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PRELIMS CUM
GUIDANCE TEST SERIES
EXPLANATIONS PDF

CSAT (4)

FOR
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ENLIGHT IAS PRELIMS PROGRAM – EXPLANATIONS

QUESTION 1) Direction for the following item:

Read the following information and answer the item that follow:

A group of individuals is standing in a horizontal row. There are four individuals standing between A and B. Position of C is seventh to the left of A. Number of individuals between C and D and D and B are equal. A is standing exactly in the middle of the row and D is not the immediate neighbour of A.

Which of the following statement(s) is/are false?

(1) Position of B is third from one of the extreme ends.

(2) Position of A is eighth form extreme right end.

(A) Only 1

(B) Only 2

(C) Both 1 and 2

(D) Neither 1 nor 2

EXPLANATION) D

Statement 1: Position of B is third from one of the extreme ends. – true

Statement 2: Position of A is eighth form extreme right end. – true

Therefore, neither statement 1 nor statement 2 is false.

QUESTION 2) Direction for the following item:

Read the following information and answer the item that follow:

A group of individuals is standing in a horizontal row. There are four individuals standing between A and B. Position of C is seventh to the left of A. Number of individuals between C and D and D and B are equal. A is standing exactly in the middle of the row and D is not the immediate neighbour of A.

If E is standing fourth to the right of D, then how many persons are standing to the right of E?

(A) 8

(B) 9

(C) 10

(D) 7

EXPLANATION) B

It is said that E is standing fourth to the right of D then the arrangement will be:

C D B - - E - A - - - - - - -

Hence, 9 persons are standing to the right of E.

QUESTION 3) A piece of tin is in the form of a rectangle having length 12 cm and width 8 cm. This is used to construct a closed cube. The side of the cube is :

(A) 2 cm

(B) 3 cm

(C) 4 cm

(D) 6 cm

EXPLANATION) C

Total area of the tin = 12 × 8 = 96 cm^2

If this sheet is used to construct a closed cube, then total surface area of the cube must be 96cm^2

If a is the side of the cube, then

$6a^2 = 96$

$a^2 = 16$

$a = 4$

hence C is the correct answer.

QUESTION 4) Direction for the following item:

Read the following information and answer the item that follow:

A group of individuals is standing in a horizontal row. There are four individuals standing between A and B. Position of C is seventh to the left of A. Number of individuals between C and D and D and B are equal. A is standing exactly in the middle of the row and D is not the immediate neighbour of A.

What is the number of individuals in the group?

(A) 13

(B) 14

(C) 15

(D) 16

EXPLANATION) C

Hence, 15 persons are standing in the row.

QUESTION 5) Directions: Study the following information carefully and answer the question given below:

Six friends P, Q, R, S, T and U gather at P's home to watch a one-day cricket match on TV. Each friend belongs to a different state, viz. Bihar, Goa, Haryana, Manipur, Nagaland, and Sikkim but not necessarily in the same order. Each friend has a different occupation, viz. Officer, Doctor, Teacher, Clerk, Salesman and Accountant.

The one who is a Teacher belongs to Goa. The one who is a Doctor is not from Nagaland.

S is a clerk, Neither R nor P is a Doctor. The one who is from Manipur is an Officer. P does not belong to Manipur. The person who belongs to Sikkim is T but is not a Doctor. Q is neither a Teacher nor a Doctor, and he is from Bihar.

The one who is an Accountant belongs to which of the following States?

(A) Sikkim

(B) Bihar

(C) Either (A) or (B)

(D) None of the above

EXPLANATION) C

Person	State	Occupation

P Goa Teacher

Q Bihar Accountant/Salesman

R Manipur Officer

S Nagaland Clerk

T Sikkim Accountant/Salesman

U Haryana Doctor

QUESTION 6) Directions: Study the following information carefully and answer the question given below:

Six friends P, Q, R, S, T and U gather at P's home to watch a one-day cricket match on TV. Each friend belongs to a different state, viz. Bihar, Goa, Haryana, Manipur, Nagaland, and Sikkim but not necessarily in the same order. Each friend has a different occupation, viz. Officer, Doctor, Teacher, Clerk, Salesman and Accountant.

The one who is a Teacher belongs to Goa. The one who is a Doctor is not from Nagaland.

S is a clerk, Neither R nor P is a Doctor. The one who is from Manipur is an Officer. P does not belong to Manipur. The person who belongs to Sikkim is T but is not a Doctor. Q is neither a Teacher nor a Doctor, and he is from Bihar.

Who among the following is a Teacher?

(A) R

(B) P

(C) U

(D) Q

EXPLANATION) B

QUESTION 7) Directions: Study the following information carefully and answer the question given below:

Six friends P, Q, R, S, T and U gather at P's home to watch a one-day cricket match on TV. Each friend belongs to a different state, viz. Bihar, Goa, Haryana, Manipur, Nagaland, and Sikkim but not necessarily in the same order. Each friend has a different occupation, viz. Officer, Doctor, Teacher, Clerk, Salesman and Accountant.

The one who is a Teacher belongs to Goa. The one who is a Doctor is not from Nagaland.

S is a clerk, Neither R nor P is a Doctor. The one who is from Manipur is an Officer. P does not belong to Manipur. The person who belongs to Sikkim is T but is not a Doctor. Q is neither a Teacher nor a Doctor, and he is from Bihar.

Who among the following belongs to Nagaland?

(A) U

(B) Accountant

(C) Q

(D) Clerk

EXPLANATION) D

QUESTION 8) Directions: Study the following information

carefully and answer the question given below:

Six friends P, Q, R, S, T and U gather at P's home to watch a one-day cricket match on TV. Each friend belongs to a different state, viz. Bihar, Goa, Haryana, Manipur, Nagaland, and Sikkim but not necessarily in the same order. Each friend has a different occupation, viz. Officer, Doctor, Teacher, Clerk, Salesman and Accountant.

The one who is a Teacher belongs to Goa. The one who is a Doctor is not from Nagaland.

S is a clerk, Neither R nor P is a Doctor. The one who is from Manipur is an Officer. P does not belong to Manipur.

The person who belongs to Sikkim is T but is not a Doctor. Q is neither a Teacher nor a Doctor, and he is from Bihar.

Which of the following combinations is correct?

(A) P - Goa - Teacher

(B) R - Nagaland - Officer

(C) T - Sikkim - Clerk

(D) U - Haryana - Accountant

EXPLANATION) A

QUESTION 9) A person had to multiply two numbers. Instead of multiplying by 33, the person multiplied by 51, and the product went up by 360. What is the raised product?

(A) 1175

(B) 1380

(C) 1490

(D) 1020

EXPLANATION) D

51 - 33 = 18

So the number which was to be multiplied was 360/51−33 = 360/18 = 20

So, the result would be 20 x 51 = 1020.

QUESTION 10) What should come in place of question mark in the following number series?

2 9 21 91 447 ?

(A) 2260

(B) 2458

(C) 1257

(D) 2691

EXPLANATION) D

2 x 2 + 5 = 91

9 x 3 - 6 = 21

21 x 4 + 7 = 91

91 x 5 - 8 = 447

447 x 6 + 9 = 2691

QUESTION 11) What should come in place of question mark in the following number series?

61 68 129 197 326 ? 849

(A) 579

(B) 523

(C) 780

(D) 979

EXPLANATION) B

Add the previous number to get the next number

61 + 68 = 129

129 + 68 = 197

197 + 129 = 326

326 + 197 = 523

QUESTION 12) Directions for Questions : Study the following information and answer the questions given after that.

There are eight family members, namely P, Q, R, S, T, U, V and W. There are three married couples in the family. P is married to V. V is the father of R. R is the sister of U. T is the niece of U. Q is the father of T. S is the brother-in-law of P. U is the husband of W.

How is V related to W?

(A) Mother-in-law

(B) Father-in-law

(C) Daughter-in-law

(D) None of the above

EXPLANATION) B

QUESTION 13) Directions for Questions : Study the following information and answer the questions given after that.

There are eight family members, namely P, Q, R, S, T, U, V and W. There are three married couples in the family. P is married to V. V is the father of R. R is the sister of U. T is the niece of U. Q

is the father of T. S is the brother-in-law of P. U is the husband of W.

How many male members are there in the family?

(A) Two

(B) One

(C) Three

(D) Four

EXPLANATION) D

QUESTION 14) Directions for Questions : Study the following information and answer the questions given after that.

There are eight family members, namely P, Q, R, S, T, U, V and W. There are three married couples in the family. P is married to V. V is the father of R. R is the sister of U. T is the niece of U. Q is the father of T. S is the brother-in-law of P. U is the husband of W.

How is Q related to P?

(A) Brother-in-law

(B) Sister-in-law

(C) Mother-in-law

(D) Son-in-law

EXPLANATION) D

QUESTION 15) In an ODI match between India and Australia, the Indian Batting has an average of 5.8 runs per over for the first 35 Overs while in the remaining 15 Overs because of Cameo Knock

played by the finisher they were able to increase the average run per over to 8.2. Team Australia fell short by 16 runs but played all 50 overs. Find the average run per over scored by Team Australia?

(A) 6.25

(B) 6.20

(C) 6.22

(D) 6.35

EXPLANATION) B

$35 \times 5.8 + 15 \times 8.2 - 16/50 = 6.20$

QUESTION 16) There are 52 beggars outside a temple. Three hundred twelve apples are distributed among them so that each man gets nine apples and each woman gets five apples.

Find the number of men and women outside the temple.

(A) 13, 39

(B) 39, 13

(C) 14, 38

(D) 31, 21

EXPLANATION) A

Let the number of men beggars be x and women beggars are y.

$x + y = 52$ ..... (i)

$9x + 5y = 312$ ..... (ii)

Solving (i) and (ii) we get

$9y - 5y = 468 - 312$

$4y = 156$

$x = 52 - 39 = 13$

y = 39

Thus, Men = 13 and Women = 39

QUESTION 17) A dog is tied to a post by a rope. If the dog moves along a circular path always keeping the string stretched and describes 198 m when it has traced out 108° at the centre, what is the length of the rope?

(A) 135 m

(B) 108 m

(C) 105 m

(D) 107 m

EXPLANATION) C

QUESTION 18) The speed of Rickshaw, Car and Scooter are in the ratio of 3: 5: 6. What is the ratio of time taken by each one of them for the same distance?

(A) 6: 5: 3

(B) 10: 6: 5

(C) 12: 7: 6

(D) Data insufficient

EXPLANATION) B

Required answer = 1/3:1/5:1/6 = 10: 6: 5

QUESTION 19) What is the least possible number which must be subtracted from 16, 19 and 23 so that the resulting numbers are in continued proportion?

(A) 2

(B) 4

(C) 6

(D) 7

EXPLANATION) D

(16 - x) : (19 - x) :: (19-x)(23-x) = (19-x)2 = (16-x)(23-x)

By solving the above equation we get x = 7.

QUESTION 20) How many four-digit numbers can be formed with the digits 0, 2, 3, 5, 8, 9, if the repetition of digits is not allowed?

(A) 1080

(B) 225

(C) 300

(D) None of the above

EXPLANATION) C

Required answer = 5 x 5 x 4 x 3 = 300

QUESTION 21) A simple mathematical operation in each number of sequence 14, 18, 20, 24, 30, 32, 36 … results in a sequence with respect to prime numbers. Which one of the following is the next number in the sequence?

(A) 34

(B) 36

(C) 38

(D) 40

EXPLANATION) C

As per the given condition in question:

14 = 13 + 1

18 = 17 + 1

20 = 19 + 1

24 = 23 + 1

30 = 29 + 1

32 = 31 + 1

Next prime number after 31 is 37.

So, 37 + 1 = 38

Hence option (C) is the correct answer.

QUESTION 22) Which one of the following will have minimum change in its value if 5 is added to both numerator and the denominator of the fractions 2/3, 3/4, 4/5 and 5/6?

(A) 2/3

(B) 3/4

(C) 4/5

(D) 5/6

EXPLANATION) D

QUESTION 23) A digit n > 3 is divisible by 3 but not divisible by 6. Which one of the following is divisible by 4?

(A) 2n

(B) 3n

(C) 2n + 4

(D) 3n + 1

EXPLANATION) D

Given that n is a digit greater than 3.

It is divisible by 3 but not divisible by 6.

Let n = 9

Now checking the options:

(A) 2n = 2 × 9 = 18, which is not divisible by 4.

(B) 3n = 3 × 9 = 27, which is not divisible by 4.

(C) 2n + 4 = 2 9 + 4 = 22, which is not divisible by 4.

(D) 3n + 1 = 3 × 9 + 1 = 28, which is divisible by 4.

Hence, the correct answer is option (D).

QUESTION 24) The recurring decimal representation 1.272727 … is equivalent to

(A) 13/11

(B) 14/11

(C) 27/99

(D) 37/99

EXPLANATION) B

QUESTION 25) What is the least four-digit number when divided by 3, 4, 5 and 6 leaves a remainder 2 in each case?

(A) 1012

(B) 1022

(C) 1122

(D) 1222

EXPLANATION) B

L.C.M. of 3, 4, 5 and 6 = 60

Let the required number be 60x + 2

If x = 17, then the number = 60 × 17 + 2 = 1020 + 2 = 1022

Hence, the correct answer is option (B).

QUESTION 26) What is the remainder when 51 × 27 × 35 × 62 × 75 is divided by 100?

(A) 50

(B) 25

(C) 50

(D) 1

EXPLANATION) A

QUESTION 27) For what value of n, the sum of digits in the number $(10^n + 1)$ is 2?

(A) For n = 0 only

(B) For any whole number n

(C) For any positive integer n only

(D) For any real number n

EXPLANATION) B

QUESTION 28) A number consist of three digits of which the middle one is zero and their sum is 4. If the number formed by interchanging the first and last digits is greater than the number itself by 198, then the difference between the first and last digits is

(A) 1

(B) 2

(C) 3

(D) 4

EXPLANATION) B

QUESTION 29) While writing all the numbers from 700 to 1000, how many numbers occur in which the digit at hundred's place is greater than the digit at ten's place is greater than the digit at unit's place?

(A) 61

(B) 64

(C) 85

(D) 91

EXPLANATION) C

QUESTION 30) If $x - y = 8$, then which of the following must be true ?

(1) Both x and y must be negative for any value of x and y

(2) If x is positive, y must be negative for any value of x and y

(3) If x is negative, y must be positive for any value of x and y

(A) 1 only

(B) 2 only

(C) Both 1 and 2

(D) Neither 1 nor 2 nor 3

EXPLANATION) D

QUESTION 31) Certain 3-digit numbers have the following characteristics:

(1) All the three digits are different.

(2) The number is divisible by 7

(3) The number on reversing the digits is also divisible by 7

How many such 3-digits numbers are there?

(A) 2

(B) 4

(C) 6

(D) 8

EXPLANATION) B

QUESTION 32) How many numbers are there between 99 and 1000 such that the digit 8 occupies the units place?

(A) 64

(B) 80

(C) 90

(D) 104

EXPLANATION) C

All the numbers will be 3 digit numbers of the form - - 8, in which the 1st place can be filled by 9 ways and the 2nd place can be filled by 10 ways by 10 digits.

So, total no. of ways by the principle of counting is 10 X 9 = 90 ways.

QUESTION 33) If for a sample data Mean < Median < Mode then the distribution is

(A) Symmetric

(B) Skewed to the right

(C) Neither symmetric nor skewed

(D) Skewed to the left

EXPLANATION) D

QUESTION 34) A 2-digit number is reversed. The larger of the two numbers is divided by the smaller one. What is the largest possible remainder?

(A) 9

(B) 27

(C) 36

(D) 45

EXPLANATION) D

QUESTION 35) What is the total number of digits printed, if a book containing 150 pages is to be numbered from 1 to 150?

(A) 262

(B) 342

(C) 360

(D) 450

EXPLANATION) B

Total digits from pages 1 to 9 = 9.

Total digits from pages 10 to 99 = × 2 = 180.

Total digits from pages 100 to 150 = 15 × 3 = 153.

Sum of all digits = 342.

QUESTION 36) How many numbers are there between 100 and 300 which either begin or end with 2 ?

(A) 110

(B) 111

(C) 112

(D) None of these

EXPLANATION) A

QUESTION 37) Four-digit numbers are to be formed using the digits 1, 2, 3 and 4 ; and none of these four digits are repeated in any manner Further,

(1) 2 and 3 each not to immediately follow each other

(2) 1 is not to be immediately followed by 3

(3) 4 is not appear at the last place

(4) 1 is not appear at the first place

(A) 6

(B) 8

(C) 9

(D) None of the above

EXPLANATION) A

From the given conditions, for the four positions available:

1 Cannot come at the 1st place. So, 2, 3 & 4 can appear there.

4 Cannot come at the last place. So 1, 2 & 3 can appear there.

2 & 3 cannot immediately follow each other. So 23 & 32 is not allowed.

1 cannot be immediately followed by 3.

So 13 is not allowed.

Let us list the possible numbers now.

2431; 2143; 3142; 3412; 3421; 4312

Total - 6.

QUESTION 38) The average monthly income of a person in a certain family of 5 is Rs. 10,000. What will be the average monthly income of a person in the same family if the income of one person increased by Rs. 1,20,000 per year ?

(A) Rs. 12,000

(B) Rs. 16,000

(C) Rs. 20,000

(D) Rs. 34,000

EXPLANATION) D

QUESTION 39) A student on her first 3 tests receives on an average score of N points. If she exceeds her previous average score by 20 points on her fourth test, then what is the average score for the first 4 tests?

(A) N + 20

(B) N + 10

(C) N + 4

(D) N + 5

EXPLANATION) D

The average score of student in 3 tests is N points.

Hence the total score = 3N points.

Given the score in fourth test = N + 20, the average score

of student in four tests will be = (3N +N+20)/4 = N+5.

QUESTION 40) Directions for the following item:

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

As a poet, Kabir transcended many of the divisions that existed in India. He can be celebrated as Dalit hero or as a Brahmin. Kabir and the Kabir Panth are accepted as a part of Hinduism. A large corpus of his poems is included in the Guru Granth Sahib. His presence in Indian Islamic thought, Qawwali singing and architecture has also been well documented. Nineteenth century missionaries noted the similarity of his thoughts to Christianity. His indebtedness to Buddhist Siddhas has been a subject of scholarship in the last century.

Jain poets emulated his style, so much so that the 17th century Anandghan was dubbed as the ―Jain Kabir‖.

The passage seems to argue that

(A) Kabir's thoughts are reflected in almost all major religions in India.

(B) Kabir supported different religions at different phases of his life.

(C) Kabir denounced untouchability and favoured equality among different castes.

(D) Kabir's presence in Indian Islamic thought is more prominent as compared to other religions.

EXPLANATION) A

Option A is correct.

Throughout the passage it can be seen that the author is explaining how Kabir's thoughts have been incorporated by various religions in India. For example, he is celebrated as a Dalit hero or a Brahmin. His poems which reflected his thoughts are included in Guru Granth Sahib (Sikhs).

Similar connection with other religions like Christianity, Jainism and Islam is also established in the passage.

QUESTION 41) Passage

Sea turtles migrate across thousands of miles of ocean before returning to nest on the same stretch of coastline where they hatched, but how they do this has mystified scientists for more than fifty years. Scientists have found evidence, it is likely that the turtles imprint – or learn – the unique magnetic signature of their nest site as hatchlings, and use this knowledge to return as adults. The research builds on a previous study suggesting migrating salmon

use the earth's magnetic signatures to navigate to their natal river. Sea turtles cover great distances to find the places where they began life because successful nesting requires a combination of environmental features that are rare: soft sand, the right temperature, few predators and an easily accessible beach.

On the basis of the above passage, the following assumptions have been made:

(1) Sea turtles provide an extreme example of natal homing.

(2) Ideal combination of factors needed for successful nesting of sea turtles is hard to find.

(3) A similarity in nesting pattern is found among different species of sea turtles and other long-distance migrants.

Which of the above assumptions is/are valid?

(A) 1 and 2 only

(B) 3 only

(C) 1 and 3 only

(D) 1, 2 and 3

EXPLANATION) A

Statement 3 is an invalid assumption. Passage talks only about sea turtles that have similar patterns of migration. It does not talk about other species. Hence, it would be an extreme generalisation.

QUESTION 42) A new study suggests that thick crustal plugs and weakened mineral grains may explain a range of relatively speedy moves among tectonic plates around the world, from Hawaii to East Timor. Traditionally, scientists believed that all tectonic plates were pulled by subducting slabs–which resulted from the colder, top boundary layer of the Earth's rocky surface becoming heavy and sinking slowly into the deeper mantle. Yet that process does not account for sudden plate shifts.

Such abrupt movement requires that slabs detach from their plates, but doing this quickly is difficult since the slabs should be too cold and stiff to detach. According to the study, there are additional factors at work. Thick crust from continents or oceanic plateau is swept into the subduction zone, plugging it up and prompting the slab to break off. The detachment process is then accelerated when mineral grains in the necking slab start to shrink, causing the slab to weaken rapidly. The result is tectonic plates that abruptly shift horizontally, or continents suddenly bobbing up.

On the basis of the above passage, the following assumptions have been made:

(1) Our understanding of the movement of tectonic plates is evolving.

(2) Our planet is probably most distinctly marked by the fact that it has plate tectonics.

Which of the above assumptions is/are valid?

(A) 1 only

(B) 2 only

(C) Both 1 and 2

(D) Neither 1 nor 2

EXPLANATION) A

Statement 2 is invalid as the passage nowhere engages in a comparative analysis with other planets.

QUESTION 43) A new study suggests that thick crustal plugs and weakened mineral grains may explain a range of relatively speedy moves among tectonic plates around the world, from Hawaii to East Timor. Traditionally, scientists believed that all tectonic plates were pulled by subducting slabs—which resulted from the colder, top boundary layer of the Earth's rocky surface becoming heavy and sinking slowly into the deeper mantle. Yet that process does not account for sudden plate shifts.

Such abrupt movement requires that slabs detach from their plates, but doing this quickly is difficult since the slabs should be too cold and stiff to detach. According to the study, there are additional factors at work. Thick crust from continents or oceanic plateau is swept into

the subduction zone, plugging it up and prompting the slab to break off. The detachment process is then accelerated when mineral grains in the necking slab start to shrink, causing the slab to weaken rapidly. The result is tectonic plates that abruptly shift horizontally, or continents suddenly bobbing up.

Which one of the following is the most logical, rational and crucial meaning conveyed by the passage?

(A) Tectonic plates beneath the earth's surface normally shift abruptly.

(B) The subduction process destroys existing crust by eroding and transporting older crust back within the Earth's mantle.

(C) Evolution of our planet, including its climate and biosphere, is the key to understanding the formation of plates.

(D) Minerals play a key part in geodynamic processes at subduction zones.

EXPLANATION) D

QUESTION 44) How many 4 digit odd numbers can be made using the first 8 natural numbers if repetition of digits is allowed?

(A) 2048

(B) 1088

(C) 2560

(D) 4096

EXPLANATION) A

First 8 natural numbers are 1,2,3,4,5,6,7,8.

As the number to be formed is odd number, therefore we can only use 1,3,5,7 to fill the units place.

Therefore, units place can be filled in 4 ways.

Rest of three places can be filled in 8 ways each as repetition is allowed.

Hence, number of 4 digit odd numbers = 8 × 8 × 8 × 4 = 2048

Hence, option (A) is correct.

QUESTION 45) Out of the shirts produced in a factory, 15% are defective, while 20% of the rest are sold in the domestic market. If the remaining 8840 shirts are left for export, then the number of shirts produced in the factory is

(A) 13600

(B) 13000

(C) 13400

(D) 14000

EXPLANATION) B

QUESTION 46) How many natural numbers up to 100 are not divisible by 3 or 7?

(A) 43

(B) 57

(C) 44

(D) 67

EXPLANATION) B

QUESTION 47) Many individuals who have achieved a high degree of outward success still find themselves struggling with an inner need for developing personal effectiveness and growing healthy relationships with other people. In order to change a given situation, we must change ourselves, and in order to change ourselves, we must be able to change our perceptions. In studying over 200 years of literature on the concept of "success," we have identified a very important change in the way that humans have defined success over time. In earlier times, the foundation of success rested upon —character ethics‖ (things like integrity, humility, fidelity, temperance, courage, justice, patience, industry, simplicity, modesty, and the Golden Rule). But starting around the 1920‘s the way people viewed success shifted to —personality ethics" where success is a function of personality, public image, attitudes, and behaviours.

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

(A) The way we see the world is entirely based on our perceptions.

(B) ‗Success‘ is a dynamic concept whose definition is not frozen in time.

(C) The concept of ‗success' dates back to 200 years.

(D) Personality ethics has always been an important paradigm to assess individual success.

EXPLANATION) B

The passage says that there have been important changes in the way humans have defined success over time. This means the definition of success is not frozen in time – it keeps changing.

QUESTION 48) India seems to be on a cusp of a civil aviation revolution. Aviation Industry in India holds around 69% of the total share of the airline's traffic in the region of South Asia. This time period, thus, is critical for the industry and requires serious governance and leadership to create global Indian institutions. There was a time not too long ago when Air India set the global standard for customer service. Now, it seems to have fallen far behind its Middle Eastern and South Asian counterparts in terms of quality services and business excellence. Only about 2% of the Indian population currently travels by air.

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

(A) Aviation industry is not able to generate profits and is

suffering from operational losses.

(B) Indian aviation industry promises huge growth potential due to a large and growing middle class population.

(C) The industry does not provide a level playing field for private players due to state monopoly and control over the aviation sector.

(D) Middle Eastern and South Asian airlines have expanded their reach and footprint because they do not face competition from their respective state-run airlines.

EXPLANATION) B

QUESTION 49) Passage

Poverty caused by health expenditure has doubled in India in the past 15 years. A recent study claims that out-of-pocket health expenditure in India accounts for nearly 7 per cent of household expenses. Diseases like cancer are most damaging to a family's finances. In the absence of health and social security nets, cancers, particularly the ones that offer a chance of cure, can be financially debilitating for a family. It has been established the world over that poverty is a risk factor for cancer causation. But equally true is the fact that in countries like ours, cancer (treatment) is an important risk factor for tipping the balance,

especially for families that live on the edge of absolute poverty. So not only does poverty cause cancer, cancer also causes poverty, at least in India.

Which one of the following is the most logical, rational and crucial inference that can be derived from the above passage?

(A) Poverty is the major cause of cancer worldwide.

(B) Major cause of poverty in India is high out- of-pocket health expenditure.

(C) Providing social security benefits to all can reduce the chances of people falling into poverty due to health expenditure.

(D) Poverty in India has doubled in the past 15 years.

EXPLANATION) C

QUESTION 50) Passage

Poverty caused by health expenditure has doubled in India in the past 15 years. A recent study claims that out-of-pocket health expenditure in India accounts for nearly 7 per cent of household expenses. Diseases like cancer are most damaging to a family's finances. In the absence of health and social security nets, cancers, particularly the ones that offer a chance of cure, can be financially debilitating for a family. It has been established the world over that

poverty is a risk factor for cancer causation. But equally true is the fact that in countries like ours, cancer (treatment) is an important risk factor for tipping the balance, especially for families that live on the edge of absolute poverty. So not only does poverty cause cancer, cancer also causes poverty, at least in India.

On the basis of the above passage, the following assumptions have been made:

(1) Public health expenditure in India is relatively lower than required.

(2) Poverty and cancer form a kind of vicious cycle in India.

Which of the above assumptions is/are valid?

(A) 1 only

(B) 2 only

(C) Both 1 and 2

(D) Neither 1 nor 2

EXPLANATION) C

QUESTION 51) What is still holding India back from achieving large-scale global academic excellence which is commensurate with our intellectual heritage and calibre? Beyond blaming the government and the bureaucracy, the usual suspects, it is important to look inward and ask whether our academics display an adequate ethical commitment to excellence. It is rarely appreciated that excellence is an ethical issue. We think of it

as something arising from people of calibre coupled with sufficient resources. But how do successful nations spot such people and resources and enable them to achieve their potential? The answer: there is a sincere and stated commitment to cultivating excellence as a goal. Contrasting this with the academic ethos in India raises uncomfortable questions.

What is the main idea that we can infer from the passage?

(A) Indian Government and the bureaucracy are

not responsible for poor achievements in terms of global academic excellence in India.

(B) By prioritizing excellence as an ethical issue, Indian academics will certainly achieve large-scale global excellence.

(C) Only people of calibre coupled with sufficient resources can achieve global academic excellence.

(D) India's academic ethos seems to lack sincere and stated commitment to cultivating excellence as a goal.

EXPLANATION) D

QUESTION 52) What is still holding India back from achieving large-scale global academic excellence which is commensurate with our

intellectual heritage and calibre? Beyond blaming the government and the bureaucracy, the usual suspects, it is important to look inward and ask whether our academics display an adequate ethical commitment to excellence. It is rarely appreciated that excellence is an ethical issue. We think of it as something arising from people of calibre coupled with sufficient resources. But how do successful nations spot such people and resources and enable them to achieve their potential? The answer: there is a sincere and stated commitment to cultivating excellence as a goal. Contrasting this with the academic ethos in India raises uncomfortable questions.

On the basis of the above passage, the following assumptions have been made:

(1) Institutes of higher education in India fare poorly in the world rankings as compared to all institutes of successful nations.

(2) Indian academics with calibre, but lack of resources, are not able to achieve academic excellence.

Which of the above assumptions is/are valid?

(A) 1 only

(B) 2 only

(C) Both 1 and 2

(D) Neither 1 nor 2

EXPLANATION) D

Statement 1 is incorrect. The passage only talks about the poor performance of India in terms of global academic excellence. From this we cannot assume that Indian higher education institutes, in general, perform poorer than ALL institutes of successful nations. It would be an extreme generalisation.

Statement 2 is incorrect. The passage states, —We think of it (excellence) as something arising from people of calibre coupled with sufficient resources‖. The passage only talks about the prevailing perception in India that excellence arises from people with calibre and access to resources.

QUESTION 53) Consider the following Statements and Conclusions:

Statements:

(1) All boys are men.

(2) Some boys are women.

(3) No men are girls.

Conclusions:

I. All girls are women.

II. Some girls are not women.

III. Some boys being girls is a possibility.

Which of the above conclusions can be drawn from the statements?

(A) I, II and III

(B) Either I or II

(C) Only III

(D) II and III

EXPLANATION) B

QUESTION 54) Directions for the following item:

Read the information given below and answer the item that follow:

Six boxes P, Q, R, S, T and U are kept one above the other containing different number of shirts from 10 - 90. Two boxes are kept between box T and the box containing 56 shirts, which is kept at the bottom. Only one box is kept between box R and the box containing 56 shirts. Two boxes are kept between box P and box R. One box is kept between box P and box containing 41 shirts, which is not kept at the top. Box Q contains 5 shirts more than box T. Only one box is kept between box Q and box containing 41 shirts. Box S is kept below box U which contains 66 shirts. Box P contains 40 shirts less than the box which contains 90 shirts.

What is the total number of shirts contained in boxes U and Q?

(A) 100

(B) 112

(C) 96

(D) 136

EXPLANATION) B

Total number of shirts contained in boxes U and Q = 66 + 46 = 112

Hence, option (B) is the correct answer.

QUESTION 55) Directions for the following item:

Read the information given below and answer the item that follow:

Six boxes P, Q, R, S, T and U are kept one above the other containing different number of shirts from 10 - 90. Two boxes are kept between box T and the box containing 56 shirts, which is kept at the bottom. Only one box is kept between box R and the box containing 56 shirts. Two boxes are kept between box P and box R. One box is kept between box P and box containing 41 shirts, which is not kept at the top. Box Q contains 5 shirts more than box T. Only one box is kept between box Q and box containing 41 shirts. Box S is kept below box U which contains 66 shirts. Box P contains 40 shirts less than the box which contains 90 shirts.

How many boxes are kept between box U and box S?

(A) One

(B) Two

(C) Three

(D) None

EXPLANATION) C

Three boxes are kept between box U and box S.

Hence, option (C) is the correct answer.

QUESTION 56) Directions for the following item:

Read the information given below and answer the item that follow:

Six boxes P, Q, R, S, T and U are kept one above the other containing different number of shirts from 10 - 90. Two boxes are kept between box T and the box containing 56 shirts, which is kept at the bottom. Only one box is kept between box R and the box containing 56 shirts. Two boxes are kept between box P and box R. One box is kept between box P and box containing 41 shirts, which is not kept at the top. Box Q contains 5 shirts more than box T. Only one box is kept between box Q and box containing 41 shirts. Box S is kept

below box U which contains 66 shirts. Box P contains

40 shirts less than the box which contains 90 shirts.

What is the total number of shirts contained in top and bottom boxes?

(A) 106

(B) 140

(C) 156

(D) 97

EXPLANATION) A

Total number of shirts contained in top and bottom boxes = 50 + 56 = 106

Hence, option (A) is the correct answer.

QUESTION 57) Find the wrong number in the series given below.

1, 4, 25, 256, 3125, 46656

(A) 46656

(B) 25

(C) 256

(D) 3125

EXPLANATION) B

QUESTION 58) Niharika's birthday was on Sunday 22nd March. If Shivam was born on second Tuesday of October month of the same year, then on which date of the October month will be Shivam's birthday?

(A) 10th October

(B) 11th October

(C) 12th October

(D) 13th October

EXPLANATION) D

QUESTION 59) In a row which consists 41 girls facing north, Jia is standing somewhere in the row between Kia and Tia. Kia is to the left of Tia. Number of girls before Kia is half of the number of girls after Tia, who is 13th from the right end. How many girls are there between Kia and Tia?

(A) 20

(B) 21

(C) 18

(D) 19

EXPLANATION) B

Given, total number of girls in row = 41 girls

Let number of girls before Kia be x.

So, number of girls after Tia = 2x girls

Tia is 13th from the right end, i.e. there are 12 girls after Tia.

∴ 2x = 12

or x = 6

So, number of girls before Kia = 6

Number of girls between Kia and Tia = 41 - (12 + 6 + 1 + 1) = 41 - 20 = 21

Hence, option (B) is the correct answer.

QUESTION 60) People migrate from uncomfortable areas to comfortable areas. This is natural because everyone wants to live in comfort. Before the coming of modern industry there were agricultural societies everywhere, and India was a paradise for these because agriculture requires level land, fertile soil, plenty of water for irrigation and so on, which were in abundance in India. Why should anybody living in India migrate to, say, Afghanistan, which has a harsh terrain, rocky and mountainous and covered with snow for several months in a year when one cannot grow any crop? Hence, almost all immigrants and invasions came from outside into India.

On the basis of above passage the following assumptions have been made:

(1) There is not a single instance of migration

from India to Afghanistan.

(2) Search for a comfortable life is the sole

push factor behind migration.

Which of the above assumptions is/are valid?

(A) 1 only

(B) 2 only

(C) Both 1 and 2

(D) Neither 1 nor 2

EXPLANATION) D

QUESTION 61) Which of the following is the most logical and rational inference that can

be made from the above passage?

(A) Migration is a natural phenomenon that was once driven by bare necessities.

(B) Geography of a region shapes the world view and attitude of people.

(C) Majority of the people living in India are descendants of immigrants.

(D) Pre-Dravidian aborigines, the ancestors of the contemporary tribes, were the original inhabitants of India.

EXPLANATION) A

QUESTION 62) Data collection on health disparities among transgender people is very limited, but the data we do have reveal a healthcare system that is not meeting the needs of the transgender community. In a 2012 needs assessment by the Washington D.C. Trans Coalition, 44 percent of those who identified health as one of their top priorities said that access to transgender-sensitive healthcare was their most significant need. Beyond facing barriers to obtain medically-necessary health services and encountering medical professionals who lacked transgender health care competency, it was found that almost 20 percent of respondents had been refused medical care outrightly because of bias.

The above passage implies that

(1) Those unfamiliar with the specific health needs of transgender people might portray them as —cosmetic‖ or merely a choice.

(2) Transgender people face significant job loss and job fragility and, therefore, a higher rate of ‗uninsurance'.

Which of the above assumptions is/are valid?

(A) 1 only

(B) 2 only

(C) Both 1 and 2

(D) Neither 1 nor 2

EXPLANATION) A

Statement 2 is invalid. Passage doesn't talk about job and insurance coverage related challenges faced by transgender community.

QUESTION 63) 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

EXPLANATION) C

QUESTION 64) In the sequence 11, 15, 17, 31, 15, 27, 24, 23, 15, 17, how many such multiples of 5 are there which are immediately preceded by a prime number but not immediately followed by a prime number?

(A) 1

(B) 2

(C) 3

(D) None

EXPLANATION) A

In the given sequence 11, 15, 17, 31, 15, 27, 24, 23, 15, 17, there is only one such multiple of 5 which is immediately preceded by a prime number, but not immediately followed by a prime number.

QUESTION 65) If A, B, C and D are 4 consecutive numbers such that B is smaller than A, C is smaller than B, D is smaller than C, then which of the following statements is/are correct?

(I) (A + D) > (B + C)

(II) (A + C) < (B + D)

(III) (A ÷ C) < (B ÷ D)

(IV) (A × C) < (B × D)

Select the correct answer using the codes given below:

(A) I, II and III

(B) II and III only

(C) III only

(D) I and IV only

EXPLANATION) C

QUESTION 66) Five students A, B, C, D and E are sitting in a row. In the row C sits at one of the extreme ends. Either A or B sits in the middle of the row. Whenever A sits in the middle, then equal number of students sits between A and B and, A and C while B sits to the right of C.

Whenever B sits in the middle, then equal number of students sits between A and B, and B and C while B sits to the left of C.

If D does not sit near to A, then the position of D is

(A) Third from left end.

(B) Fourth from right end.

(C) Fourth from left end.

(D) Second from left end.

EXPLANATION) C

If D does not sit near to A, then this is possible only in case 2. Therefore, arrangement will be:

Case 2: A E B D C

D is sitting fourth from the left end.

Hence, option (C) is correct.

QUESTION 67) Five students A, B, C, D and E are sitting in a row. In the row C sits at one of the extreme ends. Either A or B sits in the middle of the row. Whenever A sits in the middle, then equal number of

students sits between A and B and, A and C while B sits to the right of C.

If E sits third to the left of B, then which of the

following is correct?

(A) C sits at right end.

(B) C sits at left end.

(C) B sits between C and D.

(D) All are correct.

EXPLANATION) B

If E sits third to the left of B, then this is possible only in case 1. Therefore, arrangement will be:

Case 1:C E A D B

So, C sits at extreme left end.

Hence, option (B) is correct.

QUESTION 68) A Kabaddi team consists seven players. If a player of age 26 years replaces:

I. Ajay, then average age of team increases by 0.5 years.

II. Vijay, then average age of team reduces by 0.5 years.

III. Sandeep, then average age of team reduces by 1 year.

IV. Narwal, then average age of team increases by 0.75 years.

Which of the following players is the oldest?

(A) Sandeep

(B) Ajay

(C) Narwal

(D) Vijay

EXPLANATION) A

QUESTION 69) Rahul covered 2 km against the wind in t hours and then covered 6 km in the direction of wind in t hours. The speed of the wind was 3 km/hr.

What was Rahul's speed when there was no wind?

(A) 7.2 km/hr

(B) 8 km/hr

(C) 4 km/hr

(D) 6 km/hr

EXPLANATION) D

QUESTION 70) In an institute 15% of the employees have a salary of Rs. 20,000, 25% of them have a salary of Rs. 25,000, 40% of them have a salary of Rs. 30,000 and rest of them have a salary of Rs. 40,000. What is the average salary?

(A) Rs. 29,250

(B) RS. 28,500

(C) RS. 28,250

(D) RS. 19,000

EXPLANATION) A

Let total number of employees in the institute be 100.

Percentage of employees whose salary is Rs. 40,000 = 100% - (15 + 25 + 40)% = 20%

Total salary of 15% employees i.e. 15 employees = 15 × 20000 = Rs. 300000

Total salary of 25% employees i.e. 25 employees = 25 × 25000 = Rs. 625000

Total salary of 40% employees i.e. 40 employees = 40 × 30000 = Rs. 1200000

Total salary of remaining 20% employees i.e. 20 employees = 20 × 40000 = Rs. 800000

Total salary of all employees = 300000 + 625000 + 1200000 + 800000 = Rs. 29,25,000

Average salary of all employees = (2925000/100) = Rs. 29,250

Hence, option (A) is correct.

QUESTION 71) If KITE is coded as 32-36-14-44, then COMB will be coded as

(A) 24-15-28-25

(B) 48-24-28-50

(C) 48-24-14-50

(D) 20-25-15-48

EXPLANATION) B

QUESTION 72) 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) $

EXPLANATION) C

QUESTION 73) In olden days, agricultural techniques were eco-friendly but productivity was low as compared to modern times.

However, despite low productivity the overall output was sufficient to feed the existing population. Farmers in those days were seen as God, but that is not the case now. Only governments are respecting farmers and that too in a narrowed sense. Parents do not want their children to pursue agriculture as a career. It is majorly due to erosion of material and non-material rewards from agriculture. It is alarming that farmers, who feed the world, do not wish to see their sons and daughters as farmers.

According to author, farming as a profession has lost the respect it once enjoyed due to

(A) population explosion in the country.

(B) faulty farm practices like stubble burning.

(C) neglect from both central and state governments.

(D) non-remunerative farm practices.

EXPLANATION) D

Option D is correct. The passage says, —It is majorly due to erosion of material and non-material rewards from agriculture. Remunerations, as mentioned in this answer option, refers to material and non-material rewards mentioned above. This reduction in remuneration is a major reason behind decline in respect for farming as a profession.

QUESTION 74) In olden days, agricultural techniques were eco-friendly but productivity was low as compared to modern times.

However, despite low productivity the overall output was sufficient to feed the existing population. Farmers in those days were seen as God, but that is not the case now. Only governments are respecting farmers and that too in a narrowed sense. Parents do not want their children to pursue agriculture as a career. It is majorly due to erosion of material and non-material rewards from agriculture. It is alarming that farmers, who feed the world, do not wish to see their sons and daughters as farmers.

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

(A) Eco-friendly agricultural techniques result in improved quality of seeds but lower yields.

(B) Agro-insurance schemes are not helping the farmers during crisis periods.

(C) Agriculture, despite losing its sheen, is the most common occupation for most of Indian families.

(D) The critical issues plaguing Indian agriculture like knowledge and infrastructure deficit need to be urgently redressed.

EXPLANATION) D

Option D is correct. The passage highlights the glorious days of agriculture as a vocation when it says, —Farmers in those days were seen as God, but that is not the case now. It then talks about the starkly opposite current scenario when it says, —It is alarming that farmers, who feed the world, do not wish to see their sons and daughters as farmers. Therefore, there is an urgent need to address the issues plaguing

agriculture in India.

QUESTION 75) Habitat loss– driven primarily by human expansion as we develop land for housing, agriculture, and commerce–is the biggest threat facing most animal species, followed by hunting and fishing. Even when habitat

is not lost entirely, it may be changed so much that animals cannot adapt. Fences fragment a grassland or logging cuts through a forest, breaking up migration corridors; pollution renders a river toxic; pesticides kill widely and indiscriminately. To those local threats one must increasingly add global ones: Trade, which spreads disease and invasive species from place to place, and climate change, which eventually will affect every species on Earth—starting with the animals that live on cool mountain tops or depend on polar ice. All of these threats lead, directly or indirectly, back to humans and our expanding footprint. Most species face multiple threats. Some can adapt; others will vanish.

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

(A) Destruction of habitats and reduction of species diversity can make ecosystems more vulnerable to invasive species.

(B) Without a strong plan to create protected areas, important ecological habitats will continue to be lost resulting in well-being of humans being eventually compromised.

(C) Natural systems are extremely complex, and knowledge about how they function is quite limited.

(D) In a biodiverse ecosystem, if the environment changes and some organisms can no longer thrive, others can take their place and fulfil essential functions.

EXPLANATION) B

QUESTION 76) Habitat loss–driven primarily by human expansion as we develop land for housing, agriculture, and commerce–is the biggest threat facing most animal species, followed by hunting and fishing. Even when habitat is not lost entirely, it may be changed so much that animals cannot adapt. Fences fragment a grassland or logging cuts through a forest, breaking up migration corridors; pollution renders a river toxic; pesticides kill widely and indiscriminately. To those local threats one must increasingly add global ones: Trade, which spreads disease and invasive species from place to place, and climate change, which eventually will affect every species on Earth–starting with the animals that live on cool mountain tops or depend on polar ice. All of these threats lead, directly or indirectly, back to humans and our expanding footprint. Most species face multiple threats. Some can adapt; others will vanish.

The above passage implies that

(1) Habitat loss is intrinsically associated with climate change.

(2) Trade and commerce activities will be adversely impacted by habitat loss of both terrestrial and marine species.

Which of the above assumptions is/are valid?

(A) 1 only

(B) 2 only

(C) Both 1 and 2

(D) Neither 1 nor 2

EXPLANATION) A

Statement 2 is invalid. Impact of habitat loss on trade and commerce activities is not highlighted in the passage. The sentence —Trade, which spreads disease and invasive species from place to place‖ only talks about trade as a carrier of diseases and invasive species from one place to another.

QUESTION 77) In a shop, a cashier noticed that 7/18 of the customers used online method to pay their bills, 4/9 of the customers used cash method to pay their bills. The remaining 270 customers used cheque method to pay their bills. How many customers preferred online method?

(A) 775

(B) 630

(C) 750

(D) 550

EXPLANATION) B

QUESTION 78) The six faces of a dice are numbered 1, 2, 3, 4, 5 and 6, such that 1 is opposite to 3. 2 is not on the top or bottom face. 4 is adjacent to 6 and 5 is opposite to 6. If 3 is on the rear face then

Which of the following statement is not correct?

(A) 4, 5 and 6 are adjacent.

(B) 1 is on the front face.

(C) 4 is opposite to 2.

(D) 1 is opposite to 3.

EXPLANATION) A

QUESTION 79) The six faces of a dice are numbered 1, 2, 3, 4, 5 and 6, such that 1 is opposite to 3. 2 is not on the top or bottom face. 4 is adjacent to 6 and 5 is opposite to 6. If 3 is on the rear face then

Which of the following number is on the top face?

(A) 5

(B) 6

(C) Either 5 or 6

(D) None of these.

EXPLANATION) C

Either 5 or 6 is on the top face. Hence, option (C) is the correct answer.

QUESTION 80) What is the number of ways in which 2 rings of different types can be worn in 3 fingers?

(A) 6

(B) 18

(C) 12

(D) 9

EXPLANATION) C

Case I: The two rings are worn in two different fingers.

The first ring can be worn in any of the 3 fingers (i.e. 3 ways).

And the second ring can be worn in the remaining two fingers in 2 ways.

So, possible ways = 3 × 2 = 6

Case II: The two rings are worn in the same finger

We can choose a finger in 3 ways.

The two rings may be arranged in the same finger in two ways (depending on which ring is worn first).

So, possible ways = 3 × 2 = 6

Hence, total number of ways = 6 + 6 = 12

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