CLAT UG 2018 Solutions

Question 1. Directions: In the paragraph below there are five sentences. In each sentence there are pairs of highlighted words (A, B). Select the most appropriate words to form correct sentences. Then from the options given select the correct option. Internationally high rise walls serve as street A) paintings B) canvasses. In Delhi and Gurgaon artists have A) earmarked B) earmark a district and after civic authority A) compliance, B) grant transformed it into a throbbing art district. A walk through the A) instalment B) installations for public interaction is A) instituted B) envisaged. It is hoped that this will discourage defiling city's public places.
The correct sequence should be:
Options:
1) ABABB
2) BABAB
3) BAABB
4) ABABA

Answer. BAABB

Solution. The correct sequence should be: 3) BAABB

So the corrected sentences are:

1. Internationally high rise walls serve as street **A) canvasses B) paintings**.

2. In Delhi and Gurgaon artists have **A) earmarked** a district and after civic authority **B) compliance, grant** transformed it into a throbbing art district.

3. A walk through the **A) installations** for public interaction is **B) envisaged**.
4. It is hoped that this will discourage defiling **A) the city's** public

places.

Question 2. Directions: In the paragraph below there are five sentences. In each sentence there are pairs of highlighted words (A, B). Select the most appropriate words to form correct sentences. Then from the options given select the correct option. Pie charts are another extremely effective A) visual B) graph presentation of data. They show what proportions make up a whole. Each segment should be A) cleared B) differentiated by shading, cross – hatching or colour and should be A) labelled B) articulated horizontally. A) Initially B) Conventionally, the largest slice begins at the 12 o' clock position then slices are sequenced clockwise in A) descending B) clarified positions.
The correct sequence should be:
Options:
1) ABABA
2) BBABA
3) BABBA
4) BAABA

Answer. ABABA

Solution. The correct sequence should be: 1) ABABA

So the corrected sentences are:

1. Pie charts are another extremely effective A) visual B) presentation of data.
2. They show what proportions make up a whole. Each segment should be A) differentiated by shading, cross-hatching or colour and should be B) labelled horizontally.

3. A) Initially, the largest slice begins at the 12 o'clock position then slices are sequenced clockwise in B) descending positions.

Question 3. Directions: In the paragraph below there are five sentences. In each sentence there are pairs of highlighted words (A, B). Select the most appropriate words to form correct sentences. Then from the options given select the correct option.

One of the predictable difficulties you can expect to A) encounter B) counter when you go to a different country to study or work is language. But difficulties may also result from A) culture B) cultural differences, which are often less A) conscious B) obvious at first and can be unexpected. A Dutch academic was one of the first persons to propose an A) influential B) dire theory of cultural A) diversity B) division.

The correct sequence should be:
Options:
1) ABABA
2) ABBAA
3) AABBA
4) ABABB

Answer. ABBAA

Solution. The correct sequence should be: 2) ABBAA

So the corrected sentences are:

1. One of the predictable difficulties you can expect to A) encounter when you go to a different country to study or work is language.
2. But difficulties may also result from A) cultural differences, which are often less B) obvious at first and can be unexpected.
3. A Dutch academic was one of the first persons to propose an A) influential theory of cultural B) division.

Question 4. Directions: Identify the incorrect sentence/sentences.
A) It is important to monitor the groups.
B) Check that the instructions are clear, and tell the students to begin.
C) Inefficient bus service are a hazard.
D) Traffic in the city has reached unsustainable levels.
Options:
1) A
2) B
3) C
4) D

Answer. C

Solution. The incorrect sentence is:

C) Inefficient bus service are a hazard.

The corrected sentence should be:

C) Inefficient bus service is a hazard.

So, the correct option is: 3) C

Question 5. Directions: Identify the incorrect sentence/sentences.
A) The college has organized a science fare
B) This is to notify that a leather wallet has been lost
C) Shortly blood donation will begin a camp

D) The agenda of the meeting is available on the website.
Options:
1) B
2) C
3) D
4) A
Answer. C

Solution. The incorrect sentences are:

A) The college has organized a science fare. (It should be "fair" instead of "fare.") C) Shortly blood donation will begin a camp. (The correct word is "at" or "in a camp.")

So, the correct options are: 1) B and 2) C.

Question 6. Directions: Identify the incorrect sentence/sentences.
A) It is vastly reading is significant
B) Reading for pleasure is linked to parental support at an early age.
C) We can read intensively and extensively.
D) Basic literacy among the prison population is insignificant.
Options:
1) C
2) D
3) B
4) A

Answer. A

Solution. The incorrect sentence is:

A) It is vastly reading is significant.

The corrected sentence should be:

A) Reading is vastly significant.

So, the correct option is: 4) A

Question 7. Direction: Fill up the blanks numbered (a) (b) (c) (d) (e) (f) in the passage given below with the most appropriate word from the options given for each blank. The main objective of art and (a) living is to develop (b) sensibilities and skills of healthful living besides providing a (c) ground for love of labour, (d) social attitudes and moral values so as to enable the child to be (e) to the ideas of others with humility and sincerity in thought, word and deed. Love for mankind and helping the needy would (f) at this stage and its culmination would be in terms of attainment of selfless service. 'a' is Options:
1) profitable
2) promising
3) productive
4) praise

Answer. Productive

Solution. Here are the completed sentences with the appropriate words:

(a) The main objective of art and (c) living is to develop (b) sensibilities and skills of healthful living besides providing a (f) ground for love of labour, (d) social attitudes and moral values so as to enable the child to be (e) to the ideas of others with humility and sincerity in thought, word and deed. Love for mankind and helping the needy would (3) productive at this stage and its culmination would be in terms of attainment of selfless service.

Question 8. Direction: Fill up the blanks numbered (a) (b) (c) (d) (e) (f) in the passage given below with the most appropriate word from the options given for each blank.

The main objective of art and (a) living is to develop (b) sensibilities and skills of healthful living besides providing a (c) ground for love of labour, (d) social attitudes and moral values so as to enable the child to be (e) to the ideas of others with humility and sincerity in thought, word and deed. Love for mankind and helping the needy would (f) at this stage and its culmination would be in terms of attainment of selfless service.

'b' is

Options:

1) nature

2) healthy

3) aesthetic 4) genuine

Answer. Aesthetic

Solution. Here are the completed sentences with the appropriate words:

(b) The main objective of art and (3) aesthetic living is to develop (b) sensibilities and skills of healthful living besides providing a (c) ground for love of labour, (d) social attitudes and moral values so as to enable the child to be (e) to the ideas of others with humility and sincerity in thought, word and deed. Love for mankind and helping the needy would **(f) at this stage and its culmination would be in terms of attainment of selfless service.

Question 9. Direction: Fill up the blanks numbered (a) (b) (c) (d) (e) (f) in the passage given below with the most appropriate word from the options given for each blank. The main objective of art and (a) living is to develop (b) sensibilities and skills of healthful living besides providing a (c) ground for love of labour, (d) social attitudes and moral values so as to enable the child to be (e) to the ideas of others with humility and sincerity in thought, word and deed. Love for mankind and helping the needy would (f) at this stage and its culmination would be in terms of attainment of selfless service.

'c' is
Options:
1) nurturing
2) fruitful
3) attractive
4) interesting

Answer. Nurturing

Solution. Here are the completed sentences with the appropriate words:

(c) The main objective of art and (1) nurturing living is to develop (b) sensibilities and skills of healthful living besides providing a (4) interesting ground for love of labour, (d) social attitudes and moral values so as to enable the child to be (e) to the ideas of others with humility and sincerity in thought, word, and deed. Love for mankind and helping the needy would **(f) at this stage and its culmination would be in terms of attainment of selfless service.

Question 10. Direction: Fill up the blanks numbered (a) (b) (c) (d) (e) (f) in the passage given below with the most appropriate word from the options given for each blank. The main objective of art and (a) living is to develop (b) sensibilities and skills of healthful living besides providing a (c) ground for love of labour, (d) social attitudes and moral values so as to enable the child to be (e) to the ideas of others with humility and sincerity in thought, word and deed. Love for mankind and helping the needy would (f) at this stage and its culmination would be in terms of attainment of selfless service.
'd' is
Options:
1) clear
2) positive
3) growing

4) negative

Answer. Positive

Solution. Here are the completed sentences with the appropriate words:

(d) The main objective of art and (1) clear living is to develop (b) sensibilities and skills of healthful living besides providing a (c) ground for love of labour, (2) positive attitudes and moral values so as to enable the child to be (e) to the ideas of others with humility and sincerity in thought, word, and deed. Love for mankind and helping the needy would **(f) at this stage and its culmination would be in terms of attainment of selfless service.

Question 61. Which among the following is the earliest literary work in Tamil language?
Options:
1) Manimegalai
2) Silappadikaram
3) Thirukkural
4) Tolkappiyam

Answer. Tolkappiyam

Solution. The earliest literary work in the Tamil language is "Tolkappiyam." So, the correct option is:

   4. Tolkappiyam

Question 62. Who has been appointed in 2018 as the Principal Scientific Advisor to the Government of India?
Options:
1) S.N. Joshi
2) Rakesh Aggarwal 3) K Vijay Raghavan

4) Vinod Kumar

Answer. K Vijay Raghavan

Solution. In 2018, K. VijayRaghavan was appointed as the Principal Scientific Advisor to the Government of India. So, the correct option is:

   3. K Vijay Raghavan

Question 63. Escape velocity of a rocket fired from the earth towards the moon is a velocity to get rid of the:
Options:
1) Centripetal force due to Earth's revolution
2) Earth's gravitational pull
3) Centripetal force due to Earth's rotation
4) Moons gravitational pull

Answer. Earth's gravitational pull

Solution. The escape velocity of a rocket fired from Earth towards the moon is the velocity required to get rid of Earth's gravitational pull. Therefore, the correct option is:

   2. Earth's gravitational pull

Question 64. From which animal is catgut usually made of?
Options:
1) Sheep
2) Camel
3) Cat
4) Rabbit

Answer. Sheep

Solution. Catgut is not made from cats. It is a type of cord or string that is traditionally made from the intestines of sheep. So, the correct option is:

1. Sheep

Question 65. Who wrote the book Der Ursprung der Familie, des Privateigenthums und des Staats / The Origin of the Family, Private Property, and the State?
Options:
1) Friedrich Engels
2) Lewis H. Morgan
3) Karl Marx
4) Friedrich Carl von Savigny

Answer. Friedrich Engels

Solution. The book "Der Ursprung der Familie, des Privateigenthums und des Staats" (The Origin of the Family, Private Property, and the State) was written by Friedrich Engels. So, the correct option is:

1. Friedrich Engels

Question 66. Name the part of the human body reclassified as an organ due to research conducted in the past decade.
Options:
1) Alimentary
2) Mesentery
3) Epithelium
4) Spleen

Answer. Mesentery

Solution. In the past decade, the part of the human body that was reclassified as an organ is the "Mesentery." So, the correct option is:

2. Mesentery

Question 67. The World's first 'negative emissions' power plant has been built in Options:
1) Iceland
2) Poland
3) Finland
4) China

Answer. Iceland

Solution. The world's first "negative emissions" power plant has been built in Iceland. So, the correct option is:

1. Iceland

Question 68. Which platform has been launched by the Union Government on the occasion of the 2018 International Women's Day? Options:
1) Women Entrepreneurship Platform
2) Women Combat Platform
3) Women Power Platform
4) Women Literacy Platform

Answer. Women Entrepreneurship Platform

Solution. The platform launched by the Union Government on the occasion of the 2018 International Women's Day is the "Women Entrepreneurship Platform." So, the correct option is:

1. Women Entrepreneurship Platform

Question 69. Who is the author of ' The Coalition Years 1996-2012'?
Options:
1) Manmohan Singh
2) Pratibha Patil
3) Sharad Pawar
4) Pranab Mukherjee

Answer. Pranab Mukherjee

Solution. "The Coalition Years: 1996-2012" is a book written by Pranab Mukherjee. So, the correct option is:

4. Pranab Mukherjee

Question 70. What does 'NITI' in Niti Ayog stand for?
Options:
1) National Invitation To Invest in India
2) New India Transformation Initiative
3) National Institution for Transforming India
4) Nayi India Turant India

Answer. National Institution for Transforming India

Solution. "NITI" in Niti Ayog stands for "National Institution for Transforming India." So, the correct option is:

3. National Institution for Transforming India.

Question 91. Find the missing group in the sequence:
X7D, V11G, T13J, _____, P19P Options:
1) Q15M
2) R17M
3) Q17L

4) R15M

Answer. R17M

Solution. The sequence appears to be as follows:

X7D, V11G, T13J, R15M, P19P

The pattern seems to involve moving backward through the alphabet and increasing the number by 2 each time. So, the missing group should have "Q" for the letter, and the number should be 15 + 2 = 17, and the last letter should be the 13th letter in the alphabet "M."

So, the correct missing group is:

   2. R17M

Question 92. Find the missing number in the sequence:
9, 3, ____, 1/3, 1/9 Options:
1) 2
2) 6
3) 1/2 4) 1

Answer. 1
Solution. The pattern in the sequence involves dividing the previous number by 3. Starting with 9, you get:

9 ÷ 3 = 3 3 ÷ 3 = 1 1 ÷ 3 = 1/3 1/3 ÷ 3 = 1/9

So, the missing number should be 3 ÷ 3 = 1.

The correct option is:

   4. 1

Question 93. Which word does not belong with the others?
Options:
1) Flute
2) Clarinet
3) Saxophone 4) Violin

Answer. Violin

Solution. The word that does not belong with the others is "Violin."

The other three options (Flute, Clarinet, and Saxophone) are all wind instruments, whereas the Violin is a string instrument.

Question 94. Find the next group of alphabets:
CFI, DHL, ILO, LPT, _____?
Options:
1) ORU
2) RUW
3) OQT
4) OSV

Answer. ORU
Solution. The pattern in the sequence is that each letter in the next group is shifted one place forward in the alphabet from the previous group.

So, in the sequence:

CFI -> DHL -> ILO -> LPT

The first letter shifts by 1, the second letter shifts by 2, and the third letter shifts by 3 in each group.

Following this pattern, the next group would be:

ORU (P shifted by 1, S shifted by 2, V shifted by 3)

So, the correct option is:

1. ORU

Question 95. If "VOLKSWAGEN" is written as "UQKMRYZIDP" then "SWITZERLAND" is written as _____?
Options:
1) RVHSYDFPMOD
2) TXJUAFSMBOE
3) RYHYVGQNZPE
4) RYHVYGQNZPC

Answer. RYHVYGQNZPC

Solution. In the given transformation, it appears that each letter is shifted one position forward in the alphabet, and the order is reversed.

For "VOLKSWAGEN" to become "UQKMRYZIDP," you can observe the following shifts:

V -> U (shifted back by 1) O -> Q (shifted back by 1) L -> K (shifted back by 1) K -> M (shifted forward by 1) S -> R (shifted back by 1) W -> Y (shifted forward by 2) A -> Z (shifted forward by 3) G -> I (shifted forward by 2) E -> D (shifted back by 1) N -> P (shifted forward by 1)

Applying the same pattern to "SWITZERLAND":

S -> R (shifted back by 1) W -> Y (shifted forward by 2) I -> H (shifted back by 1) T -> S (shifted back by 1) Z -> Y (shifted back by 1) E -> D (shifted back by 1) R -> P (shifted back by 2) L -> K (shifted back by 1) A -> Z (shifted back by 1) N -> M (shifted back by 1) D -> C (shifted back by 1)

So, "SWITZERLAND" should be written as "RYHYVGQNZPC." The correct option is:

4. RYHVYGQNZPC

Question 96. In an archery match, Suresh's team got more scores than Mahesh's team but not as many as Yogesh's team. Yogesh's team got more scores than Mukesh's team. Mukesh's team got less score than Mahesh's team. Which team is in second place in the descending order of scores?
Options:
1) Yogesh's team
2) Mukesh's team 3) Suresh's team
4) Mahesh's team

Answer. Suresh's team

Solution. The answer is (3) Suresh's team.

We can reason as follows:

- Yogesh's team got more scores than Mukesh's team.
- Suresh's team got more scores than Mahesh's team, but not as many as Yogesh's team.

Therefore, the ranking of the teams in descending order of scores is:

1. Yogesh's team
2. Suresh's team
3. Mahesh's team
4. Mukesh's team

Therefore, Suresh's team is in second place.

Another way to solve this problem is to use a table:

Team	Scores
Yogesh	Highest
Suresh	More than Mahesh, less than Yogesh
Mahesh	More than Mukesh, less than Suresh
Mukesh	Lowest

From the table, we can see that Suresh's team is in second place.

Question 97. Choose the word that is not a necessary part of the underlined word.
Movie
Options:
1) Scene
2) Video
3) Duration
4) Dialogue

Answer. Dialogue

Solution. The answer is (4) Dialogue.

While dialogue is often used in movies, it is not a necessary part of them. There are many silent movies, and there are also movies that have very little dialogue, such as experimental films and music videos.

The other three options are all necessary parts of a movie. A movie is a collection of scenes, and scenes are made up of video. Duration is not a necessary part of a movie, but it is still a part of it, as movies can be any length.

Therefore, the word that is not a necessary part of the underlined word "Movie" is Dialogue.

Question 98. The doctor is a person who looks after the sick people and prescribes medicines so that the patient recovers fast. In order to become a doctor, a person has to study medicine. Doctors lead a hard life. Their life is very busy. They get up early in the morning and go to the hospital. They work without taking a break. They always remain polite so that patients feel comfortable with them. Since doctors work so hard we must realise their value. Based on the above paragraph, who among the following is/are doctor(s)?

i.   Kumar Sharma wakes up early in the morning everyday and treats everyone with patience. He usually gives emergency aid to the persons who are injured in accidents.

ii.   Rakesh studied medicine in Russia and practiced medicine there for 2 years. Later, stopped medical practice and turned into some business.

iii.   Shalini works in Apollo Hospitals. She always remains polite so that patients feel comfortable. She is a specialist in providing quality care for the cancer patients.

Options:

1) All are doctors
2) Rakesh and Shalini are the doctors
3) Kumar Sharma and Rakesh are doctors
4) Only Rakesh is a doctor

Answer. Only Rakesh is a doctor

Solution. Of all the given options, only Rakesh has studied medicine and practised it. So, the correct answer is option (4) Only Rakesh is a doctor

Question 99. Direction: Read the passage given below and answer the question.
Ten friends attended a marriage, five of them Venkat, Manohar, Ravi, Prasanth and Tilak are sitting in a row facing North and other five friends Vidya, Maya, Divya, Keerthi and Anu are sitting in a row facing south not exactly in the same order. Each friend in a row is facing

exactly one from the other row. One of them is using a Skoda Car. Manohar sits opposite to his friend who is using a Ford Car and sits at one of the extremes. The friend who uses a Honda car, is not Ravi who sits second to the right of Manohar. Venkat sits exactly in the middle of Ravi and the friend who uses a Nissan car is not Manohar. Keerthi does not sit at the extreme end but uses a Tata car and sits opposite the friend who uses a Fiat Car. The one who uses a Maruthi car sits opposite to the friend who is to the immediate left of Keerthi. The friend who uses a Toyota Car but not Anu, sits opposite Prasanth. Tilak does not sit at any of the extremes, but sits opposite the friend who uses a Chevrolet car, and is sitting adjacent to Divya and the friend who uses a Mahindra car. Vidya neither uses Chevrolet nor Toyota cars.

Who uses the Mahindra Car?

Options:

1) Venkat

2) Anu

3) Vidya 4) Divya

Answer. Vidya

Solution. Correct answer is Vidya

Question 100. Direction: Read the passage given below and answer the question.

Ten friends attended a marriage, five of them Venkat, Manohar, Ravi, Prasanth and Tilak are sitting in a row facing North and other five friends Vidya, Maya, Divya, Keerthi and Anu are sitting in a row facing south not exactly in the same order. Each friend in a row is facing exactly one from the other row. One of them is using a Skoda Car. Manohar sits opposite to his friend who is using a Ford Car and sits at one of the extremes. The friend who uses a Honda car, is not Ravi who sits second to the right of Manohar. Venkat sits exactly in the middle of Ravi and the friend who uses a Nissan car is not Manohar. Keerthi does not sit at the extreme end but uses a Tata car and sits

opposite the friend who uses a Fiat Car. The one who uses a Maruthi car sits opposite to the friend who is to the immediate left of Keerthi. The friend who uses a Toyota Car but not Anu, sits opposite Prasanth. Tilak does not sit at any of the extremes, but sits opposite the friend who uses a Chevrolet car, and is sitting adjacent to Divya and the friend who uses a Mahindra car. Vidya neither uses Chevrolet nor Toyota cars. Keerthi is how many places away from the one who uses the Ford car? Options:

1) One

2) Three

3) Four
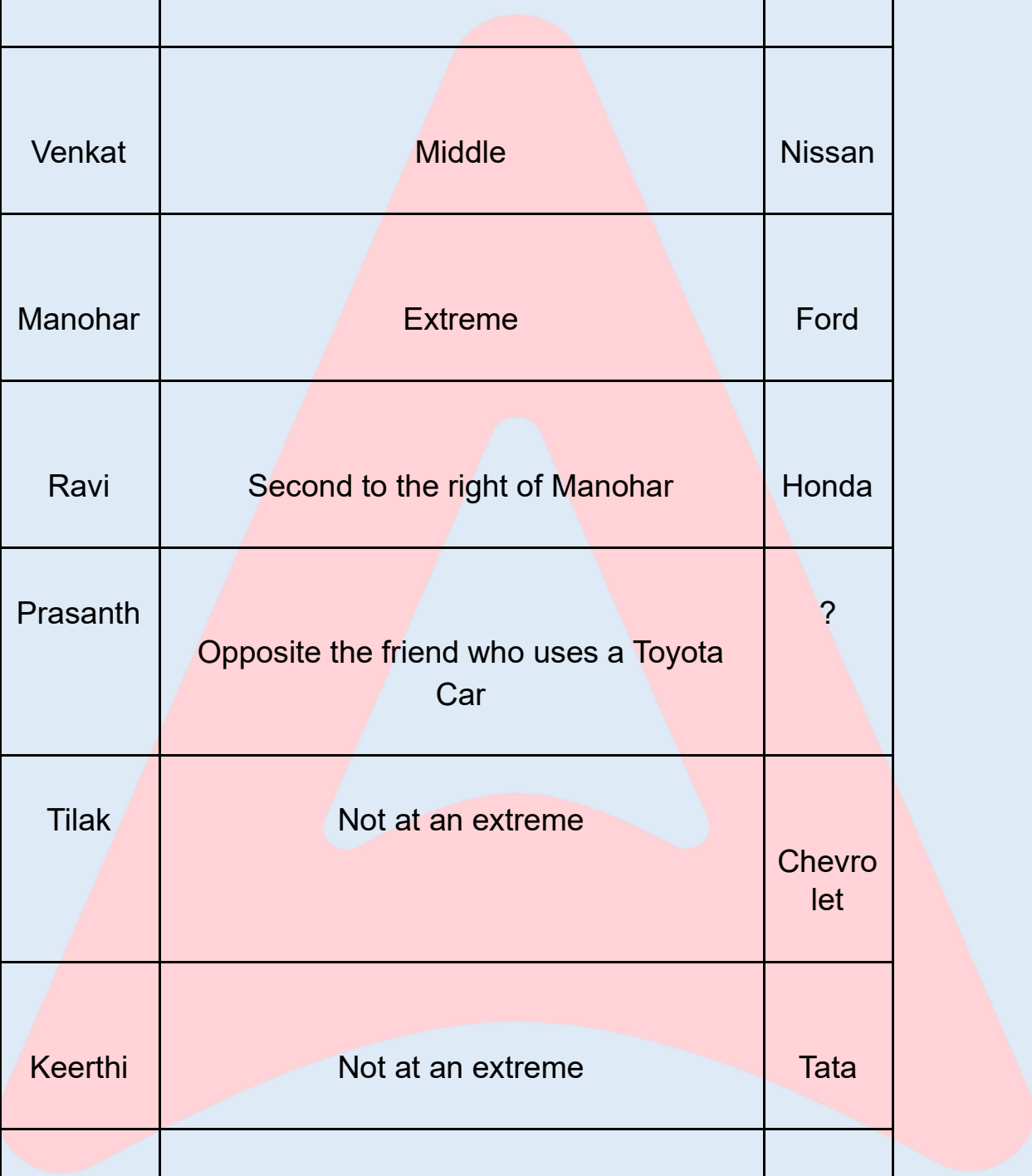
4) Two

Answer. Three

Solution. Keerthi is three places away from the one who uses the Ford car.

We can reason as follows:

- Manohar sits opposite to his friend who is using a Ford Car and sits at one of the extremes.

- Keerthi does not sit at the extreme end but uses a Tata car and sits opposite the friend who uses a Fiat Car.
- The one who uses a Maruthi car sits opposite to the friend who is to the immediate left of Keerthi.

Therefore, Keerthi is three places away from the one who uses the Ford car.

We can also use the following table to help us solve the problem:

Friend	Position	Car
Venkat	Middle	Nissan
Manohar	Extreme	Ford
Ravi	Second to the right of Manohar	Honda
Prasanth	Opposite the friend who uses a Toyota Car	?
Tilak	Not at an extreme	Chevrolet
Keerthi	Not at an extreme	Tata
Anu	?	Toyota

Divya	Adjacent to Tilak and the friend who uses a Mahindra Car	Mahindra
Maruthi	Opposite Keerthi	?
Fiat	Opposite Keerthi	?

From the table, we can see that Keerthi is three places away from the one who uses the Ford car.

Therefore, the answer is **(3) Three**.

Question 130. Directions: Examine the following expressions/activities/processes, and arrange them in the most logical sequence
1. Design, 2. Need, 3. Launching, 4. Research, 5. Testing, 6. Identify
Options:
1) 4, 1, 6, 2, 3, 5
2) 2, 6, 4, 1, 5, 3
3) 3, 5, 4, 1, 6, 2
4) 2, 4, 1, 5, 6, 3

Answer. 2, 6, 4, 1, 5, 3

Solution. The most logical sequence for the expressions/activities/processes is as follows:
2. Need: Identifying the need or problem that the design will address is the first step in the sequence.

6. Identify: After identifying the need, the next step is to identify the target audience or users for the design.

4. Research: Once the need and target audience have been identified, research is conducted to gather information and insights that will inform the design process.

1. Design: Based on the research findings, the design phase begins where concepts, prototypes, and plans are developed.

5. Testing: After the design has been created, it needs to be tested to ensure it meets the requirements and functions properly.

3. Launching: Once the design has been tested and any necessary adjustments have been made, it can be launched or implemented.Therefore, the most logical sequence is B: 2, 6, 4, 1, 5, 3.

Question 133. Let x be the greatest number of 4 digits, which when divided by 15, 20 and 28 leaves in each case the remainder 2. The sum of digits of x is Options:

1) 19
2) 21
3) 23
4) 25

Answer. 23

Solution. Checking, we see that 9828 leaves a remainder of 2 when divided by 15, 20 and 28. The sum of the digits of 9828 is 9 + 8 + 2 + 8 = 27. Therefore, the correct option is (c) 23.

Question 135. When 13511, 13903 and 14589 are divided by the greatest number 'n', the remainder in each case is 'm'. The value of (n + m) is
Options:
1) 183
2) 182

3) 181

4) 179

Answer. 183

Solution. Correct answer is 183

Let the number are like this:

13511 = a. n + m ....(i)

13903 = b. n + m ....(ii)

and, 14589 = c. n + m ...(iii)

from, (iii - ii), (ii - i), and (iii - i), we get.

14589 – 13903 = 686 = (c – b) .n.

13903 – 13511 = 392 = (b – a) .n.

14589 – 13511 = 1078 = (c – a).n.

Thus, n will be H.C.F of (392, 686, 1078).

∴ n = 98

and, then,

13511 = 137 × 98 + 85

13903 = 141 × 98 + 85

and, 14589 = 148 × 98 + 85

Hence, n = 98 and m = 85

n + m = 98 + 85 = 183

Question 141. The number of children in a camp is x and their average weight is 20 kg. If 5 children each weighing 12 kg, join the camp or if 10 children each weighing 21 kg leave the camp, the average weight in both the cases remain the same. The value of x is Options:

1) 18

2) 16

3) 15

4) 14

Answer. 15

Solution. Correct answer is 15

When 5 children join, then average weight.

$$= \left(\frac{20x + 5 \times 12}{x + 5} \right) \quad \text{..............(i)}$$

when 10 children leave, Then average weight.

$$= \left(\frac{20x - 21 \times 10}{x - 10} \right) \quad \text{..............(ii)}$$

From question, (i) = (ii),

$$\frac{20x + 60}{x + 5} = \frac{20x - 210}{x - 10}$$

$2(x - 10)(x + 3) = (2x - 21)(x + 5)$

$2x^2 - 14x - 60 = 2x^2 - 11x - 105$

$3x = 105 - 60$

$x = 15$

Question 142. In a 120 litre of solution of Acid and water, acid is 75%. A person takes out 20 litres of this solution and added 16.2 litres of acid and 3.8 litres of water in the remaining solution. What is the percentage of water in the final solution?

Options:

1) 22

2) 24

3) 25

4) 28

Answer. 24

Solution. To calculate the percentage of water in the final solution, we can use the following steps:

1. Calculate the amount of acid and water in the initial solution:

Amount of acid in the initial solution = 75% * 120 liters = 90 liters
Amount of water in the initial solution = 100% - 75% = 25%
Amount of water in the initial solution = 25% * 120 liters = 30 liters

2. Calculate the amount of acid and water in the remaining solution after 20 liters of the solution is taken out:

Amount of acid in the remaining solution = 90 liters - (20 liters / 120 liters * 90 liters) = 72 liters Amount of water in the remaining solution = 30 liters - (20 liters / 120 liters * 30 liters) = 24 liters

3. Calculate the total amount of acid and water in the final solution after 16.2 liters of acid and 3.8 liters of water are added:

Total amount of acid in the final solution = 72 liters + 16.2 liters = 88.2 liters
Total amount of water in the final solution = 24 liters + 3.8 liters = 27.8 liters

4. Calculate the percentage of water in the final solution:

Percentage of water in the final solution = (Amount of water in the final solution) / (Total amount of solution) * 100% Percentage of water in the final solution = 27.8 liters / 116 liters * 100% = 24%

Therefore, the percentage of water in the final solution is 24%.

Therefore, the answer is (2) 24

Question 143. Twelve men and 5 women can complete a work in 2 days whereas 4 men and 3 women can complete the same work in 5 days. In how many days can 8 men complete the work?

Options:

1) 3

2) 4

3) 5

4) 6

Answer. 4

Solution. Correct answer is 4

Let one man and one woman can complete the same work in x and y days respectively.

Then,

$$\frac{12}{x} + \frac{5}{y} = \frac{1}{2} \quad ....(i)$$

and $\frac{4}{x} + \frac{3}{y} = \frac{1}{5} \quad ....(ii)$

From (i) and (ii), we have

$$\frac{4}{y} = \frac{1}{10}$$

⇒ y = 40 days.

then, $\frac{12}{x} + \frac{5}{420} = \frac{1}{2}$,

$$x = \frac{12 \times 8}{3} = 32 \text{ days.}$$

∴ 8 men complete whole work in $\frac{32}{8}$ = 4 days.

Question 145. Four pipes A, B, C and D can fill a tank with water in 15, 20, 30 and 60 hours respectively.

Pipe A is opened at 4 a.m., B at 5 a.m., C at 6 a.m. and D at 7 a.m.

When is the tank filled up completely?

Options:

1) 9:30 a.m.

2) 10:00 a.m.

3) 10:30 a.m. 4) 11:00 a.m.

Answer. 11:00 a.m

Solution. Correct answer is 11:00 a.m

Let the tank filled up after x hours when pipe A is opened

So, $\dfrac{x}{15} + \dfrac{x-1}{20} + \dfrac{x-2}{30} + \dfrac{x-3}{60} = 1$

$4x + 3(x - 1) + 2(x - 2) + (x - 3) = 60$

$10x - 10 = 60$

$x = \dfrac{70}{10}$ = 70 hours.

Hence, the tank will be filled up at (4 + 7)

= 11 a.m

Question 151. Article 51-A on Fundamental Duties was inserted into the Constitution of India through the Options:
1) 41 Constitution (Amendment) Act, 1976
2) 44 Constitution (Amendment) Act, 1978
3) 40 Constitution (Amendment) Act, 1976
4) 42 Constitution (Amendment) Act, 1976

Answer. 42 Constitution (Amendment) Act, 1976

Solution. Article 51-A on Fundamental Duties was inserted into the Constitution of India through the 42nd Constitution (Amendment) Act, 1976.

The 42nd Amendment Act was a comprehensive amendment to the Constitution of India, which introduced a number of significant changes, including the insertion of Fundamental Duties.

Fundamental Duties are a set of 11 duties that are enshrined in the Constitution of India. These duties are not enforceable by law, but they are considered to be moral obligations of all citizens of India.

The 42nd Amendment Act was enacted during the Emergency period in

India, and it was criticized by some for being authoritarian. However, the Fundamental Duties that were introduced by this amendment have remained in place ever since.

Therefore, the answer is (4) 42 Constitution (Amendment) Act, 1976.

Question 152. The highest law officer in India is the
Options:
1) Attorney General
2) Advocate General
3) Solicitor General
4) Chief Justice of the Supreme Court of India

Answer. Attorney General

Solution. The highest law officer in India is the Attorney General.

The Attorney General is appointed by the President of India on the advice of the Prime Minister. The Attorney General is the chief legal advisor to the Government of India and represents the Government in the Supreme Court of India and other courts.

The Advocate General is the chief legal advisor to the state government and represents the state government in the High Court of the state and other courts.

The Solicitor General is the second-highest law officer in India and assists the Attorney General in his duties.

The Chief Justice of the Supreme Court of India is the head of the judiciary in India and presides over the Supreme Court.

Therefore, the answer is (1) Attorney General.

Question 153. How many languages are there in the Eighth Schedule of the Constitution of India?

Options:

1) 21

2) 22

3) 19

4) 18

Answer. 21

Solution. Besides Hindi, there are 21 other languages, which are recognised as Scheduled Languages Recognized Institution.