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TEST BOOKLET

C

CSAT APTITUDE TEST– (4290) – 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. Arjun and Arnav start from the same point in the same direction at the same time. After travelling for an hour, Arjun turns to the left and at the same time Arnav turns to the right. After turning, they travel for a distance of 2 km each to reach their respective destinations. Which of the following statements are correct?
- (a) Arjun and Arnav are at a distance of 4 km from each other.
 - (b) Arjun and Arnav reach their destinations at the same time.
 - (c) The exact distance between Arjun and Arnav cannot be determined.
 - (d) More than one of the above statements is correct.

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

It is generally believed today that democracy, “government of the people, by the people and for the people,” is the best and only fully justifiable political system. Why does Plato not consider democracy the best form of government? In the Republic, he criticizes the direct and unchecked democracy of his time precisely because of its leading features. Firstly, although freedom is for Plato a true value, democracy involves the danger of excessive freedom, of doing as one likes, which leads to anarchy. Secondly, equality, related to the belief that everyone has the right and equal capacity to rule, brings to politics all kinds of power-seeking individuals, motivated by personal gain rather than the public good. Democracy is thus highly corruptible. It opens gates to demagogues, and potential dictators, and can thus lead to tyranny. Hence, although it may not apply to modern liberal democracies, Plato’s main charge against the democracy he knows from the ancient Greek political practice is that it is unstable, leading from anarchy to tyranny and that it lacks leaders with proper skill and morals.

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

- 1. As per Plato, democracy is the worst form of government.
- 2. Democracy, because of its inherent nature, is prone to authoritarianism.
- 3. The distinct characteristics of democracy are freedom and equality.

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

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

Passage – 2

India is shifting toward greater renewable energy generation while striving to improve energy access, affordability, and security. It’s also poised to be one of the fastest-growing economies in coming years, which will in turn sharply boost energy demand. Whether it meets those needs with fossil fuels or green alternatives has the potential to shift the trajectory of its greenhouse gas emissions for many more years to come. India has made significant progress towards meeting its emissions reductions targets under the Paris Agreement, but with current policies total GHG emissions would nonetheless increase by more than 40 per cent by 2030. While a modest increase in short-term emissions may be necessary to meet poverty reduction and energy security goals, a more rapid scaling up of current policies could help lower emissions considerably over the medium term and bring India closer to a path to net zero by 2070.

3. With reference to the passage, which one of the following statements is correct?
- (a) In the short term, it is not possible to fulfil energy demands from fossil fuels.
 - (b) Achieving poverty reduction, energy security goals and GHG reduction together is not possible in the short term.
 - (c) Current policies are adequate to fulfil the international GHG commitments of India.
 - (d) Energy generation from green sources is crucial for India to become the fastest-growing economy.

Passage – 3

Animal disease surveillance is less developed and the infrastructure to support the delivery of services is inadequate. Several groups are known to offer animal health services. The untrained “animal health workers” and para-veterinarians are more popular with farmers as they charge less for consultations (compared to veterinarians who are few and charge more). Over-the-counter access to antibiotics, without prescription, and direct marketing of drugs to farmers are common. Because of this, farmers can treat their animals and only consult when cases become non-responsive to treatment. Drug withdrawal periods are rarely observed, and the occurrence of antibiotic-contaminated milk has been reported. Awareness of antimicrobial resistance (AMR) is low and antimicrobial stewardship in livestock is yet to be developed.

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

1. Unregulated access to antibiotics is one of the reasons for rising AMR cases among animals.
2. Antimicrobial resistance is not only seen in livestock but also in birds.

Which of the above assumptions is/are valid?

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

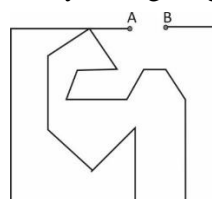
5. Which of the following statements *best reflects the practical implication* of the passage?

- (a) Without treating AMR, it would be difficult to increase farmer's income, especially those who are dependent on animals.
- (b) Rising cases of diseases in animals can result in premature death affecting livestock productivity.
- (c) To address AMR among animals, the government need to raise awareness about AMR and develop antimicrobial stewardship.
- (d) Lack of adequate administrative laws is fundamental to the issue of rising viral diseases among animals.

6. Five friends M, N, O, P, and Q went for a picnic. Each of them had Rs 100 in their pockets. P borrowed Rs 30 from M and gave Rs 70 to Q, who in turn gave Rs 100 to O. Thereon O gave Rs 115 to N, who gave Rs 75 to M. Find the total amount left with M, N and O, if they spent Rs 270 altogether.

- (a) 150
(b) 100
(c) 110
(d) 120

7. Study the figure given below.



If a person reaches point B from point A, in how many different directions will he have to walk?

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

8. There are five people in a temple whose shoes are kept outside the temple. All the shoes are of different colours. Person 5 owns black shoes. Pair 1 does not belong to either person 1 or person 2. Pair 2 must belong to person 3. Pair 3 is black. Person 4's shoes are which pair?

(a) Pair 1
(b) Pair 3
(c) Pair 4
(d) Pair 5

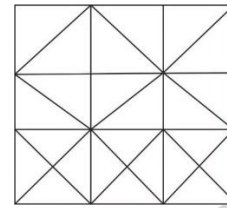
9. Suresh is the brother of Ramesh. Shalu is the sister of Suresh. Rahul is the brother of Aastha and Aastha is the daughter of Ramesh. Then who is the uncle of Rahul?

(a) Ramesh
(b) Suresh
(c) None of these
(d) Data not sufficient

10. In a plane, lines X and Y are perpendicular to each other while lines X and Z are parallel. Line U is perpendicular to line V which is parallel to line W. Line X is perpendicular to line V. Which one of the following statements is correct?

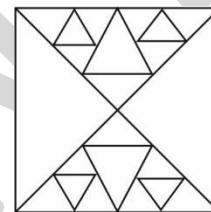
(a) Lines Z, U and W are parallel.
(b) Lines X, V and Y are parallel.
(c) Lines Z, V and U are parallel.
(d) Lines Y, V and W are parallel.

11. Find the number of squares in the following figure.



(a) 18
(b) 13
(c) 16
(d) 15

12. Find the number of triangles in the following figure.



(a) 28
(b) 23
(c) More than 28
(d) None of these

13. Rudra is the brother of Ishan, and Ananya is the mother of Ishaan. Sanjeev is the father of Ananya. Shikha is the mother of Sanjeev. How is Rudra related to Shikha?

(a) Son
(b) Grandson
(c) Great grandson
(d) Brother

14. Consider the following.
- A * B means A is mother of B.
A Ø B means A is brother of B.
A # B means A is father of B.
A @ B means A is sister of B.
- Which of the following means that E is the maternal uncle of R?
- (a) R Ø M * O @ E
(b) E * C @ M Ø R
(c) E Ø O * M @ R
(d) R Ø C # E
15. Gargi, Binod, Chandani, Dinesh, Ajay, Aarti and Firoz are seven members of a family. There are two married couples. Gargi is a housewife and her husband is an artist. Chandani is the wife of Binod. Aarti is a teacher and grand-daughter of Gargi. Dinesh is the father-in-law of Chandani, a dentist and father of Ajay, a scientist. Firoz is Aarti's brother and Binod's son. How is Firoz related to Chandani?
- (a) Son
(b) Brother
(c) Daughter
(d) Data inadequate
16. Introducing a man Radha said, "He is my mother's father's wife's son's wife's son." How is the man related to Radha?
- (a) Cousin
(b) Brother
(c) Brother-in-law
(d) Can't be determined

17. A coin collector has 1000 rare coins. For an exhibition, he wants to arrange all the coins into a grid such that the number of rows and the number of columns in the grid is the same. Which of the following options might enable him to do so?
- (a) He cannot have more than 30 rows in the grid.
(b) He may arrange the coins into 33 rows and some coins may be left with him.
(c) He may arrange the coins into at max 31 rows.
(d) He may arrange the coins into at max 32 rows.
18. Prem, who is a child of Subh, is married to Daya. Bala is a daughter of Subh, who has only 2 children. Subh is paternal grandfather of Geet. Rathie is the only son of Daya. Prem has two children & one of them is married to Nupur. Nupur is married to Geet's brother. There are only 7 persons in the family. What is the relationship between Geet and Bala?
- (a) Aunt
(b) Son
(c) Daughter
(d) Niece

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

The world is urbanizing more rapidly than ever before, and cities in developing countries are growing at an even higher pace. While cities contribute to global economic growth, they are also drivers of environmental degradation. Cities consume 80% of global energy, are responsible for 70% of greenhouse gas emissions, generate huge amounts of waste and pollution, and are rapidly encroaching into natural habitats. Urban sprawl is leading to poor living conditions, making cities highly vulnerable to climate change, and threatening the biodiversity of surrounding cities.

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

1. Cities contribute more to economic growth than rural areas.
2. Some urban areas may represent a less sustainable model of living.

Which of the above assumptions is/are valid?

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

Passage – 2

The transition of moving out of home and moving to a completely new place is a drastic one, it could easily take a toll on the emotional well-being of young adults. The fear of going far away from one's family and friends could be emotionally taxing and can induce severe separation anxiety. On top of that, having to look after oneself and accepting responsibility can also be very distressing. Not only that but, academic failure and problems with fitting in the newer crowd can be a major stressor and induce panic, in severe cases, it could also put a student in a depressive state. Some tips for students include keeping in touch with old friends while trying to mingle with new peers. Taking care of your mental and physical health, eating well, and expressing yourself well for clarity of thought also helps you to keep in check with your emotions.

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

- (a) Moving out of home should be an informed decision for young adults.
- (b) Emotional intelligence is needed in young adults.
- (c) Despite several challenges, moving out of home makes young adults more responsible.
- (d) Moving out of home is stressful, however, young adults can handle it with conscious efforts.

Passage – 3

Current thinking about deception holds that people typically tell the truth more easily than they tell a lie and that lying requires far more cognitive resources. First, we must become aware of the truth; then we must invent a plausible scenario that is consistent and does not contradict the observable facts. At the same time, we must suppress the truth so that we do not spill the beans that is, we must engage in response inhibition. What is more, we must be able to assess accurately the reactions of the listener so that, if necessary, we can deftly produce adaptations to our original storyline. And there is the ethical dimension, whereby we must make a conscious decision to transgress a social norm.

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

- (a) Lying is not as hard as it seems.
- (b) Lying is just like any other art, complex yet beautiful.
- (c) Lying is a complex psychological process.
- (d) Lying is neither ethical nor moral.

Passage – 4

As people grow from being children to adults, they start to have more complex demands and desires and a growing economy is no different. If we fed a teenager the same foods they ate when they were a baby, their bodies would not grow as well as they would if they ate teenager-appropriate meals, and they would not develop as quickly as their peers. For economies of the past, having land to farm, workers, and basic technology was sufficient to meet society's expectations. However, there is only so much growth an economy can have on a "baby food" diet before it becomes stagnant, and its people become dissatisfied. For modern economic growth, people need to be willing to change their behaviour, be progressive with their ideologies, and invest in new technology. If people are stuck in the past and unwilling to change course, they are hampering growth.

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

1. Past economies were stagnant and did not grow as per society's needs.
2. The attitude of people is significant in ensuring modern economic growth.

Which of the above assumptions is/are valid?

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

23. Consider the following information.

1. $X \# Y$ means Y is 15 metres to the Right of X.
2. $X \$ Y$ means Y is 15 metres to the North of X.
3. $X * Y$ means Y is 15 metres to the Left of X.
4. $X @ Y$ means Y is 15 metres to the South of X.
5. The direction convention is as shown below:



If we are given $P @ Q * R$, then what is the direction of R with respect to P?

- (a) North
- (b) South
- (c) North-East
- (d) South-West

24. A, B, C, D, and E went for a dinner. C is son of D, who is brother of A. A is son of B, but B is not the father of A. E is wife of D. How is C related to A?

- (a) Father
- (b) Brother
- (c) Nephew
- (d) None

Direction for the following 2 (two) items:

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

Seven girls A, N, S, M, P, R and F are supposed to go for shopping to different markets of Bhopal – Piplani, Barkheda, New-Market, MP-Nagar, JK-Road, Board-office and Paharganj, on different days of the same week, starting from Monday.

N goes to JK-Road but not on Friday. S goes on Monday but does not go to Board-office. P goes to MP-Nagar on Saturday. The one who goes on Tuesday, goes to Paharganj. M goes to Piplani. F goes on Sunday. A does not go to Paharganj. The one who goes on Thursday goes to Barkheda.

25. Who goes on Thursday?

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

26. Where does F go to?

- (a) Board-office
- (b) MP-Nagar
- (c) Barkheda
- (d) Piplani

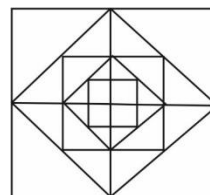
27. Mother, father, daughter and son all four members of a family decided to play lawn tennis. A game of mixed doubles is about to begin and the following is known:

1. Siblings are not on the same side.
2. Neither daughter nor mother is diagonally across the net from father.

Which of the following pairs can be on the same side of the net?

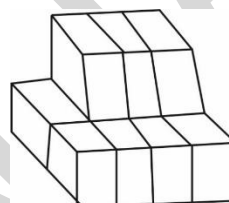
- (a) Mother – father
- (b) Son – daughter
- (c) Son – mother
- (d) Mother – daughter

28. Find the number of squares in the following figure.



- (a) 15
- (b) 38
- (c) 49
- (d) None of these

29. Find the number of cuboidal boxes in the following figure.

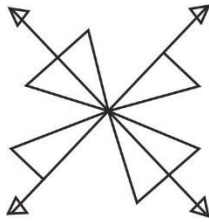


- (a) 15
- (b) 14
- (c) 11
- (d) 6

30. For an upcoming debate competition Shashank wants to select four students from his school. There are three boys P, Z and C and four girls R, T, K and M among the seven shortlisted students. All students must be able to debate with each other. But Z cannot debate with R. R cannot debate with K. C cannot debate with M. If all the three boys are selected, then what can be the possible team?

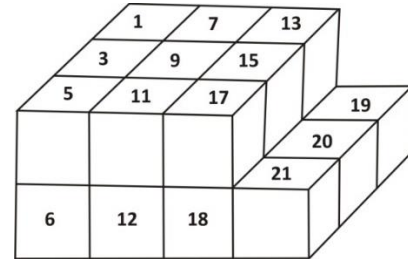
- (a) C, Z, M, R
- (b) C, P, M, Z
- (c) C, Z, T, P
- (d) P, Z, C, R

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



- (a) 18
(b) 20
(c) 14
(d) 10
32. Shikha started from her office to go to a New Year party and drove 25 km westwards. Then, she took a left turn and drove 15 km, and then a right turn and drove 15 km in that direction. Then she turned to her left and drove 15 km to reach the party venue. What is the shortest possible distance to the party venue from her office?
- (a) 60 km
(b) 40 km
(c) 50 km
(d) 30 km
33. A thief was running away from police. He ran 10 km towards west and then turned to his left and ran 5 km. Thereafter, he turned to his left again and ran 4.5 km and then turned right and ran 5 km. Then he took a right turn again and ran 6 km before getting caught. Find out in which direction he was running when he finally got caught.
- (a) South
(b) East
(c) North
(d) West

34. In the figure shown below there are 21 cubes numbered from 1 to 21.



Find the number of cubes which have maximum number of faces touching the other cubes.

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

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

Light is the most important external factor affecting sleep. While most people intuitively know that it's easier to sleep when it's dark, the link between light and sleep goes much deeper. Light plays a central role in regulating circadian rhythm, the body's internal clock that signals when to be alert and when to rest. Light also affects the production of melatonin, an essential sleep-promoting hormone. Daily light exposure, including the type of light we see as well as when and how long we're exposed to it, has a critical effect on sleep. Learning about the complex links between light and sleep allows you to set up your bedroom to be more conducive to consistent, high-quality sleep.

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

- (a) People should sync their sleep cycle with the sun's daily cycle for better regulation of circadian rhythm.
- (b) Melatonin is crucial for the regulation of the circadian rhythm of a person.
- (c) People's sleep quality is heavily dependent on light as it regulates some sleep-inducing hormones and the circadian rhythm.
- (d) Nightlife culture exposing people to dark light is detrimental to the circadian rhythm of a person.

Passage – 2

Interactive systems are more than just functional. If we hope to engage more effectively with our users, user experience is crucial. To create successful user experiences, we need to know how humans think and feel. But there is more to thought than just rational, conscious deliberation. Many of our decisions and feelings are based on complex subconscious processes. And not everyone thinks in precisely the same way. There are differences in the levels of multi-tasking people might be comfortable with, or for example, the extent to which their learning styles are visual versus aural, kinesthetics and so on. As designers, it will also help to understand human error and how emotion affects our interactions.

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

- (a) An experienced designer creates interactive systems based on user's experience, not functional requirements.
- (b) Interactions based on user experience could minimise human error.
- (c) Multi-tasking people can generate the best user experience as compared to other people.
- (d) A good interactive system is not only technically sound, but is also designed keeping in mind the eclectic needs and skills of the end users.

Passage – 3

Good hygiene is critical for preventing the spread of infectious diseases and helping children lead long healthy lives. It also prevents them from missing school, resulting in better learning outcomes. In some contexts, it can also secure a family's social status and help individuals maintain self-confidence. Yet, important hygiene behaviours are difficult to practise without the right knowledge and skills, adequate community support and the belief that one's behaviour can make a difference. Many children around the world live in conditions that make it difficult to maintain good hygiene. Where homes, schools and health centres have dirt floors; where water for handwashing is unavailable; and even where families share spaces with domestic animals; maintaining hygiene can be a challenge. What's more, practising good hygiene is often perceived as a woman's responsibility, adding to her burden of care.

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

1. Maintaining good hygiene is not an individual's responsibility but society's.
2. Poor hygiene has social as well as economic implications.
3. Lack of adequate investment in rural infrastructure results in poor living conditions for those children.

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

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

38. Ambuj walks 10 meters, turns to the right and walks for 40 meters. Then he turns left, walks 5 meters, turns left again and walks 10 meters, turns left again and walks 15 meters. If initially he started moving in the north direction, then what is the direction and distance of his final position from his initial position?

- (a) 35 m, West
- (b) 30 m, East
- (c) 15 m, North-East
- (d) 20 m, South-East

39. Two bike riders start moving towards each other from the two opposite ends of a straight road, 100 km apart. First rider rides for 20 km. He then takes a detour on to a service lane by taking a right-turn and moving for 15 km. It then turns left, moves for another 25 km and then takes a left turn again to reach back on to the main road. In the mean time, due to a minor breakdown, the other rider moved only 35 km on the main road. What would be the distance between the two riders at this point?

- (a) 20 km
- (b) 45 km
- (c) 30 km
- (d) 10 km

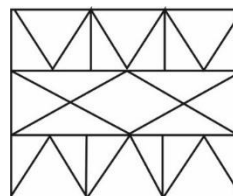
40. Anshuman starts walking straight in the south direction and walks 10 meters. Then he turns to his right and walks 5 meters. Then he turns to his right again and walks 5 meters. Then again he turns to his right and walks 9 meters. Finally, he turns to his left and walks 2 meters. How far is he now from his starting point?

- (a) 6 m
- (b) 5 m
- (c) 8 m
- (d) None of these

41. If the positions corresponding to the multiples of 4 in the English alphabet are replaced by \$ and that of multiples of 7 by #, then which letter/symbol will be the fourteenth letter to the right of seventh letter from the left end?

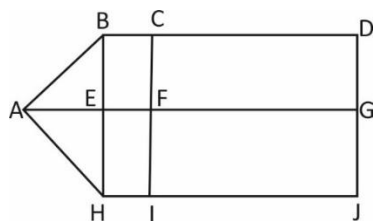
- (a) s
- (b) t
- (c) #
- (d) \$

42. Find the number of triangles in the following figure.



- (a) 31
- (b) 24
- (c) 34
- (d) 28

43. Find the number of rectangles in the following figure.



- (a) 9
(b) 10
(c) 11
(d) 12
44. Chandan is father of Umakant. Mayank is brother of Umakant. Sonu is father of Chandan. Pavitra is father of Sonu. What is the relation of Pavitra with Mayank?
- (a) Maternal grand father
(b) Father
(c) Grand father
(d) None
45. A is son of P. R is brother of P. E is daughter of N. N is sister of R. How is A related to E?
- (a) Son
(b) Brother
(c) Cousin
(d) Nephew

Direction for the following 2 (two) items:

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

At an Indian art and craft exhibition, five districts of Uttar Pradesh are selected under One District One Product (ODOP) scheme. In 6 days exhibition, 5 days are allotted to U.P. from Monday to Saturday. One day between Monday and Saturday is a rest day. Five selected districts are Aligarh, Mirzapur, Pratapgarh, Gorakhpur and Gazipur. Only one district is allowed to represent its work per day.

Aligarh and Gazipur are allotted Tuesday and Thursday, not necessarily in that order, with the rest day falling between their presentations. Pratapgarh will present its work just before Gorakhpur. There is a gap of 2 days between Gazipur's and Pratapgarh's presentation. Gazipur will present its art before Pratapgarh.

46. Which district will present its work on Thursday?
- (a) Gazipur
(b) Aligarh
(c) Gorakhpur
(d) Pratapgarh
47. Which day is the rest day?
- (a) Wednesday
(b) Tuesday
(c) Friday
(d) Monday
48. From his home Vikas walks 100 m towards North to reach temple. And from there he walks 70 m towards South-West, and finally he turns 225 degree in anti-clockwise direction and walks 30 m to reach his shop. In which direction is temple from his shop?
- (a) North- East
(b) North-West
(c) South-West
(d) South-East

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

It is no longer possible to look at food, livelihoods, health, and the management of natural resources separately. Embracing systems - thinking through holistic approaches is needed to address these complex and interdependent challenges. The fundamental connection between people and the planet, with sustainable agriculture and food systems, is at the heart of the 2030 Agenda for Sustainable Development, which stresses the urgent need to take concerted action and pursue policies directed at transformational change. Ending poverty and achieving zero hunger, while ensuring inclusive growth and sustainably managing the planet's natural resources, all in the context of climate change and biodiversity loss will only be possible through holistic and integrated approaches that respect human rights.

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

1. Achieving SDGs without giving due consideration to adequate investments would be difficult.
2. There is a need to break silos in policymaking for bringing transformational change.

Select the correct answer from the code given below.

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

Passage – 2

The notions of civil society and the rule of law are relatively new. In previous eras, farmers armed themselves to protect their lands; robbery seemed a logical solution to the misery of poverty. English philosopher Thomas Hobbes took a hard look at his seventeenth-century world and found to his dismay that suffering was the rule of the day and that something needed to change. To bring order to societal chaos, Hobbes created his "leviathan," the model for a strong, centralized power that based on the support of the people, could create a society in which peace could flourish. Hobbes's ideas then revolutionised political philosophy and are today still quite relevant, as we continue to debate which type of government can best guide nations away from a permanent state of war.

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

1. The principles of peace and stability was the motivation behind "Leviathan".
2. The concepts of police, justice, government and law were completely missing in the seventeenth century.

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

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

51. Which of the following is the **most rational and logical inference** that can be drawn from the passage?

- (a) A strong, centralised power is the lynchpin for keeping nations away from fighting each other.
- (b) The theory of Thomas Hobbes contributed in bringing transformational change in political governance.
- (c) The philosophers should evolve political philosophies with time to address the challenges in society.
- (d) Democracy is the best type of government as it is based on Hobbes's idea of "Leviathan".

Passage – 3

Tanks today are a ubiquitous presence in modern warfare and a mainstay for ground armies. As the war in Ukraine has shown, capable tanks and their efficacious use can go a long way in increasing an army's effectiveness. To understand exactly why tanks were developed, one must first look at the conditions which they were prepared for. World War I began on July 28, 1914, precisely a month after a Serbian nationalist assassinated Archduke Franz Ferdinand, heir to the Austro-Hungarian throne. As Austria-Hungary declared war on Serbia, Russia came to its aid, further drawing Germany (on Austria-Hungary's side), France and Great Britain (on Russia's side) to the war. The Ottomans would join Germany's side in a few months. The now mythic Western Front was one of the main theatres of the Great War, stretching from Alsace-Lorraine in the south, across France and Belgium, all the way to the North Sea. Along both sides of the Front lay systems of highly fortified trenches, making it near impossible for either side to advance. What this resulted in was highly static warfare where defence always held the advantage. Thus, through the War, German and Franco-British forces lost millions of lives for very little territorial gains on the Western Front. It was the stalemate of the Western Front that led to the development of tanks — vehicles which could provide mobile protection and firepower for troops in order to take down trenches. "It was a weapon designed for one simple task: crossing the killing zone between trench lines and breaking into enemy [defenses]," military historian Williamson Murray wrote in 'Armored Warfare: The British, French, and German Experiences' (1996).

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

1. Tanks were designed and developed to provide protection and break the stalemate during the World War I.
2. Germans were the first to build tanks in the world.
3. Tanks were strictly a part of defensive strategy and made only for the protection of troops.

Select the correct answer using the codes given below.

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

53. Consider the following statements.

$A \in B$ means A is sister of B.

$A \beta B$ means A is brother of B.

$A \forall B$ means A is daughter of B.

$A \mu B$ means A is mother of B.

How many females does the following relationship string has?

$a \in b \beta c \in d \beta e \forall f$

- (a) 2
(b) 3
(c) 4
(d) Can't be determined

54. Study the following information carefully and answer the question that follows.

X is sister of B. B and R are brothers. Z is brother of Y. Y is daughter of R. Who is the uncle of Z?

- (a) X
(b) B
(c) Y
(d) R

Direction for the following 3 (three) items:

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

In a college building there are five floors. Ground floor is considered as floor number 1 (i.e. first floor), the one above it is numbered 2 (i.e. second floor) and so on till the topmost floor. Every floor has different engineering departments, i.e. Electrical Engineering, Computer Science, Mechanical Engineering, Civil Engineering and Electronics Engineering. Each department is headed by five professors named Dr. Batra, Dr. Mehra, Dr. Sharma, Dr. Mishra and Dr. Tiwari (but not necessarily in the same order).

The department of Electronics Engineering is at third floor. Dr. Mehra is not heading Electrical Engineering, Mechanical Engineering or Civil Engineering department. The department of Computer Science is at an even-numbered floor. There are 2 floors between Computer Science and Civil Engineering department. Dr. Mishra is the head of the department which is at first floor. Dr. Batra is the head of Electrical Engineering department. Dr. Tiwari is neither the head of Electronics Engineering nor the head of Computer Science department. Electrical Engineering department is neither just above nor just below the department of Electronics Engineering.

- 55.** The department of Mechanical Engineering is at which floor?
- (a) First
 - (b) Third
 - (c) Fifth
 - (d) Second

- 56.** The department of Electronics Engineering is headed by:
- (a) Dr. Mehra
 - (b) Dr. Sharma
 - (c) Either Dr. Mehra or Dr. Sharma
 - (d) Dr. Tiwari
- 57.** Which of the following combination is correct?
- (a) Electrical Engineering – Dr. Mishra – Fifth floor.
 - (b) Civil Engineering – Dr. Mehra – First floor.
 - (c) Computer Engineering – Dr. Tiwari – Third floor.
 - (d) Mechanical Engineering – Dr. Tiwari – Second floor.

- 58.** Consider the following:

$A * B$ means A is the sister of B.

$A + B$ means A is the brother of B.

$A - B$ means A is the son of B.

$A \div B$ means A is the daughter of B.

$A \times B$ means A is the mother of B.

$A = B$ means A is the father of B.

Now consider the following expressions:

(1) $Y \times Z - X$

(2) $Y - X \div Z$

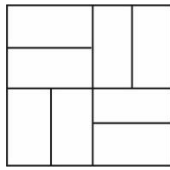
(3) $Y * Z \times X$

(4) $Y \div X \times Z$

Which of the above expression(s) mean X is the mother of Y and Z?

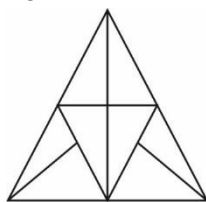
- (a) 1 only
- (b) 2 and 3 only
- (c) 1, 2 and 3
- (d) 4 only

59. Find the number of rectangles in the following figure.



- (a) 24
(b) 16
(c) 18
(d) 21

60. Find the number of triangles in the following figure.



- (a) 17
(b) 15
(c) 13
(d) 9

Directions for following 3 (three) items:

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

Eight employees A, B, C, D, E, F, G and H of a multinational company went on holidays in September, October, November and December, on two different dates of these months, i.e. 10th and 15th (but not necessarily in the same order).

- A went on holiday in November.
- C and F chose the same month having 31 days, but C did not go on an odd-numbered date.
- Two employees went on holiday in the time-gap between holidays of A and B.
- The number of employees who went on holiday in the time-gap between holidays of F & D is same as the number of employees who went on holidays in the time-gap between A & B.
- G went on holiday just before C, and D went on holiday just after H.

61. How many employees went for holidays in the time-gap between holidays of E and H?

- (a) Two
(b) Three
(c) Four
(d) Five

62. D went on holidays on which of the following month and day?

- (a) 10th – December
(b) 10th – October
(c) 15th – October
(d) 15th – December

63. Who among the following employees went immediately before G?

- (a) H
(b) E
(c) C
(d) A

64. Ishaan has to go to his school from his house. First, he moves towards north for 4 km, and then turns towards west. After walking for 2 km he moves towards south. He moves for 5 km and then takes a left turn. After walking 2 km, he takes a turn to his right to reach the front gate of his school. In which direction is his house from the school?

- (a) East
(b) West
(c) North
(d) South

65. I am standing facing north. Which of the following series of turns will make me face the opposite direction?
- (a) left, left, right, right, right, right
 - (b) right, right, right, right, left, left, left
 - (c) right, right, left, right, left, left
 - (d) right, left, left, right, right, left

Direction for the following 3 (three) items:

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

Eight persons P, Q, R, S, T, U, V and W live in eight linearly placed rooms A, B, C, D, E, F, G and H and earn \$164, \$167, \$169, \$172, \$174, \$177, \$179 and \$182 everyday, but not necessarily in the same order.

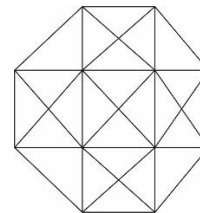
The persons who live in room A and H, have the maximum difference in daily earnings. Only one person lives between S and the one who earns the minimum. One person lives between S and the one who earns \$179. V's earning is \$177 and he lives in room G. One person lives between T and P and not more than three persons earn less than T. T doesn't earn \$167 and does not live in room B. One person lives between U and the one who earns \$169. U does not earn \$182. One person lives between S and R. R's earning is not \$179. Not more than two persons earn more than Q. S earns more than P but less than W. P lives in room D.

66. Which of the following combinations is **incorrect**?
- (a) B W 174
 - (b) D P 167
 - (c) G V 177
 - (d) None
67. Who earns the most?
- (a) S
 - (b) T
 - (c) Q
 - (d) W

68. How much does U earn?
- (a) \$179
 - (b) \$172
 - (c) \$182
 - (d) \$169

69. Two friends Amit and Sunita, who are neighbours, were planning to go for a trip to Aligarh. However, they were not sure about the distance to Aligarh. Amit was sure that Aligarh is more than 10 km but less than 15 km from the starting point. Sunita was aware that Aligarh was more than 13 km but less than 16 km. If both of them were correct, which of the following could be the distance of Aligarh from the residence of the friends?
- (a) 11 km
 - (b) 12 km
 - (c) 13 km
 - (d) 14 km

70. Find the number of squares in the following figure.



- (a) 12
- (b) 13
- (c) 14 or more
- (d) None of these

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

Negotiations for a free trade agreement between India and Canada will resume after the resolution of political issues between the two countries, a senior official said on Friday. “There were certain political developments in Canada on which India has raised its objections. India has shown a strong resentment against certain political developments in Canada, and therefore, for the time being, till these political issues are settled, we have paused the negotiations,” the official said. “But the moment these political issues are sorted out, the talks will resume. So, it is only a pause,” the official added. On September 10, Prime Minister Narendra Modi conveyed to his Canadian counterpart Justin Trudeau India’s strong concerns about the continuing anti-India activities of extremist elements in Canada that were promoting secessionism, inciting violence against its diplomats and threatening the Indian community there. Over half a dozen rounds of talks have been held between the countries on the trade pact so far. In March last year, the two countries re-launched negotiations for an interim agreement, officially dubbed as Early Progress Trade Agreement (EPTA). In such agreements, two countries significantly reduce or eliminate customs duties on the maximum number of goods traded between them. They also liberalise norms for promoting trade in services and attracting investments. Indian industry was looking at duty-free access for products like textiles and leather besides easy visa norms for the movement of professionals. Canada has interests in areas like dairy and agricultural products.

71. With reference to the above passage, consider the following statements.

1. Both nations have drastically lowered the customs duties they charge on goods.
2. Temporary suspension of EPTA will adversely affect the bilateral relations of both countries in the long term.

Which one of the statements given above is/are true?

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

Passage – 2

The Indian Air Force (IAF) on Wednesday (September 13) received the first of the 56 C295 aircraft, which are set to replace its aging Avro-748 fleet, at the Airbus production site in Seville, Spain. According to Airbus, the C295 is a versatile tactical transport that can perform a variety of missions, such as carrying troops and cargo, maritime patrol, airborne warning, surveillance and reconnaissance, armed close air support, medical evacuation, VIP transport, and airborne firefighting. The aircraft can carry up to nine tonnes of payload or up to 71 personnel at a maximum cruise speed of 260 knots. It is also equipped for air-to-air refueling of fixed-wing aircraft and helicopters. It will replace the legacy Avro fleet of the IAF, which was acquired in the 1960s, and thus provide a fillip to the IAF’s air transport duties in carrying troops and material to different parts of the country. The acquisition sets into motion India’s first-ever ‘Make in India’ Aerospace program in the private sector, under which the aircraft will be manufactured. So far, the state-owned Hindustan Aeronautics Limited (HAL) has had a monopoly over the manufacture of military aircraft in India. This will boost India’s aerospace sector with 15,000 high-skilled jobs and 10,000 indirect jobs in the next 10 years. Barring major components such as the engine and avionics – which have been sourced from the US-based Pratt & Whitney and Collins Aerospace – there will be a transfer of manufacturing technology to Tata Advanced Systems Limited (TASL) by Airbus on most other components so that 95 percent of the aircraft could be made in India within the next few years.

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

1. The acquisition of C-295 aircraft will give a strategic edge to India vis-à-vis China.
2. Military aircraft manufacturing in India has been the monopoly of the government.

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

73. Which among the following is the *most important aspect* of the above-mentioned acquisition of aircrafts?

- (a) It will provide employment.
- (b) Technology transfer and involvement of private players would give a boost to the aerospace industry in the country.
- (c) It will boost the operational capability of the Indian Armed forces.
- (d) It will break the monopoly of PSU manufacturing in India.

Passage – 3

The Critical Raw Materials Act was voted on in the European Parliament during the September 11-14, 2023, plenary session in Strasbourg, France. It was approved with a large majority of 515 Members of the European Parliament (MEP) backing it. While 34 MEPs did not vote in favour, 28 withheld their votes. The European Union, the world's largest trading bloc, aims to reduce its dependence on China and increase its domestic capacity for critical minerals through this legislation. Metals and critical minerals are crucial for the green transition as they are used to manufacture solar panels, windmills, and electric car batteries. German MEP Nicola Beer, the driving force behind the law, said in the parliament that the EU was 99 percent dependent on China for rare earth metals. "We cannot allow that to be the case." Such dependencies create a high risk of supply disruptions and increase the Union's vulnerability and security risks. To increase economic resilience and reduce the risks involved, the EU's parliament on September 14 adopted a text that sets the framework for ensuring a secure and sustainable supply of critical raw materials. The regulation aims to "diversify the Union's imports of strategic raw materials with a view to ensure that, by 2030, the Union's annual consumption of each strategic raw material at any relevant stage of processing can rely on imports from several third countries, none of which provide more than 65 percent of the Union's annual consumption". According to the legislation, by 2030, the Union's extraction capacity should be such that the ores, minerals, or concentrates needed to produce at least 10 percent of its annual consumption of strategic raw materials can be extracted.

74. With reference to the above passage, consider the following statements.

1. Critical minerals can help in reducing greenhouse gas emissions.
2. The dependency on one country for raw materials may be a security threat.

Which of the statements given above are correct?

- (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 **crucial message** conveyed by the author of the passage?

- (a) Mineral companies are crucial for reducing greenhouse gas emissions.
- (b) Import dependency on one source is a security risk.
- (c) The European Union is leading the world in green energy transition.
- (d) The EU will diversify its means to generate energy.

Direction for the following 3 (three) items:

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

Rama asked his son Bhasker to place 8 different colored balls – Red, Blue, Yellow, Green, White, Orange, Black and Pink, one above the other, but not necessarily in the same order.

4 balls are placed between Green and Black balls. 2 balls are placed between Blue and Black colored balls. Number of balls between Red and Black colored balls is the same as that between Pink and Blue colored balls. Red ball is placed just above Yellow ball. 2 balls are placed between Red and Pink colored balls. Yellow ball is placed just above Black ball. White ball is above the Blue colored ball.

76. Number of balls between Red ball and Black ball is?

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

77. How many balls are above the Orange ball?

- (a) 2
- (b) 5
- (c) 4
- (d) 6

78. Which ball is placed 4th from the bottom?

- (a) Red
- (b) Black
- (c) White
- (d) Yellow

Direction for the following 2 (two) items:

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

Six people Ajay, Bali, Chandan, Durgesh, Ekta and Govind went for "Bharat Bhraman Yatra". They visited six different cities P, Q, R, S, T, U on the same latitude (listed latitude wise from left to right).

Ajay did not visit the place which is immediately to the left or immediately to the right of the place visited by Bali. Chandan visited the city immediately to the left of Durgesh's city. Govind didn't visit city U.

79. If Durgesh visited city T, then which city was visited by Chandan?

- (a) R
- (b) P
- (c) S
- (d) Can't be determined

80. Which city did Ajay visit?

- (a) P
- (b) S
- (c) U
- (d) Can't be determined