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TEST BOOKLET

C

CSAT APTITUDE TEST– (4298) – 2024

Time Allowed: Two Hours

Maximum Marks: 200

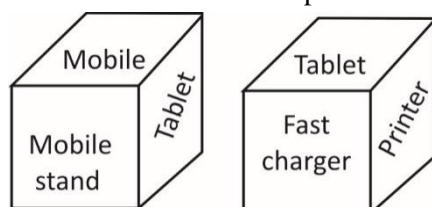
INSTRUCTIONS

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. $P = 41^Q + 7^Q$, where Q is an odd natural number. Which of the following need **not** be a factor of P ?
- (a) 24
(b) 12
(c) 16
(d) 36

2. Given below are the two positions of a cube.



What face is opposite to the one having Printer on it?

- (a) Mobile stand
(b) Fast charger
(c) Mobile
(d) Earphone

Directions for the following 5 (five) items:

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

Passage – 1

As AI applications become more integrated into healthcare systems, questions about consent, data ownership, and transparency arise. Patients must have control over how their health data is used and shared. Robust cybersecurity measures are essential to prevent unauthorized access and protect against potential breaches. AI algorithms often rely on vast datasets, including sensitive health information, to train and improve their performance. The handling of such data demands stringent privacy measures to safeguard individuals' confidentiality. Regulatory frameworks with penalty provisions must evolve to address the unique challenges posed by AI in healthcare. Establishing clear guidelines for data usage, ensuring transparency in algorithmic decision-making, and enforcing strict privacy standards are pivotal to fostering trust in AI-driven healthcare solutions.

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

1. Balancing innovation with privacy safeguards is integral to realising the transformative potential of AI in the healthcare.
2. Governments need to formulate laws and policies to address the privacy threats posed by the use of AI in healthcare.

Which of the above assumptions is/are valid?

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

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

- (a) From predictive analytics to robotic surgeries, AI will shape the future of healthcare delivery.
(b) Ensuring transparency and enforcing strict privacy standards is fundamental to innovations in AI in healthcare.
(c) Without addressing privacy concerns, the use of AI in healthcare could be dangerous.
(d) None of the above

Passage – 2

In modern India, the traditional perception of marriage as a sacrament is transforming, reflecting the evolving social fabric. The once deeply ingrained societal norms surrounding matrimony are encountering challenges as individuals increasingly prioritize personal autonomy and career aspirations. The rise in inter-cultural and inter-faith marriages, as well as an increase in instances of late or chosen marriages, indicates a departure from conventional views. The prevalence of diverse relationship models, cohabitation before marriage, and a growing acceptance of alternative family structures contribute to the changing landscape of marital values. Economic independence and educational empowerment, particularly for women, have contributed to this paradigm shift. The discourse on the value of marriage as a sacrament in modern India reflects a clear transition from traditional to modern perspectives.

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

1. The notion of marriage as a sacrament is subjective, and can differ among different segments of society and individuals.
2. The institution of marriage is heavily influenced by the Western constructs worldwide.

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

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

- (a) The transition of marriage from a traditional to a modern construct reflects the loss of culture and values in society.
- (b) There is a need to reverse the transformations in the institution of marriage to preserve the culture.
- (c) Marriage, as an institution, undergoes metamorphosis, only due to redefined gender roles.
- (d) Societal changes, fostering an environment of choice and flexibility, impact the institution of marriage.

Passage – 3

The fear of making the wrong decision immobilizes any person, fostering a state of inertia that hinders personal growth and achievement. This perpetual hesitancy extends beyond the immediate choices; it corrodes his confidence and self-esteem, creating a cycle of self-doubt. Relationships, career opportunities, and personal development become casualties of this chronic indecision. The person finds himself in a static existence, witnessing the passage of time without actively engaging in the meaningful pursuits that could shape his life. Breaking free from this cycle demands a courageous embrace of uncertainty, for it is only through decisive action that he can unlock the doors to progress and self-discovery.

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

1. Uncertain choices may lead to a life marked by missed opportunities and unfulfilled potential.
2. An achievement-oriented person makes decisive decisions for growth in life.

Which of the above assumptions is/are valid?

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

8. An electronic equipment can be produced by three machines X, Y and Z. Machine X takes 30 hours to produce 1 lakh units. Machine Y is thrice as fast as machine X. Machine Z takes the same amount of time to produce 1 lakh units as X and Y running together. How much time will be required to produce 1 lakh units if all the three machines are used simultaneously?

- (a) 6.5 hours
- (b) 7.5 hours
- (c) 3.75 hours
- (d) 8 hours

9. Consider the following Question and the Statements:

Statement 1: The ratio of the sales of A and B is 4:5

Statement 2: The ratio of the expenditures of A and B is 3:4.

Question: Companies A and B earned profit in 2022. Is the profit of company A less than that of company B in 2022?

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

- (a) The Question can be answered by using one of the Statements alone, but cannot be answered by using the other Statement alone.
- (b) The Question can be answered by using either Statement alone.
- (c) The Question can be answered by using both the Statements together, but cannot be answered by using either Statement alone.
- (d) The Question cannot be answered even by using both the Statements together.

10. Sachita can finish a work in 48 days by working 9 hours a day. Shikha can finish the same work in 36 days by working 16 hours a day. In how many days can they finish the work by working together $7\frac{5}{7}$ hours a day?

- (a) 32 days
- (b) 34 days
- (c) 36 days
- (d) 38 days

11. Anuj takes 42 minutes to travel from Pratapgarh to Prayagraj, while Pradeep takes 56 minutes to travel from Prayagraj to Pratapgarh. Anuj and Pradeep start from Pratapgarh and Prayagraj respectively at 7: 30 am towards Prayagraj and Pratapgarh respectively. If they take the same route, when will they meet?

- (a) 7:48 am
- (b) 7:51 am
- (c) 7:54 am
- (d) 7:58 am

12. Raghu borrows Rs. 36000 from Hari at 10% simple interest per annum. He lent the sum borrowed to Kunal at 20% p.a. compound interest. Kunal repaid the loan at the end of two years. Had Kunal repaid the loan at the end of three years, the additional profit for Raghu would have been:

- (a) Rs. 6148
- (b) Rs. 7244
- (c) Rs. 6588
- (d) Rs. 6768

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 Digital India initiative has made significant strides in enhancing digital infrastructure, promoting e-governance, and fostering technology adoption, there are critical aspects that warrant analysis. One aspect is the digital divide, which persists across urban-rural and socio-economic lines. Despite increased internet penetration, disparities in access to digital resources and skills hinder the full realization of Digital India's potential. Bridging this gap is crucial for ensuring inclusive growth. Privacy and data security concerns also emerge with the increasing digitization of services. Effective utilization of digital tools requires not only access but also the ability to navigate and leverage them. Initiatives to enhance digital education and skills training are essential to empower citizens fully.

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

1. Digital literacy remains a challenge in the country.
2. Due to the inherent challenges, Digital India initiative has not been successful.

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 – 2

Over the decades, educating people about health has been an important strategy for preventing illness and injury. This approach has drawn heavily from the fields of public health, social science, communications, and education. Early experiments with education relied heavily on the delivery of information and facts. Gradually, educational approaches have turned more to skill development and addressing all health aspects, including physical, social, emotional, and mental well-being. Educating children and adolescents can instil positive health behaviours in the early years and prevent risk and premature death. It can also produce informed citizens who can seek services and advocate for policies and environments that affect their health. Education for health is an essential component of an effective school health programme, and it is likely to be the most effective.

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

1. Health education may be a tool for promoting citizen participation in healthcare governance.
2. Health education should be prioritized in schools for the healthy development of children.

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

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

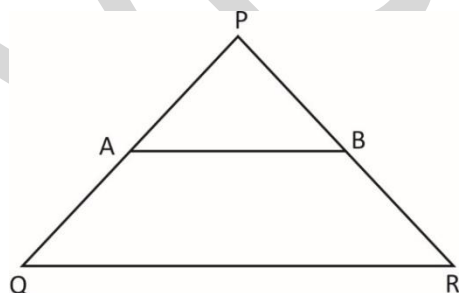
15. A certain code is prepared such that two letters are skipped in between any two adjacent letters. Which of the following series may be an output of this coding technique?

(a) MPSVYBE
(b) QSVYZCF
(c) EIMQV
(d) ZCGKMPR

16. From a point O on the ground, the angles of elevations of the tops of two buildings (B and A) are 15° and 75° , respectively. Each building is 300 m high. Find the distance between the tops of both the buildings. ($\tan 15^\circ = 2 - \sqrt{3}$ and $\tan 75^\circ = 2 + \sqrt{3}$)

(a) 1000 m
(b) 1100 m
(c) 800 m
(d) None of these

17. In the figure given below, AB is parallel to QR and the ratio of the areas of triangles PAB and PQR is 1:4. If the perimeter of PQR is 24 cm, then what is the perimeter of PAB (in cm)?



(a) 10 cm
(b) 12 cm
(c) 14 cm
(d) None of these

18. The sum of infinite geometric series is 27 and the sum of the squares of the terms is 243. Find the common ratio.

(a) $1/2$
(b) $1/3$
(c) $1/4$
(d) $2/3$

19. If = stands for \div ; + stands for $-$; - stands for $+$; \times stands for $=$; \div stands for \times ; which of the following is true?

(a) $3 \div 3 + 1 \times 9 + 1 = 1$
(b) $3 \div 3 + 1 \times 3 + 1 = 1$
(c) $3 \div 3 + 1 \times 13 + 1 = 1$
(d) $3 \div 3 + 1 \times 3 + 1 = 1$

Direction for the following 3 (three) items:

Read the information given below carefully and answer the questions that follow.

Rohan arranged seven water bottles (having different weights), labeled as M, N, O, P, Q, R, and S, in a straight line.

The weight of bottle O is greater than that of bottle Q, which is just heavier than bottle S. Two bottles have weights between bottle Q and bottle M. Bottle S is lighter than bottle M, which is heavier than bottle O. The weight of bottle P is 15 kg more than that of bottle N, while the weight of bottle N is 22 kg. The weight of bottle P is not the maximum. Two bottles are heavier than M.

20. Which bottle has the maximum weight?

(a) M
(b) R
(c) O
(d) P

21. How many water bottles are heavier than bottle S?
- Less than three bottles
 - Only four bottles
 - Only two bottles
 - More than five bottles
22. Which of the following **cannot** be concluded?
- Weight of bottle R can be 50 kg.
 - Weight of bottle Q can be 12 kg.
 - Weight of bottle O can be 29 kg.
 - None of the above.
23. Consider the following Question and the Statements:
- Statement 1: Arun and Banwari together get a sum of Rs. 80.
- Statement 2: Banwari and Chandan together get a sum of Rs. 100.
- Question: A sum of Rs. 160 is shared among Arun, Banwari and Chandan. How much of it does Banwari get?
- Which one of the following is correct in respect of the above Question and the Statements?
- The Question can be answered by using one of the Statements alone, but cannot be answered by using the other Statement alone.
 - The Question can be answered by using either Statement alone.
 - The Question can be answered by using both the Statements together, but cannot be answered by using either Statement alone.
 - The Question cannot be answered even by using both the Statements together.

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

Child-rearing involves nurturing and guiding a child through various stages of development. Parents navigate a dynamic journey, adapting to the changing needs and personalities of their children. Understanding and meeting a child's needs requires a multifaceted approach. Effective communication, setting boundaries, and providing a supportive environment contribute to a child's emotional well-being. Balancing discipline with love and fostering independence while ensuring safety present intricate challenges. Parents often find joy in the process of imparting values, skills, and knowledge. Providing a secure foundation for a child's exploration of the world contributes to the fulfilling nature of parenting.

24. Which of the following is/are **the most rational and logical inference/inferences** that can be made from the passage?
- Only parents can contribute to the emotional well-being of their children.
 - A supportive environment and good communication are ingredients of a good child-rearing practice.
- Select the correct answer from the code given below:
- 1 only
 - 2 only
 - Both 1 and 2
 - Neither 1 nor 2

25. Which one of the following is *best implied by the passage*?

- (a) Child-rearing is the art of nurturing young minds to bloom into responsible and compassionate model citizens.
- (b) Child rearing depends on societal values.
- (c) If one wants their child to succeed in life, he should focus on the process of child-rearing.
- (d) Child-rearing is a complex yet profoundly rewarding process.

Passage – 2

Multinational corporations, international media, and the internet play influential roles in disseminating a shared set of cultural references and norms. As a result, local traditions and practices face the risk of erosion or assimilation into a globalized culture. This phenomenon is often associated with the spread of Western values, consumerism, and media, which can overshadow and replace local traditions, languages, and customs. While it promotes interconnectedness and shared experiences, it also raises concerns about the loss of cultural diversity. Indigenous languages, traditional knowledge, and unique customs face the threat of extinction as globalized trends become dominant.

26. Which one of the following is *the most logical and rational inference* that can be made from the above passage?

- (a) Globalization intertwines cultures, creating a vibrant tapestry of shared experiences and values.
- (b) Globalization threatens local culture through cultural homogenization.
- (c) In the backdrop of the loss of local culture, there is a need for de-globalization.
- (d) The promotion of Western culture should be countered by the promotion of local culture globally.

27. The L.C.M and the H.C.F of two 3-digit numbers $p12$ and $7q4$ are 25088 and 16 respectively. Find p and q .

- (a) 6, 7
- (b) 5, 8
- (c) 7, 8
- (d) 6, 8

28. Anuj wants to buy some stationary. He buys pencil, pens and notebooks spending a total of Rs. 50. If each pen costs Rs. 6, each pencil costs Rs. 5, each notebook costs Rs. 3 and Anuj wants to buy at least 3 items of each kind, then in how many ways can he purchase these items?

- (a) 4
- (b) 1
- (c) 2
- (d) 3

29. A village in the country side can be reached by six roads viz – X, Y, Z, 1, 2 and 3. The road Y gets blocked in storm and floods affect the roads X, 1 and 3. When road 1 is blocked, road Z also gets blocked. In a particular season when the village was flooded due to a storm, which of the following roads can be used?

- (a) Only Y
- (b) Only 2
- (c) Only 3
- (d) Z and 2

30. If 'BDZBKMLN' is the code for 'CALM', then what will be the code for 'TABLE'?

- (a) USABCBLMEE
- (b) SUBABCNMDF
- (c) SUZBACKMDF
- (d) USZCAAKRFE

31. Find the next term of the following series.

15, 21, 34, 54, 81, ?

- (a) 112
- (b) 106
- (c) 105
- (d) 115

32. Three statements followed by three conclusions I, II and III are given below. You have to consider the statements to be true, even if they seem to be at variance from commonly known facts. You have to decide which of the given conclusion(s) follow from the given statements.

Statements:

Some cars are bikes.

All buses are bikes.

No bike is train.

Conclusions:

I. Some cars are buses.

II. All trains being buses is a possibility.

III. No car is a bus.

Select your answer using the codes given below.

- (a) Only I follows
- (b) Either I or III follows
- (c) All follow
- (d) None of these

33. In a row of children, Manoj is tenth from the left and Kamal is thirteenth from the right. Vimal is 20th from the right end and third to the right of Manoj. How many children are there between Manoj and Kamal?

- (a) 9
- (b) 10
- (c) 8
- (d) 6

34. Six persons are standing around a circular table facing the center. Balram is between Kamal and Kishan. Manoj is between Sanjay and Vishal. Kamal is on the left of Sanjay. Who is on the left of Kishan?

- (a) Balram
- (b) Vishal
- (c) Kamal
- (d) Sanjay

35. $P = (40\% \text{ of } A) + (60\% \text{ of } B)$ and $Q = (75\% \text{ of } A) - (25\% \text{ of } B)$, where Q is greater than P. In this context, which of the following statements is correct?

- (a) A is greater than B
- (b) B is greater than A
- (c) A is equal to B
- (d) None of the above can be concluded with certainty.

Directions for the following item:

Read the following passage and answer the item that follows. Your answer to this item should be based on the passage only.

Passage

Cooking, an essential daily activity, has deep connections to energy sources like biomass and coal, often used in traditional methods. However, reliance on these fuels contributes to indoor air pollution, leading to alarming health impacts. According to data, millions of deaths annually are attributed to household air pollution from biomass and coal combustion. The toxic fumes released during cooking create respiratory problems, especially affecting women and children. The impact is disproportionately severe on the poor. Rising usage of cleaner cooking gas is crucial for health, alleviating poverty by reducing medical costs, and mitigating environmental degradation. Efforts to transition away from traditional cooking methods play a vital role in breaking the cycle of poverty and fostering a more sustainable and equitable future.

36. According to the author, *the most rational inference* would be:
- (a) Poor households are giving up polluting fuels due to increased awareness about health hazards.
 - (b) Access to clean cooking gas, can reduce deaths due to air pollution in poor households.
 - (c) Subsidising cleaner fuels will decrease the issue of poverty and deaths in poor households.
 - (d) Both (a) and (b)
37. In a certain code, 478 means 'big rose tree', 701 means 'small rose garden', 476 means 'red rose tree'. The digit in the code that indicates red is
- (a) 7
 - (b) 6
 - (c) 4
 - (d) 1
38. A water tank has three taps X, Y and Z. X fills 3 buckets in 4 minutes, Y fills 5 buckets in 6 minutes and Z fills 8 buckets in 10 minutes. If all the taps are opened together a full tank is filled in 1 hour. If a bucket can hold 2 gallons of water, what is the capacity of the tank (in gallons)?
- (a) 287
 - (b) 284
 - (c) 285
 - (d) 286

39. The area of an equilateral triangle and a square are equal. Which of the following can be concluded?
- (a) The triangle and the square have the same perimeter.
 - (b) The perimeter of the square exceeds that of the equilateral triangle.
 - (c) The perimeter of the square is less than that of the equilateral triangle.
 - (d) None of these
40. At present, the ratio of Ajay's age to Sachin's age is 4:5. Ten years ago, the ratio was 19:25. If Suresh is 12 years older than Ajay, then what is the present average age of Ajay, Sachin, and Suresh?
- (a) 52 years
 - (b) 48 years
 - (c) 56 years
 - (d) None of these
41. Anuj and Basant had a total of 50 chocolates with them. The sum of the squares of the number of chocolates with them is 1300. Anuj sells each chocolate at Rs. 5 and Basant sells each chocolate at Rs. 6. Find the total amount they get.
- (a) Rs. 270
 - (b) Rs. 280
 - (c) Rs. 210
 - (d) Either (a) or (b)
42. The password of a secured lock changes every day as per the pattern described below:
Password for day 1: TREWQ
Password for day 2: REWQT
Password for day 3: EWQTR
What would be the password for day 4?
- (a) WQTRE
 - (b) WQERT
 - (c) WERTQ
 - (d) WQTER

43. Twice the difference between a two-digit number and the number formed by reversing its digits is two less than the sum of the number and the number formed by reversing the digits of the number. If the original number is greater than the number formed by reversing the digits, then what is the original number?

(a) 62
(b) 72
(c) 82
(d) 92

44. Consider the following Question and the Statements:

Statement 1: The marked price of the article was 30% more than the cost price.

Statement 2: Had the article been sold at a discount of 40%, there would have been a loss of Rs. 50.

Question: Is the selling price of an article more than the cost price given that the article is sold at a discount of 20%?

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

- (a) The Question can be answered by using one of the Statements alone, but cannot be answered by using the other Statement alone.
(b) The Question can be answered by using either Statement alone.
(c) The Question can be answered by using both the Statements together, but cannot be answered by using either Statement alone.
(d) The Question cannot be answered even by using both the Statements together.

45. A vessel contains 10 liters of honey. 1 liter of honey is taken out and replaced by an equal amount of sugar syrup. Then 1 liter of mixture is taken out and replaced by an equal amount of sugar syrup. Find the ratio of honey and sugar syrup in the final mixture.

(a) 81:100
(b) 81:19
(c) 19:81
(d) 19:100

46. In 2020, Anuj's salary was Rs. 24000 but due to a pandemic in 2021, his salary was reduced by 20% which is equal to that of Ajay's salary in 2021. Ajay's salary in 2022 was 20% more than his salary in 2021. Anuj's salary in 2022 was the same as his salary in 2020. By what percentage is the sum of the salaries of Ajay in 2021 and 2022 more/less than that of Anuj in both these years combined?

(a) $(22/9)\%$
(b) $(18/7)\%$
(c) $(20/9)\%$
(d) None of these

47. The average monthly income of Ananya for the first 9 months of a year was Rs. 12000, while her average monthly income for the last 3 months of that year was Rs. 16000. Find her average monthly income (in Rs.) for that year.

(a) Greater than Rs. 15000
(b) Less than Rs. 13800
(c) Greater than Rs. 16000
(d) Less than Rs. 13000

Direction for the following 2 (two) items:

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

The table below shows the literacy rate of some Indian States/ Union Territories as per two different Censuses (2011 and 2001):

State/Union territory	Literacy Rate (%) - 2011 census	Literacy Rate (%) - 2001 census
Kerala	94	91
Lakshadweep	92	87
Mizoram	92	89
Goa	87	82
Puducherry	87	81
Chandigarh	86	82
Delhi	86	82

48. How many States/Union Territories are there whose Decadal Difference of Literacy (in terms of percentage point) is more than Puducherry?

- (a) 1
- (b) 0
- (c) 3
- (d) 2

49. The average of the Decadal Difference of Literacies (in terms of percentage point) of the above mentioned States/Union Territories is:

- (a) 3.28
- (b) 5.28
- (c) 4.28
- (d) 2.28

50. Rahul build a water tank of capacity 'x' liters. He connected the tank with two inlet pipes A and B and an outlet pipe C. Pipe A supplies water at 50 liters/hour. Pipe B can fill the tank in 4 hours, which pipe C can empty it in 12 hours. All the pipes are simultaneously opened and the tank gets filled in 1 hour. What is the value of 'x'?

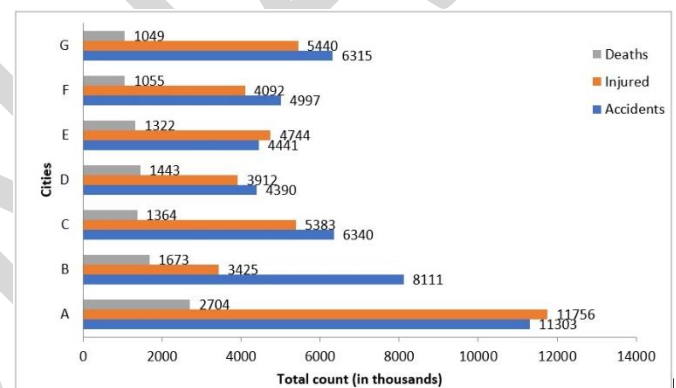
- (a) 40 liters
- (b) 50 liters
- (c) 60 liters
- (d) 80 liters

51. In how many ways can 12 students, consisting of 8 boys and 4 girls, be selected from 15 boys and 10 girls, if a particular boy A and a particular girl B can never be together?

- (a) ${}^{14}C_8 \times {}^9C_4$
- (b) ${}^{15}C_8 \times {}^{10}C_4 - {}^{14}C_7 \times {}^9C_3$
- (c) ${}^{15}C_8 \times {}^{10}C_4 - {}^{14}C_8 \times {}^9C_4$
- (d) ${}^{14}C_7 \times {}^9C_3$

Direction for the following 2 (two) items:

The chart given below represents the number of accidents that happened, the number of people that got injured during those accidents, and also the number of people that died in those accidents in different cities:



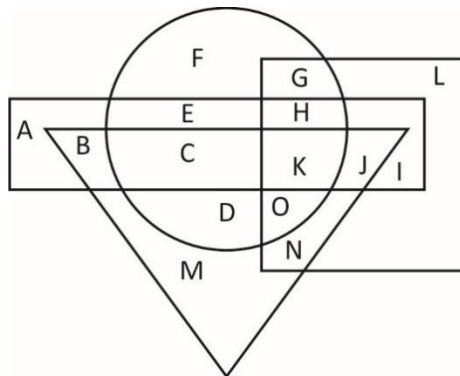
52. Which among the following can be concluded from the given chart?

- (a) In three cities - E, F and G, the total count of deaths is greater than 3450.
- (b) The sum of the people injured in cities A and D is less than 15000.
- (c) Cities D, E and F had less than 5000 accidents.
- (d) All are correct.

53. What is the difference between the total number of accidents that happened and the total number of injured people in all the cities combined?

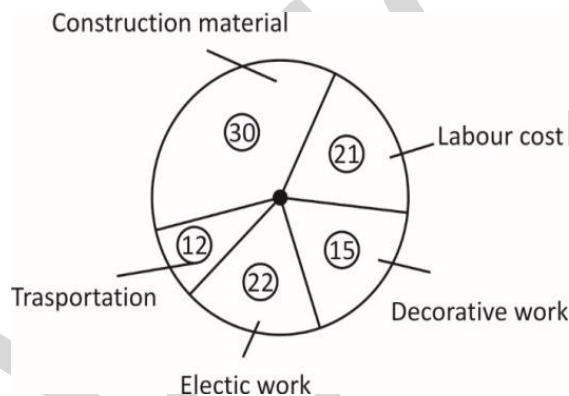
- (a) Less than 5000
- (b) More than 10000
- (c) Less than 8000
- (d) 7000

54. In the following Venn diagram, circle represents businessman, square represents lawyer, triangle represents artist and rectangle represents thief. A letter is written on every part.



What part is described by the letter K?

- (a) Lawyer, artist, businessman
(b) Thief, businessman, artist
(c) Lawyer, thief, artist, businessman
(d) None of these
55. The following graph indicates the expenses on different commodities in percentage terms.



If total expense on different commodities is 5 crores, then expenses on transportation and decorative work is what percent of the total expenses on construction material and labour?

- (a) 57.6%
(b) 54%
(c) 47.2%
(d) 52.9%

56. A person can row at 7.5 km/h in still water. It takes him 3 hours 20 minutes to row from place A to place B (downstream) and return back from place B to place A (upstream). If the river current is running at a speed of 1.5 km/h, then the distance between place A and place B is:

- (a) 25 km
(b) 12.5 km
(c) 24 km
(d) 12 km

57. All the students of a class are sitting in a row. Raman is 7th from the left and Rohan is 14th from the right. The number of students sitting in between them is $\frac{1}{4}$ th of the total of students in the row. How many students are sitting in the row?

- (a) 18
(b) 26
(c) 30
(d) 28

58. Ramesh has a triangular plot of land on which all the sides are equal. He wants to plant some trees on his plot such that there are equal number of trees on each side and every consecutive row has one less tree than the previous row (starting from any side of the triangle). If he plants a total of 55 trees, how many trees are there on each side of the plot?

- (a) 9
(b) 10
(c) 11
(d) 12

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

As smartphones become an integral part of daily life, many individuals find themselves compulsively reaching for their phones, even in seemingly inconsequential moments. The addictive allure of notifications, social media updates, and constant connectivity can lead to a dependency that impacts both mental and physical well-being. The constant exposure to screens may disrupt sleep patterns, leading to fatigue and a decline in overall health. Social relationships can suffer as individuals prioritize virtual connections over face-to-face interactions. The addictive nature of phones is exacerbated by the fear of missing out (FOMO) and the pressure to stay digitally always connected. Fostering a balanced relationship with technology becomes essential for maintaining overall well-being and reclaiming control over one's time and attention.

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

1. The dopamine-driven cycle of viral news makes it impossible to break free from phone addiction.
2. In today's world, people value full isolation more than face-to-face interactions.

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

Passage – 2

Rising temperatures, shifting rainfall patterns, and increased frequency of extreme weather events will directly impact crop yields, livestock health, and water availability - essential resources for agriculture. These impacts will disproportionately affect marginalized communities and small-scale farmers, who often have limited access to technology, financial resources, and social safety nets. Moreover, climate change-induced disruptions in food production can lead to price volatility, food insecurity, and even conflicts over scarce resources. To address climate justice in agriculture, it is imperative to prioritize sustainable and resilient farming practices, support innovation in climate-smart agriculture, enhance access to climate information and financial resources, and promote policies that prioritize social and environmental equity in food systems.

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

1. Conflicts over scarce resources are necessarily related to climate change.
2. Climate justice needs the cooperation of global organizations and governments.

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 – 3

Projections suggest a steady increase in the world's population, with estimates reaching 9 billion by 2050. In tandem, India has become the world's most populous nation, surpassing China. The future trajectory of global population growth and its impact on economic sectors, particularly in India, is poised to shape the landscape of welfare policies. The services sector, including technology and finance, is likely to witness heightened demand globally, driven by an expanding middle class. In India, with its youth-dominated demographic, this shift could further amplify the prominence of the information technology and services sectors. However, ensuring job creation and sustained economic growth requires a concurrent focus on manufacturing and agriculture, sectors that often employ a significant portion of the population.

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

1. High population growth aids in reaping better demographic dividend.
2. The expansion of the middle class in India depends on the faster growth of the services sector.

Which of the above assumptions is/are valid?

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

Directions for the following 2 (two) items:

Read the following information carefully and answer the 2 (two) items that follow:

1. M and S are good in subjects 2 and 3.
2. A and M are good in subjects 3 and 1.
3. A, P and N are good in subjects 1 and 5.
4. N and A are good in subjects 1 and 4.
5. P and S are good in subjects 5 and 2.

62. Who is good in subjects 1, 4 and 5 but not in subject 3?

- (a) P
- (b) A
- (c) M
- (d) N

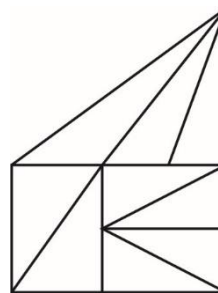
63. Who is good in subject 5, 1, 3 and 4?

- (a) A
- (b) N
- (c) P
- (d) M

64. Total expenses of a guest house are partly fixed and partly varying linearly with the number of guests arriving. Average expense per guest is Rs. 1000 when there are 50 guests and Rs. 800 when there are 100 guests. What is the average expense (in Rs) per guest when there are 200 guests?

- (a) 650
- (b) 600
- (c) 500
- (d) 700

65. Consider the following figure.



Which among the following can be concluded with respect to the total number of triangles and rectangles in it?

- (a) The total number of triangles and rectangles is a prime number.
- (b) The product of the total number of triangles and rectangles is a multiple of 7.
- (c) The total number of triangles and rectangles is a multiple of 3.
- (d) None of these

66. Find the missing letter pair in the following matrix.

LX	GT	DK
IR	TV	KP
XU	?	NM

- (a) TN
(b) RD
(c) MN
(d) YD
67. Nine different hamlets namely L, M, N, O, P, Q, R, S and T not necessarily in the same order, lie on the left bank of a river that passes through a jungle. The distance between two adjacent hamlets is 1 km. P is 4 km east from L and T is 4 km east from P. Distance between N and T is 3 km. What is the distance between L and N?
- (a) 1 km
(b) 2 km
(c) 4 km
(d) 5 km
68. To 5 litre of 20% sulphuric acid, 7.5 litre of 80% sulphuric acid is added. What is the strength of the acid in the mixture now?
- (a) 56%
(b) 50%
(c) 64%
(d) 60%

69. A student took five papers in an examination, where the full marks were the same for each paper. His marks in these papers were in the proportion of 4:5:6:7:8. In all papers together, the candidate obtained 60% of the total marks. Then the number of papers in which he got at least 70% marks is:
- (a) 4
(b) 3
(c) 2
(d) None of these

Directions for the following 6 (six) items:

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

Passage – 1

Success often emerges from the crucible of setbacks, revealing the symbiotic relationship between achievement and the lessons learned through failure. Every triumph bears the silent scars of past challenges, and every setback carries the potential for growth and resilience. Understanding life allows for a holistic perspective, encouraging an embrace of both light and shadow. It's a reminder that growth often sprouts from the soil of challenges and that every peak is preceded by a valley. In navigating this we find wisdom in accepting both sides, forging a path that acknowledges the intricate beauty of life's dualities.

70. Which of the following statements **best reflects the logical inference** from the passage given above?
- (a) In the journey to success, patience and perseverance act as compass.
(b) Without perseverance and wisdom, being successful in life is challenging.
(c) Life is a coin; success and failure share the same currency of experience.
(d) Knowledge through understanding success and failures is the ultimate objective of life.

Passage – 2

The times of war conflict require leaders to make swift, strategic decisions under intense pressure. While innate traits like resilience and adaptability contribute, structured training cultivates the skills needed to navigate the complexities of warfare. Military leaders undergo rigorous training to hone tactical acumen, strategic thinking, and the ability to inspire and lead troops. The synthesis of inherent leadership qualities and the discipline acquired through training forges commanders capable of navigating the turbulent landscape of war, steering their teams through adversity with courage, precision, and a profound sense of responsibility.

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

- (a) War experience is essential for acquiring leadership qualities.
- (b) Leadership in times of war demands a unique blend of innate qualities and rigorous training.
- (c) Leadership for navigating wars cannot be taught, it can only be self-acquired.
- (d) Leaders having war experience are better than leaders who have acquired skills through training alone.

Passage – 3

The Public Stockholding (PSH) program, a crucial element for India's food security, faces challenges under WTO rules. India's minimum support prices (MSP) and procurement quantities for staples like rice and wheat often exceed permissible limits, triggering concerns. Data indicates that a significant percentage of India's population depends on agriculture for livelihood, making food security a paramount concern. However, the clash between India's domestic support programs and WTO norms creates tension. The need to uplift millions from poverty and hunger clashes with the demands of international trade agreements. Rising population pressure and the unpredictability of climate change underscore the urgency of ensuring food security.

72. Which one of the following is *best implied* in the passage?

- (a) India needs to adhere to international trade norms by reforming its agricultural policies.
- (b) India should not be a member of WTO if it is not able to fulfil its food security commitments.
- (c) WTO norms are discriminatory, restricting India's commitment to ensure food security for its poor population.
- (d) Balancing food security concerns with international trade agreements is a complex issue for the Indian government.

Passage – 4

Implementing measures to reduce greenhouse gas emissions, transition to renewable energy sources, and enhancing climate resilience necessitate financial investments. These costs encompass not only the deployment of clean technologies but also the restructuring of industries, the development of sustainable infrastructure, and the adoption of climate-smart agricultural practices. Moreover, the economic impact extends beyond direct expenses. Industries relying on fossil fuels may face restructuring costs, and regions vulnerable to climate impacts may bear the economic burden of adapting to changing conditions. However, the cost of inaction far exceeds the investment required for climate mitigation and adaptation. Ultimately, viewing the costs of climate action as an investment in a sustainable and resilient future underscores the importance of proactive measures.

73. Which one of the following is *the most logical and rational inference* that can be made from the above passage?
- (a) Compared to developed countries, developing countries need more funding to fight the consequences of changing climate.
 - (b) Without proper funding and pre-emptive action, almost everyone will face the consequences of climate change.
 - (c) The best approach to tackle the impact of climate change is to implement mitigation and adaptation measures.
 - (d) Climate change is a real global challenge demanding collective solutions.

Passage – 5

When a country exports goods and services, it contributes to its gross domestic product (GDP), stimulating economic expansion. The positive correlation between exports and economic growth is evident through various channels. Exports boost a nation's income by generating revenue from foreign markets. This influx of funds can be utilized for domestic investment, infrastructure development, and social programs, all of which contribute to economic advancement. Additionally, exporting facilitates job creation as industries expand to meet international demand, reducing unemployment rates and increasing consumer spending. Exposure to global markets encourages innovation and efficiency. To compete internationally, businesses often invest in research and development, adopting advanced technologies and improving production processes. This not only enhances the competitiveness of domestic industries but also elevates overall productivity, fostering sustained economic growth.

74. Based on the above passage, the following *assumptions* have been made:
1. In today's world no country can have a closed economy.
 2. Economic growth is possible only when businesses compete internationally with some tariff protection.
- Which of the above assumptions is/are valid?
- (a) 1 only
 - (b) 2 only
 - (c) Both 1 and 2
 - (d) Neither 1 nor 2

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

- (a) Winds of prosperity often blow with the sails of strategic export endeavours.
- (b) Exports alone cannot ensure economic growth and social prosperity in any country.
- (c) For economic growth, nations should have net-zero imports.
- (d) India must reap the benefits of exports by focusing on internationally competitive products.

76. Find the missing term in the following matrix.

28	42	48
12	14	15
4	?	6
84	98	120

- (a) 5
- (b) 6
- (c) 7
- (d) 8

Directions for the following 3 (three) items:

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

In a tennis tournament, four matches are to be scheduled in different cities. Out of the seven possible venues – stadiums A, B and C are in Tier I cities and stadiums W, X, Y and Z are in Tier II cities. At least two matches have to be held in Tier I cities. Cities B and W are not directly connected to each other. C and Z are also not connected directly and the direct road between W and Y has been damaged due to floods. All the other cities are directly connected with each other. It is known that the matches can be conducted only in those cities which are directly connected to each other.

77. If Y is selected and B is rejected as venues, which of the following stadium will serve as venues?

- (a) A, C, W and Y.
- (b) A, C, X and Y.
- (c) A, C, Y and Z.
- (d) A, W, Y and Z.

78. If B is selected and Y is rejected, which of the following four stadiums will serve as venues?

- (a) A, B, C and W.
- (b) A, B, C and Z.
- (c) A, B, C and X.
- (d) A, W, Y and Z.

79. If all the Tier I cities are selected as venues, then how many possible combinations of four venues can be selected?

- (a) 1
- (b) 2
- (c) 3
- (d) 4

80. Rohit walks for 3 km in the north direction, turns right and walks 5 km, before again turning right and walking 9 km. Then, he takes a left turn and walks 3 km. How far is he from the starting point?

- (a) 15 km
- (b) 16 km
- (c) 8 km
- (d) 10 km

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