a new study indicates. During three summer weeks, 20 polar bears closely observed by scientists tried different strategies to maintain energy reserves, including resting, scavenging, and foraging. Yet nearly all of them lost weight: on average around 1 kilogram, or 2.2 pounds, per day. Some have speculated that polar bears might adapt to the longer ice-free seasons due to climate warming by acting like their grizzly bear relatives and either resting or eating terrestrial food.

62. Which of the following statements *best reflects the logical inference* that can be drawn from the passage?

- (a) Adaptation is driven by changes in external environment.
- (b) Extended ice-free seasons threaten the survival of polar bears on the earth.
- (c) Polar bears which try different strategies to maintain energy reserves do not lose weight during the summer.
- (d) The average weight loss of polar bears observed during summer was approximately 1 kilogram per day.

Passage – 2

Global growth is projected at 3.1 per cent in 2024 and 3.2 per cent in 2025, with the 2024 forecast 0.2 percentage points higher than that in the October 2023 World Economic Outlook (WEO) on account of greater-than-expected resilience in the United States and several large emerging market and developing economies, as well as fiscal support in China. The forecast for 2024–25 is, however, below the historical (2000–19) average of 3.8 per cent, with elevated central bank policy rates to fight inflation, a withdrawal of fiscal support amid high debt weighing on economic activity, and low underlying productivity growth. Inflation is falling faster than expected in most regions, amid unwinding supply-side issues and restrictive monetary policy. Global headline inflation is expected to fall to 5.8 per cent in 2024 and to 4.4 per cent in 2025, with the 2025 forecast revised down. With disinflation and steady growth, the likelihood of a hard landing has receded, and risks to global growth are broadly balanced.

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

- 1. Global economic growth projections are influenced by various factors such as fiscal policies, inflation rates, and productivity levels.
- 2. Inflation rates are expected to decrease in the coming years, leading to reduced concerns about a hard landing in the global economy.

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

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

Passage – 3

The U.N. climate conference in Dubai agreed on an action plan for two key objectives: to keep the world on track to limit global warming to 1.5 degrees Celsius, and to stay below this threshold by achieving net-zero greenhouse gas emissions by 2050. Negotiators pledged that both objectives would be pursued in keeping with the technologies. But neither of the objectives has agreed definitions that would allow a judgment on whether they have been achieved. The target of capping global warming at 1.5 degrees C above preindustrial levels first entered international climate policymaking through the groundbreaking 2015 Paris Agreement. Since then, scientists have warned that any sustained warming above 1.5 degrees runs the risk of escalating dangerous weather and causing fundamental and irreversible shifts in the climate system.

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

1. Achieving the objective of limiting global warming to 1.5 degrees Celsius will not require significant technological breakthroughs.
2. It is possible to reduce global warming without impairing our way of life as we know it.

Which of the assumptions given above is/are valid?

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

Passage – 4

This year's dengue outbreaks have not been restricted to Bangladesh. More than 4.5 million cases and 4,000 deaths related to dengue have been reported this year, through the beginning of November, from 80 countries. Dengue infections have been rising in tropical and subtropical regions for the past two decades. In recent years, dengue has popped up in places it had never been seen, including Afghanistan, parts of Southern Europe, and this year, Chad. In July, a senior WHO official flagged the role of rising temperatures and humidity levels, in addition to this year's El Nino, calling the outbreaks a canary in the coal mine of the climate crisis. As temperatures continue to rise, more areas will become habitable for these mosquitoes. In the future, the belt of transmission is going to continue expanding northwards and upwards.

65. Which of the following statements *best reflects the most logical, crucial, and rational message* conveyed by the author of the passage?

- (a) Dengue has been a serious healthcare concern for developing countries.
- (b) This year's El Nino event is a significant contributor to the rise in dengue outbreaks.
- (c) Intensifying climate change is contributing to the expansion of dengue fever into newer regions.
- (d) Both (a) and (b)

66. Pinky is a neighbor of Lata, whose home is 100 meters away in North-west direction of Lata's house. Josh is a neighbor of Lata and his home is located 100 meters away in South-west direction of Lata's house. Diya is a neighbor of Josh, whose home is 100 meters away in South-east direction of Josh's house. Rama is a neighbor of Diya and she stays 100 meters away in Southward direction of Diya's house. Geeta is a neighbor of Rama and her home is 100 meters away in North-east direction of Rama's house. Geeta's house is in which direction from Pinky's house?
- (a) North-east direction
(b) South direction
(c) South-east direction
(d) North-west direction

Directions for the following 3 (three) items:

Read the information given below and answer the 3 (three) items that follow.

Seven friends – P, Q, R, S, T, U and V are sitting around a circular table, facing the centre. T and S are sitting to the left and right of P while U is in between Q and V. Q is sitting next to T. U is sitting to the right of V.

67. Which of the following statements is/are true?
- (a) R and V are next to each other.
(b) S is in between R and V.
(c) There is only one person between P and U.
(d) More than one of the above statements are correct.
68. Who is sitting to the right of S?
- (a) P
(b) Q
(c) R
(d) T

69. How many people are sitting between P and V?
- (a) 1 or 4
(b) 2 or 3
(c) 0 or 5
(d) Cannot be determined

Directions for the following 4 (four) items:

Read the information given below carefully and answer the 4 (four) items that follow.

Seven students – A, B, C, D, E, F and G study in different colleges numbered 1 through 7 and study different subjects – Sanskrit, Hindi, English, Science, Maths, History and Geography. The following information is also known about them:

1. B studies in college 4 and does not study Maths or Geography.
 2. C studies English literature and does not study in college 2 or 7.
 3. E goes to college 5 and studies Hindi.
 4. The student in college 7 studies Science. A is not the one who goes to college 7.
 5. D studies in college 1.
 6. G studies Sanskrit.
 7. The student in college 2 studies Geography.
70. If C goes to college 3, to which college does G go?
- (a) College 5
(b) College 6
(c) College 7
(d) Cannot be determined.
71. Which is the subject of choice of A?
- (a) Geography
(b) Maths
(c) English
(d) History

72. Which subject does D study?

- (a) History
- (b) Geography
- (c) Maths
- (d) Cannot be determined.

73. Which college does A go to?

- (a) College 1
- (b) College 3
- (c) College 6
- (d) None of the above

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

The physiological functions performed by food are energy-giving, bodybuilding, protective, and regulatory functions. We need energy every moment of our lives to perform various types of activities such as sitting, standing, walking running, and performing all our household and other tasks. The energy-giving function of food is performed by two nutrient categories- carbohydrates and fats. This is why these nutrients are also referred to as body fuels. The other major physiological functions performed by food are the protective and regulatory functions. The regulatory function refers to the role of food in controlling body processes. Sharing food with any other person implies social acceptance. When you share a meal with anyone else, you are expressing your acceptance of and friendship and respect for that person.

74. Which one of the following statements **best reflects the most rational, logical, and crucial message** conveyed by the passage?

- (a) Food serves a multifaceted purpose in promoting human well-being - both physiological and social.
- (b) Food plays a fundamental and essential role in providing energy to our body.
- (c) Consuming sufficient carbohydrates and fats is crucial for maintaining our energy levels and performing daily activities effectively.
- (d) None of the above

Passage – 2

When we think of the term “urban” we immediately associate it with the term “city” and with a distinct way of life. Both the terms “urban” and “city” are frequently used by us to denote the same thing. During the seventeenth century and ever since then, the term city has come to be understood as a kind of place while urban is understood as a quality of life which is found typically in the cities. The second view which may be called the ecological approach used for defining urban social structure has its origins in biology and botany. Although demographic and ecological factors are important to study urban social structure, it is essential to relate these factors to the socio-cultural dimensions of society. Only then do they become more meaningful for a sociological understanding of urban social structure.

75. Which of the following statements *best reflects the most logical, rational, and crucial* message conveyed by the passage?

- (a) Integrating demographic, ecological, and socio-cultural aspects provides the only meaningful approach to understanding urban social structure.
- (b) "Urban" extends beyond just the physical space of a city, and encompasses a distinct quality of life and social structure.
- (c) The urban social structure is no different from the rural social structure in the demographic, ecological, and socio-cultural realms.
- (d) The terms "urban" and "city" are interchangeable and represent one and the same thing.

Direction for the following 2 (two) Questions:

Read the information given below carefully and answer the 2 (two) items that follow.

- I. 'A × B' stands for 'A' is the brother of 'B'.
- II. 'A + B' stands for 'A' is the father of 'B'.
- III. 'A ÷ B' stands for 'A' is the sister of 'B'.

76. Which of the following represents 'A' is the uncle of 'B'?

- (a) $A + C \div B$
- (b) $A + C \times B$
- (c) $A \times C + B$
- (d) $A \div C + B$

77. If $A \div C + B$ is true, then what is the relation of B with A?

- (a) Niece
- (b) Daughter
- (c) Aunty
- (d) Cannot be determined

Direction for the following 3 (three) Questions:

Read the information given below carefully and answer the 3 (three) items that follow.

Simu, Ramu, Tinu, Ashu, Anu and Manu are six friends who are preparing for the Civil Services Examination.

Further it's known that:

- 1. Ramu and Tinu are shorter than Manu but heavier than Simu.
- 2. Ashu is heavier than Ramu and taller than Tinu.
- 3. Anu is shorter than Ashu but taller than Manu.
- 4. Manu is heavier than Ashu.
- 5. Simu is shorter than Anu but taller than Manu.

78. Who is third from the top when they are arranged in descending order of heights?

- (a) Simu
- (b) Ramu
- (c) Tinu
- (d) Anu

79. Who among them is the lightest?

- (a) Ramu
- (b) Tinu
- (c) Simu
- (d) Data inadequate

80. Which of the following group of friends is shorter than Simu?

- (a) Ramu, Tinu only
- (b) Ashu, Ramu, Tinu only
- (c) Manu, Ramu, Tinu only
- (d) Anu, Ramu, Tinu only

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